# THE CHALLENGE OF JOB CREATION IN NIGERIA: SOME POLICIES ARE MORE EQUAL THAN THE OTHERS

BY

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# ABSTRACT

The severity and the depth of unemployment in Nigeria have been alarming and of great concern to government and the general public. The task of creating sufficient new jobs to overcome unemployment, underemployment and problems of low wages and salaries ranks as the primary challenge to economic and social policies. Government had, over the years, implemented some macroeconomic policies with the aim of generating new employment and reducing the growing unemployment. While some studies have argued that these policies succeeded in raising total output, others contended that they have not significantly impacted on employment. The labour market study conducted since 1999 by the National Bureau of Statistics has, however, revealed that the unemployment situation was worsening. The slow pace of employment generation has been attributed to the prevailing policy inconsistencies and institutional weaknesses in the nation. The divergence between the policy prescriptions of government and employment generation has, therefore, made a rethink on the appropriateness of policy interventions necessary.

This study examined the macroeconomic policies and employment relationships in the Nigerian economy. It adopted the Keynesian theory of output and employment as theoretical framework. Macroeconomic variables considered were; money supply; export; interest rate; exchange rate; government expenditure; import of capital goods and GDP. A simple employment model was formulated and estimated using Ordinary Least Square (OLS) before Error Correction Mechanism was incorporated to deal with serial correlation problem in the analysis. The result of the dynamic analysis showed positive and statistically significant relationship between macroeconomic variables, output and employment. Specifically, money supply and exchange rate significantly boost employment. This result was consistent with our theoretical framework which implied that macroeconomic variables play important role in employment generation.

Based on the findings, it has been concluded that macroeconomic policy variables have positive impact on employment generation in the economy. The outcome of the research shows that the macroeconomic policies that appropriately moderate money supply, stimulate export, stabilize interest and exchange rates and efficiently monitor government expenditure, have the greatest potential to generate employment. The paper in its conclusion advocated a coherent policy framework that would allow for multiple policy instruments aimed at supporting the economy for employment generation in the long run.

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# CHAPTER ONE

# INTRODUCTION

## 1.1   Background to the study

Job creation has emerged as the single most critical economic challenge facing the world today. Anxiety over employment problems and pessimism over the prospects for resolving them prevail in many parts of the world. According to Hansenne [1], the task of creating sufficient new jobs to overcome unemployment, underemployment and problems of low pay ranks as the primary challenge for economic and social policies in developed and developing countries at all levels of development across the globe. In Nigeria, like in other parts of developing world, there is growing concern over the slow pace of employment growth. The reasons for this may be attributed to the prevailing policy inconsistencies and institutional weaknesses in the nation.

Macroeconomic policies are targeted at influencing the key macroeconomic indicators in the economy such as price, output, employment, investment and savings, government balances and balances on external account. Basically, the macroeconomic policies to manage these indicators can be broadly classified into monetary, fiscal and exchange rate. The monetary policy aims at influencing the interest rate base and the levels of credit in the economy. It is a government policy mostly implemented through the Central Bank which impacts aggregate demand via a variety of instruments such as the changing of interest rates, open market operations and the setting of targets for the money supply [2]. The fiscal policy is a direct policy of a government involving the manipulation of parameters that will directly affect government revenue and expenditure [3], while the exchange rate is the price of a currency in terms of another. Ghosh [4] explains that macroeconomic policies (monetary and fiscal) are usually targeted at real economic goals as employment generation, livelihood production and expansion and poverty reduction.

Nigeria is a developing country characterised with low per capita income, high degree of vulnerability to external and internal shocks and high prevalence of extreme poverty [5]. There is presently serious economic crisis of macroeconomic instability embodied in fiscal and current account disequilibria, rising unemployment and declining living standard. The employment crisis is vividly captured by the unprecedented rise and high level of unemployment and underemployment. The incalculable social cost of the potentially

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explosive and rising incidence of "educated unemployed and underemployed" has generated considerable social policy concerns in Nigeria in recent time.

The employment problem in Nigeria has some major components [6]. The foremost is the contrasting pattern of growth concomitant with stagnation in productive employment opportunities and a rapidly growing labour force. Demographic pressures, implicit in high population growth rate with a structure characterised by high dependency burden have exacerbated the supply-side problem. Unemployment is the key manifestation of this aspect of the employment problem. The second aspect concerns the underutilisation and low productivity of those in employment. Underemployment captures this aspect of the employment problem.

The root causes of the employment problem in Nigeria are structural and policy determined. The most prominent structural factor is the unstable economic development trajectory and the dramatic reversals in economic performance culminating in the deep economic crisis that has gripped the economy since the 1980s. The second factor concerns structural imbalances in the labour market induced mainly by inefficient wage and policy interventions. The policy failure component of the causal factors in the slow growth of employment relates to policy-induced distortions and poor technological innovation.

The country has notably, been taking steps to strengthen the economy by adopting series of macroeconomic policies. It has pursued tight fiscal and monetary policies aided by oil export revenues which have reduced large budget deficits and created substantial surpluses in balance of payments leading to a large build up of foreign exchange reserves. The reforms in macroeconomic programmes have started to yield dividends. The real GDP growth has improved, averaging 6.0 per cent per annum since 2003. Similarly, inflation has reduced, falling from over 20% in 2003 to 12 month average of 11.5% and year-on-year of 12.4% in 2011 [7]. Total external debt fell from $35 billion in 2002 to under $10 billion in 2012 [7]. The expectation has been that these positive developments will translate to rapid employment generation, but this has not been the case.

The performance of the economy in relation to employment suggests that agriculture is the highest employment absorber and contributes more to the GDP. The sector still employs about 59% of the labour force [8]. The dominant mode is self-employment with households operating small acreage and using low levels of technology, simple implements and tools. The rural sector continued to experience high underemployment and low productivity. The urban informal sector, on the other hand, is increasingly becoming an

important labour sponge and a sector of last resort for job creation but faced with a number of constraints and suffers from low productivity.

## 1.2 Policy Overview

After independence in 1960, successive governments in Nigeria initiated different policies and strategies in order to achieve long-term economic growth and employment. Ever since, employment generation has attracted the attention of policymakers from many and varied frameworks such as fixed-term national development plans of between 1960 and 1985; policy-based economic management strategy of 1986 to 1990, popularly called the Structural Adjustment Programme (SAP); a three-tiered planning system comprising perspective plan, three-year rolling plan and annual budgets of 1990 to 2000 and the poverty reduction strategy papers (PRSPs or National Economic Empowerment and Development Strategies (NEEDS)) of 2003 to 2007. From 2001 to 2003, the government adopted an economic blueprint that appeared to mimic policy-based economic management strategies with admixture of privatisation and other reforms in the economy, most of which were subsequently documented in the NEEDS. Other blueprint adopted include, the 7 point agenda of Yaradua administration, the Vision 2020 and the current transformation agenda.

The first post-independence government launched the First National Development Plan for the period 1962 to 1968, geared towards moving the economy from its dependence on agriculture to a diversified economy. There was therefore a determined effort to develop the manufacturing and mining sectors. This was to be achieved through raising the investment rate to 15%, rapid development in education and health sectors and creation of employment opportunities. In addition, the private sector was designated as the fulcrum on which the plan will gravitate. The sectoral Gross Domestic Product (GDP) estimates for the plan period were used to estimate employment trends.

The Second National Development Plan [9] was informed by the need for economic reconstruction occasioned by the damage done from the concluded civil war. The Plan had as its major goals, restoration of productive capacity, achievement of self-reliance, generation of employment and reconstruction of war-damaged areas. One main element of the policy plan included the indigenisation exercise of 1972 which was consolidated in 1977 through an amendment. Mid-way into the implementation of the Plan, Nigeria was positively shocked by rising crude oil prices which generated quantum leaps in export revenues.

