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FISCAL POLICY AND UNEMPLOYMENT: THE NIGERIAN CONUNDRUM

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ABSTRACT

The study aimed at examining the influence of fiscal policy on unemployment in Nigeria for the period 1990-2018 with a view to ascertaining the effectiveness of fiscal policy tools in counteracting the problem of unemployment. The study used unemployment rate as the dependent variable; tax revenue, capital expenditure, recurrent expenditure and external debt as proxies for fiscal policy while inflation rate and exchange rate were introduced as control variables. Stationarity tests were carried out on the variables using the Augmented Dicker Fuller and Phillips-Perron Tests and the Johanson Co-integration Test was employed to ascertain the short-run and long-run relationship among the co-integrating equations. The OLS estimate was employed to determine the relationship between the dependent and independent variables. It was found that capital expenditure, recurrent expenditure, external debts, inflation rate and exchange rate have a positive relationship with unemployment in the long-run, only tax revenue was found to have an opposite relationship with unemployment rate. However, in the short-run, capital expenditure, recurrent expenditure and external debts reduced unemployment rate whereas inflation rate, exchange rate and tax revenue were positive. It is recommended that borrowed funds be used only for the intended productive purposes. There should be strict monitoring of government projects to ensure that every naira spent counts. The fight against corruption must be upheld to restore sanity into the polity and accountability in the use of public funds. There is need to transmogrify the economy into a productive hub, this will reduce the rate of external borrowing, inflationary pressures and enhance effective and beneficial exchange rate policy. Tax policies/regimes should not be such that discourage investments and other productive economic activities. There is need to urgently address the lack of sustained political will to implement viable economic policies and strictly adhere to every aspect of those policies. Any recommendations will be useless if not implemented to the later.

Key words: Fiscal Policy, Unemployment

INTRODUCTION

One of the major goals of government intervention in an economy is the promulgation and effective implementation of policies measures to ensure full employment of economic resources. This argument championed by Keynesian economists is opposed to the ideas of the classicists. The Keynesians argue that market forces alone cannot ensure full employment of economic resources because business cycles will always distort equilibrium leading to deficient aggregate demand resultant unemployment. To counteract this menace, demand management policy measures by government are essential. This could be done through the use of fiscal and/or monetary policy depending on the particular macroeconomic goal to be achieved. The Great Depression of the 1930's made the views of the Keynesians more plausible especially because market forces alone could not be relied upon to restore equilibrium and stability in the economy. It became easier as a result of the success of fiscal and monetary measures (government intervention as encouraged by Keynes to re-establish equilibrium) for different economies to adopt the ideas of the Keynesians. It is clear that many economies have adopted this theory albeit with differing results. Some economies tend to do better when government gets involved in economic



activities, however, some perform below expectation, especially developing economies like Nigeria.

Government intervention in economic activities in most developing countries is fraught with differing results. Despite years of such intervention especially through fiscal policy measures in the Nigerian economy, there seem to be very little success. Lately, the Nigerian government has plunge huge amount of money into the economy through increased government spending, bailouts to different states of the federation, and increased capital and recurrent expenditure spending. To finance these expenses, sometimes the government must borrow and lately external debt burden has increase; and still, the government is set to borrow some more. As observed by Gbosi (2015), the government fiscal budget over the years has been expansionary; billions of naira spent has had no significant impact on the standard of living of the people and employment generation. The above observation is factual as there is no real improvement in the lives of people. Inflationary pressures still persist; unemployment, high poverty levels, dwindling foreign exchange and slower rate of economic growth still persist. This is a sad fact. What could be responsible for fiscal policy failure in emerging economies like Nigeria? The reasons for the failure of fiscal policy measures to tackle economic problems such as unemployment, inflation, underdevelopment and poverty has been clearly expounded in the literature on the subject. Several works on the effects of fiscal policy variables in Nigeria have identified some of the reasons for the failure of fiscal policy measures in addressing unemployment to include, gross mismanagement/ misappropriation of public funds, (Okemini and Uranta, 2008), corruption and ineffective economic policies (Gbosi, 2015), lack of integration of macroeconomic plans and the absence of harmonization and coordination of fiscal policies (Onoh, 2007), inappropriate/ineffective policies and structural deficiencies (Anyanwu, 2007), imprudent public spending and weak sectoral linkages and other socioeconomic maladies (Amadi and Essi, 2006). These findings tend to suggest that fiscal policy measures do not meet the stipulated macroeconomic objective of full employment of economic resources in Nigeria. The aim of this paper, therefore, is to determine the true effect, if any, of fiscal policy on unemployment in Nigeria. What really is the situation of the fiscal policy-unemployment nexus in Nigeria? What is the short-run and long-run dynamic influence of fiscal policy instruments on unemployment in Nigeria? The varying results in the available literature on this issue necessitate this study. The paper is divided into five sections- introduction, review of related literature, methodology of the study, discussion of empirical findings, conclusion/recommendations.