The Third National Development Plan [10] was formulated against the background of rapidly rising oil export revenues and was conceived as an ambitious plan that envisaged the expansion of all the sectors of the economy. The Plan focused, among others, on the expansion of employment opportunities through the implementation of employment-oriented programmes and the removal of constraints on the growth of employment in all sectors of the economy. The period witnessed rapid employment growth and public sector expansion with over 600 of the 1500 public enterprises owned by the federal government, including heavy government investment in core industrial projects in the areas of steel complexes, aluminium smelting, fertiliser production, machine tools and agricultural programmes. Others includes Operation Feed the Nation, Green Revolution, Back to Land Programme, Agricultural Development Programmes, National Land Development Authority, River Basin Development Authorities, Commodity Marketing Boards, Credit Guarantee and Insurance Institutions among others.

The Fourth National Development Plan [11] focused on using the local governments to propel economic growth. The plan's focus on employment was not significantly different from the Third Development Plan. However, unlike the third plan, poor implementation affected employment growth negatively. The poor implementation necessitated the introduction of the SAP in 1986. The reason for the prolonged recession and the delay in production response to policy reforms could be attributed to the fact that fiscal policy was predicated on the wholly oil-funded and oil-dependent subsidies while monetary policy was characterised by direct controls, fixed interest rates and excessive growth of money supply. Industrial policy followed import substitution industrialisation (ISI) strategy with low interest and exchange rates and high tariff rates as main instruments. The economy was fully tuned to macroeconomic distortions which had created serious inefficiencies in resource utilisation and employment generation.

Consequently, fixed-term planning was abandoned and replaced with policy-based economic management strategy established through a comprehensive economic reform package introduced in 1986 in the context of the Structural Adjustment Programme (SAP) aimed to change and realign aggregate domestic expenditure and production patterns to minimise dependence on imports; enhance the non-oil export base; and bring the economy back on the path of steady and balanced growth. Some of the policy measures adopted in pursuance of these objectives include the adoption of a realistic exchange rate policy;

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reduction of complex administrative controls simultaneously with a greater reliance on market forces; as well as commercialisation and privatisation of public enterprises.

While the policies associated with SAP recorded some important feats assessed from the momentary positive impact it had on economic growth, gross investment and fiscal revenue, the adoption of the economic reform programme appeared to have intensified speculative and trading activities rather than sustained increase in production and employment.

Integrated planning, featuring a combination of perspective and rolling plans along with annual budgets, was the planning framework adopted in Nigeria's market environment and envisaged to complement and strengthen policy-based economic management embraced since 1990. The essence of this planning model during this period, were to among others, promote self-reliant industrial development; generate employment and strengthen a market-oriented economy.

The National Employment Policy was approved by the Federal Executive Council in March 2003. This government employment generation policy is in line with the economic reform programmes of the nation which emphasise the provision of a favourable environment for private investment and job creation. The programmes relate to the stabilisation of the economy by checking inflation; fostering a regime of a simple exchange rate determined by the market and a liberalised trade; encouraging savings and productivity, privatisation and stimulation of investment, in order to accelerate economic recovery, growth and accelerated job creation. The policy advocates the maintenance of stable and favourable macroeconomic policies, investment on human resource, the provision of basic infrastructure and provision of appropriate incentives to promote the private sector as the main engine of economic growth and job creation in Nigeria.

The democratic government that assumed office in 1999 reinvigorated the economic reform programmes. Economic reforms in Nigeria became more orchestrated with the launching in mid–2004 of National Economic Empowerment Development Strategy (NEEDS) which recognised the necessity for the reforms to be anchored on institutional reform. It also focused on wealth creation, employment generation, poverty reduction, corruption eradication and general value re-orientation [12]. As outcomes of its anti-poverty initiatives, NEEDS aims to attain average per capita consumption growth of 2% per annum and the creation of 7 million jobs between 2004 and 2007 among others. It was widely reported that

not many jobs were created as envisaged and the number created could not be ascertained at the end of the period due to lack of data.

In May 2007, late President Umar Musa Yar' Dua introduced an economic and development blueprint called the *Seven Point Agenda*. The Agenda focuses on power; food security; agriculture; wealth creation; employment; mass transportation; land reform; security and functional education.

A pertinent question that may be asked is, with these policy dynamics from 1970 to 2012, how far has the output and employment faired? The Nigerian Government In collaboration with IDA, launched an Employment Study in 2008 to assess the performance of employment, and to develop a growth strategy that would help sustain and further accelerate Nigeria's job creation. An important conclusion from that study was that, notwithstanding the strong growth in Nigeria's non-oil economy, unemployment did not fall between 1999 and 2006. On the contrary, youth unemployment markedly increased during the same period. The analysis revealed that Nigeria's growth performance has not responded to the employment aspirations of its population as a whole, particularly, the younger generation. It was observed that the level of inequality in the system was possible because the underlying structure of the economy has not been allowed to experience structural transformation. The economy is dominated by informal sector activities with more than 70 per cent of the labor force working in this sector, which means that Nigeria's labor force is largely unsophisticated and unskilled for the demands of a 21st century economy. The oil sector which generates more than 90 per cent of foreign exchange earnings and funds at least 80 per cent of the federal budget employs just 1 per cent of the labour force with very low forward linkage with the economy.

## 1.3    Statement of the Problem

The nature of Nigeria's employment problems epitomised by the pervasive imbalance between job expectations and opportunities of an increasingly large pool of educated unemployed and underemployed raises a number of important and challenging policy questions for which answers based on a robust and sound analytical framework must be sought. A major and challenging problem is the appalling gap between growth in productive employment opportunities and the total labour force [13]. The narrowing or elimination of this gap strongly suggests the need for seeking radically new directions in development strategies and design of appropriate economic policies.

All the competing diagnoses of the current employment crisis agree that the problem will not solve itself. Those who emphasise labour market distortions and rigidities prescribe deregulation and related institutional reforms as the most important options for improving the employment situation. In contrast, those who attribute employment problem to insufficient effective demand advocate corrective macroeconomic policy actions. The problem is that reliance on one of these competing views without rigorous analysis may result in the persistence of the problem. The diagnosis chosen may simply be wrong/or may only be partially correct.

The divergence between the policy prescriptions of government and employment generation has made a rethink on the appropriateness of policy interventions necessary. For example, Nigeria, in the recent past, has, as a condition for financial support for stabilisation programmes, cut fiscal deficits, as well as reduced the size of government and public expenditure. Prolonged austerity has therefore squeezed public spending to the extent that the essential roles and functions of government including intervention in the labour market have been in jeopardy. Further, restrictive monetary and fiscal policies focused largely on inflation control, in many instances dampened aggregate demand and affected employment adversely. Though some trade-offs are unavoidable, the real concern of macroeconomic policies is a persistent quest for pragmatism and policy coherence to maximise growth and employment [14]. Though relatively high growth has been recorded, it is not clear whether this translates to well-being improvement via increased employment generation. This requires rigorous economic analysis to know the true position.

For instance, the National Manpower Board study on the Nigerian Labour Market in 2006 shows there were over 40 million Nigerians enrolled in the school system, out of which over three million enter the labour market annually [13]. For ten years, according to the

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publication, the market on its own could hardly absorb 30% of the entire school output, which has led to the national unemployment rate of over 13%. Also, the employment survey conducted by the Nigerian Bureau of Statistics (NBS) in 2009 gave unemployment rate of 19.7%. Today, unemployment rate published by NBS is 23.3% up from 19.7 in 2009. The employment trend in Nigeria indicates that without a concerted effort to address issues of employment generation, the problems of unemployment and underemployment could get worse. In the early 1990s, GDP growth in Nigeria declined significantly, with overall GDP per capita much lower than in 1980. The unstable political situation tended to affect the overall economic performance and impacted negatively on the employment scene. In the late 1990s, Nigeria economic conditions worsened with a further decline of GDP, rise in inflationary pressure and the persistent weakening of the external sector. To redress these undesirable situation, Nigeria embarked on economic reforms using and emphasising the combination of the tools of monetary and fiscal policies. Unfortunately, the preceding economic problems, particularly, unemployment persisted and even in most cases worsened.

The concern now is, why has the crisis of unemployment persisted in the face of seeming interventions and what can the policy reforms in the sector offer to address the crisis? The current problem of unemployment facing Nigeria is one that has built up over at least three decades. The problem has taken the present disturbing dimension because of the past failure to accurately appreciate its depth and the inadequacies of the past macroeconomic policy reform programmes in the relevant sectors. The issue has been that macroeconomic policies have not been helpful to generate enough employment to the extent of moving the economy forward. The pertinent question is, could these policies have been wrongly applied in Nigeria? If so, does it mean that these policies can positively impact on employment generation? These and other related questions are what this study seeks to provide answers to.

## 1.4    Research Questions
The related research questions are:
Premised on the analysis of various macroeconomic policies with their concomitant expectations and the identified problems, the following questions emerge:
- Is there any significant relationship between macroeconomic policies and employment generation in Nigeria?
- How has the macroeconomic policies affected employment in the country?
- Has macroeconomic policies affected employment situations (aggregately) in all areas

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of the economy? If yes, what is the estimated magnitude, if no, why?

- Which of the macroeconomic policies affected employment generation most in the economy?

## 1.5 Objectives of the Study

The main objective of the study is to ascertain the effect of macroeconomic policies on employment creation or generation in Nigeria. The specific objectives are to:

i. Review the macroeconomic policy objectives put in place by government to promote employment in the country.

ii. Highlight the relationship between macroeconomic policies of government and employment generation.

iii. Bring to the fore the effect of macroeconomic policies on employment generation, if any, at the national level.

iv. Unearth the direction of causal factors among output and employment at the national level.

## 1.6 Scope of the Study

Premised on the study objectives and research questions, the study's scope covered:

- The Nigerian economy from 1970 to 2010; and
- Identification of key economic variables such as exchange rate, government expenditure, interest rate, export and import that affect both the growth and level of employment in Nigeria.

## 1.7.1 Significance of the Study

In an economy such as that of Nigeria, generation of productive employment opportunities is obviously the key to rapid and sustainable economic development, low levels of employment generation do not only result from but also contribute to low aggregate demand and can therefore intensify tendencies towards stagnation and recession. The understanding and critical analysis of the impact of macroeconomic policies to employment generation cannot be more necessary for a country than it is for Nigeria. Nigeria which since independence has tried several policies to improve growth and generate employment has not succeeded in balancing growth with employment. In the recent past, government has tended to assume that employment generation will result from growth and therefore need not worry about a separate

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declared goal. However, since macroeconomic policies obviously have multiple goals including those related to the growth of output and its distribution, it is necessary to examine the macroeconomic policies critically to identify those that have positive impact and those that are inimical to the rapid employment generation. This study considers these issues in the light of Nigerian experience and the policy regimes that have been put in place.

Some studies particularly by Islam [15], World Bank [16], Squire [17], Akinboboye [18], Ige [19] and Sodipe [20], Adewuyi [21], Obadan and Odusola [22], Ayodele [23] and Thurow's [25] have examined related issues but have not examined critically how macroeconomic policies and output can affect employment. Many of their studies have been devoted to unemployment and its determinant and or its impact on economic growth.

Not only are the studies consulted not conclusive on the output growth and employment effect, they have not totally captured the various macroeconomic policy interactions that may impact on output and employment generation. Thus, a gap in the literature on the linkage between output growth and employment generation is the absence of an analysis of the role of macroeconomic policies in the working of this link. Such analysis becomes particularly important in the current context where the rate of employment generation needs to be accelerated and all possible means need to be found to make economic growth more robust for more employment generation. The gaps in these previous studies make a case for a new study to make a contribution towards filling the gaps in the literature cited. This study quite unlike others recognizes that macroeconomic policies have implications for growth as well as employment generation and has therefore attempted to fill these gaps by employing an econometric method for the purpose of estimating the employment output relationship.

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# CHAPTER TWO
## LITERATURE REVIEW AND THEORETICAL FRAMEWORK

## 2.1    Conceptual Review of Employment

Employment refers to the utilisation of human resource. It is the part of the labour force that is available, capable, willing to work and able to find available job to engage in. Gainfully employed person is a person aged 15 – 64 years who worked for at least one hour during the reference week, that is, the week preceding the one when employment survey is carried out.

An important component of the labour force is unemployment and there seems to be a consensus on its definition. The International Labour Organisation (ILO) defines unemployment as the number of economically active population without work but available and seeking work, including people who have lost their jobs and those who have voluntarily left work [1]. According to Briggs [2], it is the difference between the number of labour employed at current wage and working conditions and those not hired under those conditions. Gbosi [3] defines unemployment as a situation in which people who are willing to work at the prevailing wage rate are unable to find jobs. It has been one of the most persistent problems facing most countries of the world. The goal of public policy has, therefore, been to remove unemployment and achieve full employment in such countries.

Unemployment comes in different forms. For example, structural unemployment occurs when there is a change in the structure of an industry or the economic activities of the country. As an economy develops over time, the type of industries may change. This may be because people's tastes have changed or technology has moved on and the product or service is no longer in demand.

Todaro [4] demonstrates a much more complex interplay of economic variables in explaining the phenomenon of structural unemployment. He shows that a combination of the shortages of capital, raw materials, intermediate products, skilled and managerial/human resource with poorly functioning and inefficiently organised commodity and loan markets, poor transport and communications, shortage of foreign exchange and import dominated consumption patterns among the rich, and many other structural and institutional factors were the real cause of unemployment in developing countries.

There is also frictional unemployment which is largely caused by industrial friction, such as, immobility of labour, ignorance of job opportunities, shortage of raw materials and breakdown of machinery. Jobs may exist, yet the workers may be unable to fill them either because they do not possess the necessary skill or because they are not aware of the existence of such jobs. They may remain unemployed on account of the shortage of raw materials, or mechanical defects in the working of plants.

Seasonal unemployment is another form of unemployment due essentially to seasonal variations in the activities of particular industries caused by climatic changes, changes in fashions or by the inherent nature of such industries. The ice factories are closed down in cold seasons throwing the workers out of their jobs because there is no demand for ice during this period. Likewise, the sugar industry is seasonal in the sense that the crushing of sugarcane is done only in a particular season. Such seasonal industries are bound to give rise to seasonal unemployment. In Nigeria, seasonal unemployment is common in agricultural activities, particularly in rural agriculture where crop production is carried out in its due season.

Cyclical unemployment (also known as Keynesian unemployment or the demand deficient unemployment) is due to the operation of the business cycle. This arises at a time when the aggregate effective demand of the community becomes reduced in relation to the productive capacity of the country. That means less production needs to be carried out which ultimately leads to retrenchment of workers. Cyclical or Keynesian unemployment is

characterised by an economy wide shortage of jobs and last as long as the cyclical depression lasts.

There is also disguised unemployment mostly found in backward and underdeveloped countries of Asia and Africa. The term *disguised unemployment* refers to the mass underemployment which prevails in the agricultural sector of underdeveloped and overpopulated countries. For example, if there are four persons trying to cultivate a piece of land that could be cultivated adequately by two persons, then only two of these persons are really fully employed the remaining two persons represent 'disguised unemployed'.

## 2.2 Theories of Output and Employment Growth
### 2.2.1 The Classical Theory

The classical growth theory, as reflected in aggregate production (mostly a variant of Cobb-Douglas function) derived essentially from the technical relations that make the level of output a function of production inputs such as labour, capital, land and technology. The classical economists hold the view that the relationship between growth and employment is a one-way relationship that goes from the input of labour to output. In the classical steady-state model (conditions where the growth rate of capital stock and output are equal), the rate of growth of labour force and technical progress ultimately determine the growth rate of output. And as pointed out by McCombie and Thirlwall [8] and Hussain and Nadol [9], this model fails to explain the ultimate determinant of labour force, employment and technical progress. The premise of the classical model therefore is that the growth rate of employment is exogenous to the growth rate of output.

As argued by Hussain and Nadol [9], the policy implication of the neo-classical approach to primary commodities-producing countries is that, given the existence of Says law, whatever that was produced is automatically sold irrespective of the characteristics of the goods produced and the demand for them. Recent developments in the world market for primary commodities have proved this to be wrong. In contrast, Keynesian theory explains the determination of output and employment in terms of aggregate demand. As such, employment is demand-determined and the rate of output growth is itself an important determinant of the rate of growth of employment. Thus, output and employment are determined endogenously. This approach therefore suggests the possibility of a bi-causal relationship. Productivity growth should increase the demand for labour thereby reducing unemployment [10].