Review of Related Literature

This section focuses on the conceptual, theoretical and empirical findings for the study.

Conceptual Literature

Fiscal Policy

According to Alex and Peter (2008), fiscal policy is conventionally a macroeconomic policy tool which is associated with the use of taxation and public expenditure to influence the level of economic activities. Fiscal policy as opined by Fadare (2010) is the deliberate



action(s) of government to influence or manipulate macroeconomic variables in a desired direction through the spending attitude of government, levying of taxes and borrowing. The desired goals include sustainable economic growth, high employment levels and low inflation. The objective of fiscal policy tends to depend on the situation of the economy and the goals of government. In view of this, an economy experiencing inflationary pressures can be controlled through the contraction of government expenditure and increasing taxation. A reduction in government spending and/or an increase in taxation will reduce disposable income and aggregate demand, which in turn, will cause excess supply, which will further result in lower prices thus removing the inflationary pressure in the economy. On the other hand, an economy experiencing a recession can be controlled through an expansion in government spending and reduction in taxes. The chain-reaction will be the reverse of the case just analyzed.

Prior to Keynesian economics, market forces were relied upon for any corrections of disequilibrium. However, the use of government expenditure and revenue (fiscal policy) is predicated on the interventionist ideas based on the failure of purely market forces to counteract distortions from equilibrium. The failure of purely market economies achieving sustained equilibrium and simultaneously adjusting towards equilibrium in cases of distortions especially during the Great Depression in the mid-1930s was a serious setback to the classical model. Since then, purely market economies beset by cyclical fluctuations (which are inherent in market economies) are corrected fiscal and monetary policy measures of government. In view of this, Medee and Nembee (2011) argue that fiscal policy involves the use of government spending, taxation and borrowing to influence the pattern of economic activities and also the level and growth of aggregate demand, output and employment. It also entails government's management of the economy through the manipulation of its income (government revenue) and spending power (government expenditure) to achieve certain desired macroeconomic objectives (goals) amongst which is economic growth and stabilization. Accordingly, the Central Bank of Nigeria (2011) defined fiscal policy as the use of government expenditure and revenue collection through tax and amount of government spending to influence the economy. According to Dornbusch and Fischer (1990), it is clear from most definitions that fiscal policy has two main instruments which are government expenditure and taxation, though it is not limited to just the two. Other fiscal policy tools may include public debt, public work amongst others. The authors further argued that fiscal policy involves the use of these tools to influence the level and growth of aggregate demand, output and employment. Fiscal policy influences macroeconomic conditions because they affect tax rates, interest rates and government spending, in an effort to control the economy. Achieving fiscal policy goals requires that policy makers make use of certain instruments to influence or manipulate macroeconomic variables for the overall good of the economy.