The classical theory of employment assumes the existence of full employment without inflation. Given wage price flexibility, there are automatic forces in the economic system that tends to maintain full employment and produce output at that level. Thus, full employment is regarded as a normal situation and any deviation from this level is abnormal which automatically tends towards full employment. Say's Law of Market is the core of the classical theory of employment. In Say's words, it is production which creates markets for goods. A product is no sooner created than it, from that instant, affords a market for other products to the full extent of its own value. Nothing is more favourable to the demand of one product, than the supply of another. The very act of supplying goods implies a demand for them. Thus, supply creates its own demand and there cannot be general over productions and or general unemployment.

In the classical model, as employment increases, total output also increases till full employment is reached. However, when the economy is at full employment, total output becomes stable. Thus, given the stock of capital, technological knowledge and resources, a precise relation exists between total output and employment. Total output is an increasing function of the number of workers. Symbolically, this is expressed as:

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$$Q = f(K, T, N) \, - - - - - - - - - - - - - - -(1)$$

That is, Q is a function of the capital stock, K; of technological knowledge, T; and the number of workers, N.

This theory has been seriously criticised. Keynes [13] considers the assumption of full employment equilibrium as unrealistic and abnormal. The society, particularly the less developed countries, according to him, does not function according to Say's law and supply always exceeds its demand.

### 2.2.3 Keynesian Theory

In the Keynesian theory, employment is a function of effective demand and it is determined by two factors, the aggregate supply function (Z) and the aggregate demand function (D). The aggregate supply function depends on physical or technical conditions of production which do not change in the short run. Since Keynes assumes the aggregate supply function to be fixed, he concentrates his entire attention on the aggregate demand function to tame depression and unemployment. Thus, employment depends on aggregate demand which in turn is determined by consumption and investment.

The Keynesian framework, as examined by Thirlwall [14], Grill and Zanalda [15] and Hussain and Nadol [9], postulates that increases in employment, capital stock and technological change are largely endogenous. Thus, the growth of employment is demand-determined and that the fundamental determinants of long-term growth of output also influence the growth of employment. Contrary to the strong belief of the neo-classicists that equilibrium wage rate, price, interest rate and real cash balances guarantee the quality of national output and full employment level, the Keynesian scholars strongly believe in the efficacy of aggregate demand. Their prescription for creating employment is the increase in aggregate demand through direct increases in government spending or macroeconomic policies that encourage more private investment. As argued by Keynesians, as long as there is unemployment and excess capacity in the economy, the supply of goods and services will respond automatically to a rise in demand. A new equilibrium will always be established with higher income and lower level of employment.

The review of theoretical issues shows that there is no unanimous agreement on the causal relationship between employment and output. While the classicists contend that there is a unidirectional relationship, in which case supply of manpower is a key driver to economic performance, the neo-classical aver that it is the other way round. That is, increase in output leads to increase in employment. Again, there is another version that posits that both employment and output are endogenous, in which case one causes the other. The reason why there exists this disagreement may not be unconnected with the assumptions underlining each argument.

## 2.3 Methodological Review

This review presents the different methodologies adopted by some scholars in their works. It is customary to observe that given a particular theory, researchers tend to adopt different methodologies to affirm its potency or otherwise. Thus, to know why and how a given methodology is appropriate for a particular theory, it is important to examine various methodologies submitted. Obadan and Odusola [17] carried out a study on productivity and unemployment in Nigeria. Using Granger Causality tests, they examined the direction of relationships between productivity and employment and productivity and unemployment. In order to get a clearer picture of the structure of production and employment, they divided the economy into three sectors: agriculture, industry and services. They, however, dropped the services sector for lack of data. Evidence from productivity and employment linkage shows bi-causal relationships in all the cases except in agricultural sector. Evidence from

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productivity and unemployment however shows that a unidirectional relationship exists between national labour productivity and national unemployment. The direction of causation runs from total productivity to unemployment. Thus,

$$Y_t = \sum_{i=1}^{k} (Y_t - Y_{t-1}) + \beta_t \sum_{i=1}^{k} X_{t-1} + \varepsilon_t \qquad (2)$$

$$X_t = \sum_{i=1}^{k} X_{t-1} + \sum_{i=1}^{k} (Y_t - Y_{t-1}) + V_t \qquad (3)$$

Where: Y is productivity of labaour, X is employment, others are paremeters. This test is an important scientific way of determining the direction of causation but its limitation is that it cannot determine the nature of the relationship. The authors have to fit in simple regression equation to make their conclusions.

In a study to examine the dynamic of total employment, by sex, for 16 low and middle-income countries from 1970 to 2003 Heintz [19] examines the employment outcomes associated with four policy areas:

> monetary regimes and central bank;
> international trade;
> exchange rate; and
> fiscal and public sector restructuring.

In conducting the exercise, Heintz [19] examines the dynamic of total employment, by sex, for 16 low and middle-income countries from 1970 to 2003. The selection of countries was based on those with sufficient long time-series data on employment, disaggregated by sex. The economic variables used in the study were: economic growth; government expenditures; exports of goods and services; imports of goods and services; and the short-term real interest.

Using an appropriate linear regression model, how each of these variables affected the growth rate of total employment is estimated.

$$Ei_t = a + yEi_{t-1} + \beta yi_t + \beta_2 gi_t + \beta_3 xi_t + \beta_4 mi_t + \beta_5 ri_t + \beta_6 ci_t + \epsilon_t -----------(4)$$

$E_{i,t}$ – total employment for country I

$y_{i,t}$ – real GDP

$g_{i,t}$ – current government expenditure as a per cent of GDP

$x_{i,t}$ – exports as a per cent of GDP

$m_{i,t}$ – imports as a per cent of GDP

$r_{i,t}$ – the real short-term interest rate

$\varepsilon_{i,t}$ – stochastic error term.

The results show that expansion of output (GDP) is associated with an increase in total employment, controlling for other factors. However, the estimations also show that the type and composition of growth matter for employment performance. For example, the higher the government share of GDP associated with a particular rate of economic growth, the greater the growth rate of employment. A stronger export orientation appears to improve employment performance but import penetration, measured by the value of imports as a fraction of GDP, slows employment growth. A high interest rate tends to reduce employment growth, perhaps by discouraging fixed capital investment in the economy.

## 2.4    Empirical Review

Employment effect of monetary and fiscal policies has been inconclusive in literature. To detect a discernible employment effect, several studies have, for example, focused on money supply, lending rate and domestic credit as monetary variables while choosing the components of government expenditure as fiscal variables. Some of these studies support a positive relationship between fiscal variables and employment growth. The average ratio of

infrastructure expenditure to GDP has been found to exert a positive impact on long run growth and employment. On the other hand, government expenditure financed by either higher tax rates or through deficit financing, introduces distortions that reduce savings and neither boost public investment directly nor private productivity indirectly in other studies.

A review of the existing descriptive analysis on the linkage between output, productivity and employment shows some degree of variations. Maddison [20] shows that the growth of total employment since 1970 paralleled that of real GDP in industrial countries. They both accelerated and decelerated in the same direction. By implication, productivity and unemployment are inversely related. Schaik and Groot [21] also presented the European countries' experience of high growth of industrial productivity with unprecedented low rates of unemployment in the 1950s and 1960s. Grilli and Zandala [15] also observe that growth of total employment maintained a positive relationship with real GDP in developing countries between 1960s and 1980s. In contrast, Krugman [22] finds no visible pattern among some developed countries between productivity and unemployment. Some countries with the best unemployment performances turned out to be the worst productivity performances.

Swane and Vistrand [25] measured employment using total employment and employment-to-population ratio which measures the extent to which the population is engaged in productive labour market activity and is defined as the proportion of a country's working-age population that are employed. They found a significant and positive relationship between GDP and employment. They claim that their finding supports the strand of theory that states the positive relationship between GDP and employment is normal and that the jobless growth development is just a temporary deviation which will soon give way to employment growth.

Examining the relationships between growth, employment and underemployment in the European Union (EU), Walterskirchen [26] analyses the link between economic growth and the labour market. He found that the relationship between GDP growth and change in unemployment is divided into two components viz: those changes in employment and unemployment rates governed by economic factors and by demographic influences as well as labour market policies. He employs the time-series analysis for individual EU country while for all the countries' cross-country analysis, he used panel data. The finding of the study was a strong positive correlation between GDP growth and the change in employment.

Creel and Fitoussi [27] work on employment in OECD-countries in order to capture cross-section and time-series dimensions of unemployment growth and their links with fiscal and monetary policies in selected countries. They relied on a panel of 12 OECD countries and more than 80 variables covering 20 years were involved in the robustness test. The data set covered various topics from labour market structures to the macroeconomic environment. Two complementary panel techniques were used. First, Levine and Renelt [28] robustness tests were performed for each variable. Second, they estimated unemployment equation that included labour force growth and (at least) one of the robust determinant identified in the first step. Results show that economic policies played a prominent role in the unemployment growth in the early nineties. In this period, restrictive monetary policies increased unemployment growth in Europe which would confirm previous analyses by Fitoussi [29]. Fiscal policy had more puzzling effects on unemployment growth. In the seventies, it had "Keynesian" effects while in the early nineties they found evidence that they had "anti-Keynesian"effects. In the early nineties also, deliberate over-expansionary monetary policies helped to reduce unemployment growth while over- restrictive ones increased unemployment growth. Robustness tests show that neither changes in the public debt over GDP ratios nor changes in the public and structural surpluses determine unemployment growth.

Introducing monetary policy separately in the equation for the unemployment growth confirms the view according to which restrictive policies in the early nineties were one of the main causes for large unemployment growth, most notably in EU. If monetary policy is introduced jointly with fiscal policy, the latter has non-keynesians effects on unemployment growth and therefore it can be inferred from this result that on the average, the policy mix most able to reduce unemployment growth in the early nineties would have been a restrictive fiscal policy associated with an expansionary monetary policy.

In Nigeria, Obadan and Odusola [17] noted that between 1981 and 1990, periods of high rate of unemployment were associated with declining/low productivity. Anyanwu [30] affirms that taken alone, none of the variables (money supply, lending rate and domestic credit) significantly reduces unemployment. He states, however, that taken together, the fiscal variables are highly significant in reducing unemployment. He also avers that taken with GNP, an increase in money supply leads to a significant fall in unemployment. Also, Gupta [31] explains that indirect taxes (especially customs duties which make up a large chunk of indirect taxes in Nigeria) act as a "protection" for domestic or infant industries against foreign competition. This explains why the larger the custom duties, the lower the rate of unemployment, since local industries can sell and maximise profit used to employ more resources through expansion. However, the robustness of this result is not clear. This is because increase in tariff tends to raise domestic prices which invariably worsen people's purchasing power and hence reduction in purchases and in the long run, leads to decrease in employment. It has also been demonstrated that if a tariff-imposing country is small in terms of global competitiveness, a rise in tariff will worsen economic condition of the home country and reduce rather than increase employment.

Anyanwu [30] examines the hypothesis that monetary and fiscal policies influence (un)employment in Nigeria. He chose money supply, lending rate and domestic credit as monetary variables while choosing total government expenditure, company income tax and indirect taxes as fiscal variables. Included in the unemployment equation are one-period lagged value of unemployment rate, gross national product, exchange rate of the naira to the US dollar and inflation rate. The result of his estimation shows that, none of the monetary variables (money supply, lending rate and domestic credit) significantly reduce unemployment. Conversely, together, the fiscal variables are significant in reducing unemployment. Taken with GNP, the only significant monetary policy variable is the money supply. However, a combination of monetary and fiscal policies with GNP results in a more realistic result where money supply and capital expenditure are the only significant monetary and fiscal variables, respectively.

Ayodele [33] concludes that the Nigerian economic structure, especially the secondary sector, had low potentials for employment generation and is ill-equipped to absorb the economy's expanding labour force. Given the structure of the model, the study relied on the OLS techniques using the time series data from 1985 to 1999. The results of the estimation generated show that the growth in total employment of both the lower and upper grades of labour force was significantly lower than that of the GDP. The implication of the growth rates is that employment lagged behind economic growth in general. This according to the author could have arisen from the limited employment created by the mining sector whose major production technology remains a capital-intensive one with labour displacing effects. Also, agriculture (another component of the primary sector with the greatest contribution to output) is exceedingly peasantry; most of its ability to employ is in the disguised unemployment. This is another comprehensive study on sectoral and national employment generation but could not examine the dimension of macroeconomics policies in its linkage

Ajakaiye [34] establishes a relationship between gross domestic product (GDP) and employment. This allowed him to project the manpower requirements on a sectoral basis. The model was used to simulate the impacts of some policies packaged in the Structural Adjustment Programme (SAP), viz; exchange rate deregulation and interest rate liberalisation on output and employment. The simulation results show that the exchange rate depreciation experienced in 1990 would have led to a fall in the manpower requirements in the Nigerian economy by 14.24 million or 36.66 per cent of the 1990 to 1992 national rolling plan. He concludes that the exchange rate depreciation that occurred during this plan period must have frustrated the realisation of the employment objectives in both the plan and the 1990 Federal Government budget.

The empirical review shows that macroeconomic policies, both fiscal and monetary are important for employment generation. However, researchers seems to differ as to which of the two policies is more effective. Not only that, while some researchers found that macroeconomic policies directly affect employment, others argue that they affect employment indirectly through productivity and output.

## Gaps in the empirical literature

Most of the empirical works on the effect of macroeconomic policies on employment only examined the effect of economic growth on productivity or employment. Some also examined the channel through which employment are affected by GDP. Anyawu [30] who examined macroeconomic effect of employment in the mid-1990s, had some gaps even though his research work came up with useful information on the impact of macroeconomic policies on employment generation. The first is on the issue of methodology. He ran only OLS for its estimation when the data used was time-series (secondary data), prone to serial correlation. Two, the above work was done over a decade ago and therefore, its empirical reliability could be in doubt due to some series of policies since embarked upon by the government.

Ayodele [33] improves on the work of Anyawu [30] by presenting empirical evidence of employment generation taking cognisance of endogeneity problem. However, dimension of macroeconomic linkage is limited, implying that the author did not examine macroeconomic policy effects of employment in all its ramifications. The work of Ajakaiye [34] centres on the manpower needs in each sector of the country. Apart from the fact that his work did not actually examine employment effect of macroeconomic policy, his result may have been overtaken by economic policies adopted since 1993.

This work attempted to address the empirical issues raised above. First, the work examines how macroeconomic policies affect employment generation at the aggregate level and it corrected for endogeneity problems which was not addressed by Anyawu [30].

## 2.5    Theoretical Framework

Given the foregoing literature review, this study adopted the Keynesian theory of output and employment for its theoretical framework. The rationale for adopting the theory lies in its macro-dynamic orientation of aggregate income, employment, output, consumption, supply, savings and investment. The choice is also based on providing a consistent and coherent framework within which the complex interrelationships between output growth and employment can be meaningfully explored. Jhingan [7] points out that the general theory has helped to make us think of economics in dynamic rather than in static term. His policy

measures on output and employment have been adopted by almost all the capitalist and welfarist economies of the world including the developing countries. Among the many theories of output and employment, it is the most comprehensive theory that analyses the effect of government policies on employment from a broad macroeconomic perspective. The theory no doubt introduces macroeconomic policies to the problems of employment. Other growth theories have considered the issue of employment like Solow [9]. However, Keynesian model seems flexible and empirically tractable

According to Keynes [11], employment could be increased by increasing consumption and/or investment. Consumption depends on income $c(Y)$ and when incomes rise, consumption also rises but not as much as income. In other words, as income rises, saving rises. Raising the propensity to consume in order to increase income and employment can increase consumption. But the propensity to consume depends upon the psychology of the people, their tastes, habits, wants and the social structure which will determine the distribution of income. All these elements remain constant during the short-term. Employment thus depends on investment and varies in the same direction as the volume of investment.