Unemployment

According to Adawo, Essien and Ekpo (2012), unemployment is a situation whereby those who are capable, eligible and ready to work are actively seeking for work without coming by any. According to Stone (2008), to be counted as unemployed, those without work must



actively seek work (apply for jobs, going to interviews, register with employment services, contacting employers directly, visiting school placement centers, or contacting private or public employment agencies). According to Abel, Bernanke and Smith (2003), unemployment and inflation are the twin devils of macroeconomics and among the most difficult and politically sensitive issues that policymakers face. This is the case because high rates of unemployment and inflation generate intense public concern because their effects are direct and visible. Rising levels of unemployment accompanied by increased inflationary pressures retard economic growth and development. The major types of unemployment in the literature include frictional, structural, and cyclical unemployment. According to Stone (2008), frictional unemployment is a situation whereby workers voluntarily quit their jobs to search for better positions, or are moving to new jobs but may still take several days or weeks before they can report to their new employers. Basically, when people are temporarily unemployed because of switching jobs, they are said to be frictionally unemployed. According to Abel, Bernanke and Smith (2003), structural unemployment is brought about by changes in the structure of consumer demand or technology. It is often long term, with workers requiring considerable retraining before they can find work again. For instance, the use machines may displace workers (labor) in a factory. According to Ekpo (2017), cyclical unemployment arises because of downturns in the business cycle. According to the literature, this kind of unemployment can be controlled by government through the use of fiscal and monetary policy measures. Unemployment (unless voluntary) is unsavory because it affects aggregate demand and can stagnate an economy. A continuous increase in unemployment levels, rising inflation can result in fall in the growth rate of Gross Domestic Product (GDP) and eventually a recession. According to Ekpo (2017), in Nigeria, macroeconomic variables such as unemployment and inflation caused major fluctuations in GDP that resulted in the recent economic recession of 2014-2016. The crippling effects of high levels of unemployment in an economy are also evident in the ongoing economic crisis in the Venezuelan economy and other economies of the world.

The causes of unemployment in Nigeria according to Adawo, Essien and Ekpo (2012) include lack of electricity, poor road network, poor communication system, insecurity, and the lackadaisical attitude of government toward employment generation. According to the authors, the Nigerian government also placed an embargo on employment. This has affected the economy adversely and especially so because government is the largest employer of labor. Poor and ineffective economic policies have also contributed to the unemployment problem. According to Nwosa (2015), the recent trade policies of government and stringent/unfavorable economic conditions of the country have discouraged investment. This has resulted in the winding up of many firms, low investors' confidence and resultant laying off of workers. The ugly effects of unemployment are appalling. They include increased criminal activities, insecurity, underdevelopment, poverty, brain drain, lack of self-esteem, and other psychological effects. As opined by Ekpo (2017), the effects of unemployment are better imagined than experienced both for an individual and the economy. To address the problem of unemployment, many authors have suggested many economic policies that if implemented with fervor can at least