Investment depends on the rate of interest and the marginal efficiency of capital (MEC) i.e $I = f(r, e)$. Investment can be increased by a fall in the rate of interest and/or a rise in the *MEC*. The *MEC* depends on the supply price of capital assets and their prospective yield. It can be raised when the supply price of capital assets falls or their prospective yield increases. Lowering the rate of interest can increase investment and employment. The rate of interest is determined by the demand and the supply of money. On the demand side is the liquidity preference schedule. The higher the liquidity preference, the higher is the rate of interest that will have to be paid to cash holders to induce them to part with their liquid assets and vice versa. According to Keynes, people hold money (*M*) for three motives, transactions, precautionary and speculative. The transactions and precautionary motives are income elastic. Thus the amount held under these two motives *(M₁)* is a function (L$_i$) of the level of income (Y), that is, $M_1 = L_1(Y)$. But the money held for speculative motive (M₂) is a function of the rate of interest (r), that is, $M_2 = L_2(r)$. The higher the interest rate, the less people demand for money. Conversely, the lower the interest rate, the higher the demand for money.

Romer [36] shows the possibility of unemployment equilibrium and attributed an important role to fiscal policy in stimulating the required aggregate demand. In the context of growth models (which often assume that countries operate on their production frontier),

government may promote growth through public investment as well as in the provision of good, including funding for research and development. Also, Levine and Renelt [28] note that fiscal policy may also exert a negative influence on growth through the distortionary effects of taxation on private decisions.

James Duesenberry in J.C. Anyanwu [30], opines that monetary policy is indeed one of the instruments which can be used in achieving the full employment goal. To him, the main task of monetary policy is to find an interest rate which equates investment demand with full employment savings. For instance, the combination of consumption (C) and government fiscal action (G) will yield C+G, but it is the task of monetary policy to produce an investment demand which results in the full employment output (aggregate demand), C+G+I. This, according to him is the potential full employment savings of the economy.

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# CHAPTER THREE
# RESEARCH METHODOLOGY

## 3.1 Model Specification

From the theoretical framework, it is observed that there exists a causal link between economic growth and employment. In particular, the framework shows that whether employment will increase or decrease depends largely on income (output) and macroeconomic policy changes. The macroeconomic policies specified in the framework include fiscal policy, captured by changes in government spending; monetary policy, captured by changes in supply of broad money and interest rate and trade policy, captured by changes in export, import and exchange rate. Therefore, the model specified assesses the linkage between macroeconomic policies, output and employment in Nigeria. The approach specifies the model of a multiple regression equation, made up of employment (EMP) as a function of macroeconomic policies and output. This is specified as follows:

$$EMP = f(IR, ER, GE, M2, IMP, EXP, GDP) - - - - - - - - - -- - - - (7)$$

Where: IR, ER, GE, M2, IMP, EXP and GDP mean interest rate, exchange rate, government expenditure, broad money, import, export, gross domestic product respectively

## 3.2 Technique of Estimation

For the estimates, we adapt the Heintz [1] reflected in Equation (8) as shown under methodological review with some modifications. The few modifications include the introduction of Broad Money (M2) and Real Exchange (ER) because of their likely effect on investment and employment. Monetary policy's task is to put that amount of money supply in circulation which may produce an interest rate which exactly equates investment demand

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with full employment savings [2]. As Burrows and Hitiris [3] state, if money supply is raised sufficiently in nominal terms to increase the supply of money in real terms, then the obstacle to full employment will be overcome. This increases the price level and as the rate of interest falls, demand is stimulated to equal full employment income. However, the decline in the real rate of interest which stimulates expenditure to the full employment level requires a proportionate increase in the price level which is smaller than the proportionate increase in the nominal supply of money.

In the same vein, according to Anyanwu [4], by changing its taxing and spending (fiscal policy), the government can change the amount of cash in the hands of consumers and adjust its demands for goods and services. Tax increase and reduced government spending will lead to a decline in aggregate demand while tax cuts and increased government spending will lead to increase in demand. As Musgrave and Musgrave [5] argue, the overall level of employment in the economy depends upon the level of aggregate demand, relative to potential or capacity output valued at the prevailing prices. The level of demand is a function of the spending decisions of millions of consumers, corporate managers, financial investors and unincorporated operators. These decisions in turn depend upon a number of factors, such as past and present income, wealth position, credit availability and exemptions. The above, among others, is the justification for choosing our variables.

This model is in tandem with the Keynesian theoretical framework. The model is chosen from among the models reviewed because of its robustness and adaptability. The study also adapts the Granger causality tests model used by Obadan and Odusola [6] to test the direction of causality between employment and output.

$$E_t = \alpha + \beta_1 E_{t-1} + \beta_2 Y_t + \beta_3 G_t + \beta_4 X_t + \beta_5 M_t + \beta_6 R_{,t} + \beta_7 M_2 + \beta_8 ER_t + \epsilon_t \text{---------(8)}$$

$$Y_t = \alpha + \delta_1 E_{t-1} + \delta_2 E_t + \delta_3 G_t + \delta_4 X_t + \delta_5 M_t + \delta_6 R_{,t} + \delta_7 M_2 + \delta_8 ER_t + \zeta_t \text{---------(9)}$$

In which:

$E_t$ is total employment in year t,

$Y_t$ – represents real GDP

$G_t$ – current government expenditures(capital) as a per cent of GDP,

$X_t$ – export as a per cent of GDP

$M_t$ – imports of capital goods and raw materials as a per cent of GDP

$R_t$ – the real short-term interest rate

$M_2$ – broad money

$ER_t$ – Real exchange rate

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$\epsilon_{,t}$ – stochastic or error term.

In addition to the non-transformed model specified in equations (8) and (9) above, the log linearised forms of the model are also specified as equations (10) and (11) whose coefficients are to be interpreted as elasticities. The double-log forms of the models are:

$$e_t = \theta_0 + \alpha_1 e_{t-1} + \alpha_2 y_t + \alpha_3 g_t + \alpha_4 x_t + \alpha_5 m_t + \alpha_6 r_t + \alpha_7 m2_t + \alpha_8 er_t + \mu_t \quad \text{........ (10)}$$

$$y_t = \alpha_0 + \gamma_1 e_{t-1} + \gamma_2 e_t + \gamma_3 g_t + \gamma_4 x_t + \gamma_5 m_t + \gamma_6 r_t + \gamma_7 m2_t + \gamma_8 er_t + \mu_t \quad \text{........... (11)}$$

$$\alpha_1 - \alpha_5, \alpha_7, \ \gamma_{1-5}, \gamma_7 > 0 \ and \ \alpha_6, \alpha_8, \gamma_6, \gamma_8 < 0$$

Where:

g is log of government spending

x is log of value of export

m is log of the value of import of capital and intermediate goods

r is interest rate

M2 is log of broad money

c is log of exchange rate

The *a priori* expectations of the signs of the equations are as follows: $\alpha_1 - \alpha_5, \alpha_7$ and $\gamma_1 - \gamma_5, \gamma_7$ are expected to be greater than zero; while $\alpha_6, \alpha_8, \gamma_6, \gamma_8$ are expected to be less than zero.

In equations 8 to 11, though output (y) appears as pure exogenous, it is also possible that employment can explain output. There is no doubt that equations 8 to 11 are fraught with endogeneity problem. One of such problems is the dependence of the error distribution on the regressors' distribution, that is, there is the possibility of heteroscedasticity. The usual forms of the diagnostic tests for endogeneity and overidentifying restrictions will also be invalid if heteroskedasticity is present. These problems can be partially addressed through the use of heteroskedasticity consistent or "robust" standard errors and statistics. The usual approach today when facing heteroskedasticity of unknown form is to use the Generalized Method of Moments (GMM), introduced by Hansen (1982). Efficient GMM brings with it the advantage of consistency in the presence of arbitrary heteroskedasticity, but at a cost of possibly poor finite sample performance. If heteroskedasticity is in fact not present, then standard IV may be preferable. Even when IV or GMM is judged to be the appropriate estimation technique, the necessary condition for validity is that the number of the IV must be greater than or equal to the number of the explanatory variables. Thus, J-statistics act as a

test for model mis-specification. A large J-statistic indicates a mis-specified model. Thus the GMM version of equations 10 and 11 are specified as follow:

$$\Delta e_t = \theta_0 + \alpha_1 \Delta e_{t-1} + \alpha_2 \Delta y_t + \alpha_3 \Delta g_t + \alpha_4 \Delta x_t + \alpha_5 \Delta m_t + \alpha_6 \Delta r_t + \alpha_7 \Delta m2_t + \alpha_8 \Delta er_t + \Delta \mu_t \quad \ldots\ldots \quad (12)$$

$$\Delta y_t = \alpha_0 + \gamma_1 \Delta e_{t-1} + \gamma_2 \Delta e_t + \gamma_3 \Delta g_t + \gamma_4 \Delta x_t + \gamma_5 \Delta m_t + \gamma_6 \Delta r_t + \gamma_7 \Delta m2_t + \gamma_8 \Delta er_t + \Delta \mu_t \quad \ldots\ldots \quad (13)$$

$$\alpha_1 - \alpha_5, \alpha_7, \gamma_{1-5}, \gamma_7 > 0 \; and \; \alpha_6, \alpha_8, \gamma_6, \gamma_8 < 0$$

the assumption underlying the specification of equations 8 and 9 is that the error terms should not be serially correlated, that is,

$$E[\mu_{i,t}, \mu_{i,t-1}] = 0 \forall s \geq t$$

With the initial condition being predetermined by at least one period, i.e

$$E[X_{i,t} \mu_{i,t}] = 0$$

for I = 1, ....., N and t = 3, ...., T. they imply

$$m = \frac{1}{2}(T-1)(T-2)$$

Moment restrictions or conditions of orthogonality which are linear in the parameters as in

$$E[X_{i,t} \Delta \mu_{i,t}] = 0 \text{ for } s \geq 2 \text{ and } t = 3, ...., T$$

This model specifically offers a consistent estimator for N large and T relatively small.

Meanwhile, both static (equation 10-11) and dynamic (equation 12-13) models will be estimated but only the dynamic model result will be discussed extensively.

### 3.3 Sources and Types of Data

The study relied on secondary data in the publications of National Bureau of Statistics (NBS); Central Bank of Nigeria (CBN); National Planning Commission (NPC); Federal Ministry of Employment, Labour and Productivity; defunct National Manpower Board; Manufacturing Association of Nigeria (MAN); and so on, on the identified variables.

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## CHAPTER FOUR
## RESULTS AND DISCUSSIONS

### 4. Presentation of Results

This chapter presents and discusses our results. The first section presents the descriptive analysis of the variables used in the analysis while the second presents the result of our hypotheses. We first examined the statistical properties of the variables used and then examined their level of stationarity. Examining the level of stationarity of the variables is important because all our variables are macroeconomic variables and tend to be non-stationary, in which case the use of Ordinary Least Square (OLS) may not likely be the appropriate technique of estimation. We then further examined the level of cointegration of the variable before proceeding to presenting the results of the 2SLS analysis. Meanwhile, for the purpose of comparison, we present the OLS and the 2SLS side by side. The fourth section discusses the findings.

### *4.1 Descriptive Analysis of the variables*

Table 4.1 presents the descriptive analysis of the variables. The mean value of employment in the 36 years was 29,268,056. The average exchange rate was 35 naira to a dollar while the average GDP growth rate was 0.12. Average money supply was 6,013,317 million naira while government consumption expenditure was 136,763.9 million naira.

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Average interest/lending rate was computed to be around 15%. The maximum amount of employment generation in the economy was 54,030,000 while the minimum was 15,660,000. What can be drawn from the Table is that exchange rate was, on the average, above 25 naira per dollar, interest rate was of double digit, heating 30% maximum.

**Table 4.1    Descriptive Statistics of the variables**

|  | EMPLOY | EXR | GCE | GGDP | MS | R |
|---|---|---|---|---|---|---|
| Mean | 29268056 | 35.29073 | 136763.9 | 0.124132 | 601331.7 | 15.04556 |
| Median | 25000000 | 7.7147 | 19541.35 | 0.046921 | 55805.8 | 16.87 |
| Maximum | 54030000 | 133.5004 | 585261.6 | 1.621019 | 3784236 | 29.8 |
| Minimum | 15660000 | 0.5464 | 451.3 | -0.06855 | 1161.3 | 6 |
| Std. Dev. | 11735295 | 50.43397 | 188746.4 | 0.281017 | 1034484 | 6.746261 |
| Observations | 41 | 41 | 41 | 41 | 41 | 41 |

The correlation matrix of the variables is presented in Table 4.2. The result shows that there exists a strong and positive relationship between employment rate and exchange rate. That is, if exchange rate rises (depreciate) there is tendency for employment to rise, or when employment rises, exchange rate will necessarily rise. Perhaps the reason why this is so is that during depreciation period, export demand rises while import demand falls and this tend to generate more employment in the export sector and also in the import competing sector. Although it can be argued that exchange rate depreciation will also increase the price of imported raw materials, this increase can be off-set by trade policy in the form of waiver and at times subsidies. It must be noted that Federal Government tend to give waiver on imported raw materials such that it commands very small amount of tariff. This behaviour between exchange rate and employment is consistent with the theory. The Table also shows that employment rate and government consumption expenditure (GCE) is positive and strong. This is an indication that increased government expenditure tend to increase employment or it may be the case that employment generation leads to increase in government expenditure. The relationship between employment and money supply is strong and positive. The reason why this may be so is that increase is money supply reduces credit constraint. Reduction in credit constraints tend to increase both consumption and investment and by implication cause output to grow and growth in output leads to increase in employment.

**Table 4.2: Pairwise Correlation Coefficient**

| VARIABLES | EMPLOY | EXR | GCE | GGDP | MS | R |
|---|---|---|---|---|---|---|
| EMPLOY | 1 | | | | | |
| EXR | 0.94 | 1 | | | | |
| GCE | 0.94 | 0.9 | 1 | | | |
| GGDP | -0.28 | -0.21 | -0.23 | 1 | | |
| MS | 0.89 | 0.9 | 0.88 | -0.18 | 1 | |
| R | 0.55 | 0.45 | 0.4 | -0.36 | 0.32 | 1 |

**Explanatory Note**

| EMPLOY | = | Aggregate Employment |
|---|---|---|
| EXR | = | Exchange Rate |
| GGDP | = | GDP Growth |
| MS | = | Money Supply |
| R | = | Interest Rate |
| GCE | = | Government Expenditure |

The relationship between interest rate and growth rate of output is negative which is consistent with what the theory states. For instance, increase in interest rate crowds out investment and reduces output. The relationship between aggregate employment and interest rate is positive. It must be recalled that most Nigerian firms use retained earnings, go to capital market to raise funds instead of going to banks to borrow. Thus, interest rate may rise with increase in employment. And as shown, the relationship is relatively weak suggesting that employment does not bear strong relationship with interest rate.

## 4.2 Long Run Aggregate Employment Results

Overall, the results reported in Table 4.3 appear good. The adjusted aggregate R-squared of 0.98 suggests that the result has a good fit. Further, the Durbin Watson statistic value indicates the absence of serial correlation in the residuals. This is also confirmed by more powerful tests such as Autoregressive Conditional Heteroskedasticity (ARCH) and the Breusch-Godfrey LM tests shown at the lower section of the table. The test results for ARCH in the residuals show that there are no remaining ARCH effects which have not been captured by the model judging by the insignificance of the F-statistic. In particular, the result shows

that depreciation of naira will generate more employment. If naira is devalued or depreciated by 10%, employment will increase by 0.7%. This result is significant at 1% level.

In the case of government expenditure, the result shows a positive but insignificant effect. This result is in contrast with the theoretical expectation. This is so because the result shows that government expenditure appears not to affect output. The reason for this result may not be unconnected with rent-seeking, kick-back and corruption inherent in government expenditure which would not go to productive uses that can lead to employment generation. The effect of export on employment generation is positive but insignificant.

**Table 4.3: Estimation Results Showing the effect of macroeconomic policies on employment**

| Variable | OLS | 2SLS | GMM |
|---|---|---|---|
| Capa | 0.001 | 0.0702*** | 0.059*** |
| lnexch | 0.073** | 0.597** | 0.344*** |
| Lngce | 0.010 | 0.443 | 0.106*** |
| Lngdp | 0.014 | 1.779*** | 1.654*** |
| Lnms | 0.123*** | 0.166* | 0.158*** |
| R | -0.010** | -0.029** | -0.035*** |
| _cons | 15.624*** | | |
| Statistics | | | |
| N | 41.00 | 40.00 | 40.00 |
| r-sqrd | 0.36 | 0.45 | 0.58 |
| F (p-value) | 0.00 | | |
| RESET (p-value) | 0.15 | | |
| arch:lag 2 (p-value) | 57.01 | | |
| Sargan (p-value) | | 0.32 | |
| Basman (p-value) | | 0.75 | |
| Hansen's- J (P-value) | | | 0.87 |

## 4.3 Result of the 2SLS and System GMM

In order to deal with simultaneity problem, we employed two stage least square estimator. The result improves on the OLS result by increasing the numbers of variables that are significant and also improving on the value of the R-squared. Various statistical tests carried out show that the instruments used are valid and there is no presence of

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autocorrelation. The industrial capacity utilization, growth rate of GDP and exchange rate significantly and positively affects employment. According to the result, if the industrial sector increases their capacity utilization by 10%, employment will increase by 0.7%. The reason for the sluggish increase can be traced to the capital intensity of the industrial sector in Nigeria. The same percentage increase in exchange rate will raise employment by 5.9%. Employment generation is sensitive to the performance of the economy and it is the case that a 10% increase in the GDP is associated with 17.8% increase in employment. Government spending shows positive effect on employment generation but it is not significant, and indication that government spending has not been effectively tailored towards employment generation. Interest rate maintains its negative and significant position and in this case, a 10% decrease in interest rate is associated with 0.3% increase in employment.

The adoption of GMM estimator is aimed at solving possible endogeneity problem, particularly the problem of heteroskedasticity. The Hansen's J test of overidentifying restriction shows that our instruments are valid. All the variables are significant in the GMM model but with reduction in some the coefficients. Capacity utilization, exchange rate, government final spending, and growth rate of GDP positively and significantly affect employment while interest rate negatively and significantly affect unemployment. Specifically, the result shows that if capacity utilization increases by 10%, 0.6% employment will be generated. In the same vein, if exchange rate depreciates by 10%, employment will increase by 3.4% while the same percentage increase in government spending will be associated with 1.1% increase in employment generation. If the activities of the economy increases by 10%, employment generation will rise by 16.5% while the same percentage decrease in interest rate will lead to a 0.4% increase in employment.

## 4.4    Discussion of Findings

Our result shows that macroeconomic policy variables significantly affect employment. Summarily, real interest rate negatively impinges on total employment. Money supply as a policy variable positively and significantly impact on employment. In the same vein, employment is affected by the exchange rate. Finally, government expenditure induces employment generation in Nigeria. This finding is consistent with the theory that opines that government through fiscal and monetary policies tend to affect employment generation in the economy.

Specifically, interest rate significantly constrains employment in Nigeria. This effect is however indirect. Interest rate impacts on employment through its adverse impact on consumption and investment. As demonstrated in the theoretical framework, high interest rate leads to high opportunity cost of holding money and this reduces consumption in favour of increase in savings. Also, high interest rate raises cost of investment and hence reduces level of investment. The consumption and investment effect of interest rate will lead to decrease in output and by implication, reduces employment. The results also indicate that exchange rate significantly augments aggregate employment. The channel may be through the higher cost it imposes on imported goods which makes imports become scarce and hence less demanded while making export price to be cheaper and hence more demanded by the foreigners. This discourages importation while cheaper price stimulates export. The effects tend to generate more employment provided consuming agents shift consumption in favour of domestic goods.

The above analysis shows that it is not in all cases that monetary policy creates inducement for employment, particularly when the focus is not the sectoral response to monetary policy shock. It was established that interest rate is not central as money supply in the solution to employment problem in Nigeria. This result corroborates the finding of Anyawu [1]. Also, the result on exchange rate policy is consistent with Adewuyi [2] who finds exchange rate positively affecting employment in Nigeria.

Turning to fiscal policy, government consumption expenditure significantly induces employment. This result is also consistent with what was found in the literature where it was established that government expansionary policy, if carefully carried out tends to induce employment.

## References

1. Anyanwu, J.C. (1995): "Monetary and Fiscal Policy Implication for Full Employment in Nigeria" in Towards Full Employment Strategy In Nigeria, National Manpower Board.

2. Adewuyi A.O (2005) Impact of Policy Reforms on Wage and Employment: Evidence from Nigeria"s

# CHAPTER FIVE

## CONCLUSSION AND RECOMMENDATIONS

### 5.    Conclusion and recommendations

Based on the findings, it can be concluded that macroeconomic policy variables affect employment generation in the economy. The outcome of this research is consistent with Keynesian economic theory and Nigerian economic reality.  In particular, interest rate outcome is consistent with Keynesian prediction and government policy instrument, such as government final consumption expenditure also conforms to Keynes' prediction. However, where interest rate behaves in Keynesian way, it has mild impact on the employment generation.

The main objective of this study is to determine the effect of macroeconomic policies on employment creation in Nigeria. We have therefore explored both the theoretical and empirical connections between employment creation and the macroeconomic policy measures (monetary, fiscal and exchange rate policies). The results indicate that macroeconomic variables play important role in employment generation in Nigeria. Of particular interest is the fact that money supply and exchange rate significantly boosts employment in Nigeria. The results also indicate that interest rate is not central to the solution of the employment problem in Nigeria.

The findings of this study have major policy implications. Since employment generation is desirable for the growth and development of the nation, there is need for a policy framework that allows for multiple policy instruments and intermediate targets aimed at supporting long run development objectives such as explicit targets for employment generation in all the sectors of the economy. This is in line with Creel and Fitoussi's [1] argument that policy mix is most able to reduce unemployment. Maintaining competitive real exchange and interest rates through intervention in the foreign exchange and money markets in order to influence these rates are imperative.

It is also desirable that money supply increase at a steady rate. This rate should be determined by the government's perception of what constitutes an adequate rate of growth of GNP in current prices, to which a percentage point or two should be added to take account of the growing monetisation of the economy. Government should deliberately promote labour-intensive method of production in order to generate more employment particularly in the real sector. In this regard, import duty relief on industrial machinery/equipment as well as other

capital goods whose consequence is capital-intensive production should be immediately discontinued. Import duties on such goods should also be raised.

Employment generating fund should be established through revenue realised from removal of subsidy on petroleum products or through increases in the prices of petroleum products. This fund can be used to finance employment creation possibly through the activities of small and medium scale enterprises. Structural reforms in labour markets, especially concerning employment protection should be carried out. This is because only a comprehensive reform linking economic policy and labour market institutions is likely to succeed in improving employment generation.

Government expenditure was found to positively influence employment level, especially in the real sector. In earnest, therefore, research institutes such as the Nigerian Institute of Social and Economic Research should be funded to undertake research and articulation of development and employment policies and programmes with labour-intensive potentials. People should be encouraged to establish more labour-intensive small scale enterprises which have the propensity to create more jobs and higher incomes. It has been noted that uncoordinated policies could undermine the attainment of specific employment-oriented objectives. Therefore, a coherent approach to employment policy is needed. This requires the integration of youth-specific interventions and analysis into the entire employment framework.

Reference
1.  Creel J. and J.P. Fitoussi 2001. "Unemployment in OECD – countries: does economic Policy matter?'' Paper presented at the 75th International Conference on Policy Modelling for European and Global Issues, Brussels, July.