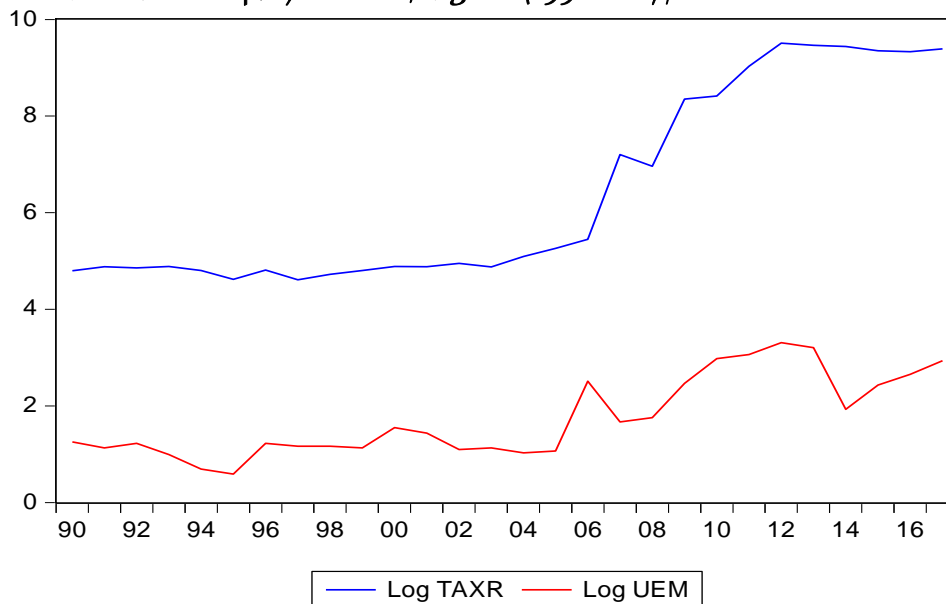


control the menace. As summarized by Adawo, Essien and Ekpo (2012), government should partner with the private sector to diversify the economy, legal activities in informal sector should be looked into, encouraged and helped to strive and the education system should be overhauled to produce graduates that are functional in industries. A very important way to handle the problem of unemployment in Nigeria is for the government not only to know how the problem can be solved but to demonstrate the much-needed willpower to apply favorable economic suggestions. That unemployment is increasingly plaguing the Nigerian economy seems more to be a problem of lack of political willpower to address it than not knowing how to address the menace.

Fiscal Policy Instruments and Unemployment in Nigeria (1990 – 2017)

Nigeria's fiscal policies have been expansionary in nature. This section will analyze the trend and the effects of expansionist fiscal policies on unemployment in Nigeria by examining the influence of each fiscal policy tool on unemployment.

Tax Revenue and Unemployment in Nigeria (1990- 2017)

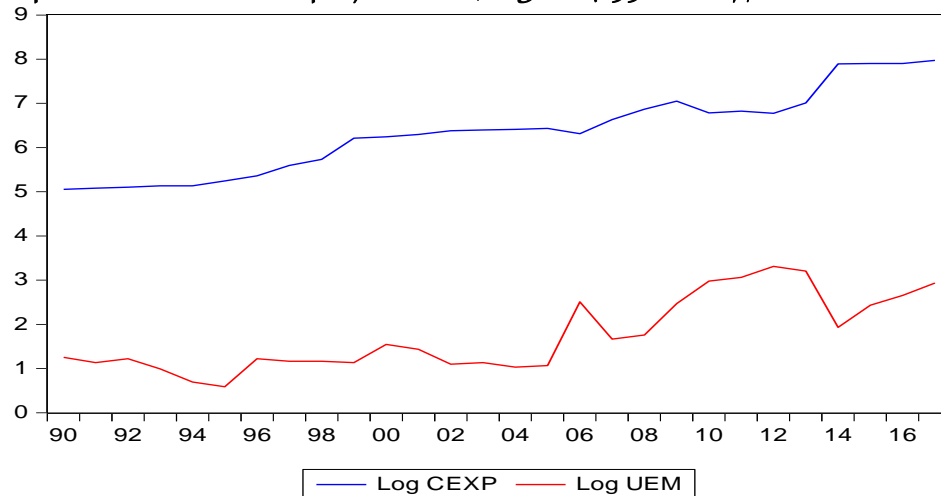


The graph above shows in general, an upward movement of the two variables (tax revenue and unemployment) during the period of the analysis. Tax revenue gradually increased between 1990 and 2006, but gained an increased upward momentum after 2006 and maintained the upward trend albeit with few reductions between 2008 and 2010. However, the upward trend has been sustained from 2010 to 2017. Also, unemployment rate was falling between 1992 and 1995 and then maintained and almost remained at a constant rate between 1996 and 1999. It however rose in 2005 and maintained an upward trend till 2012. Unemployment rate fell during 2012 to 2014 and began moving steadily in an upward direction since 2015. The trend opposes theory because tax revenue is not resulting in reduction of unemployment. This is so because tax funds are not fully utilized for what they are meant for. If taxes were to be utilized properly, say for building and maintaining



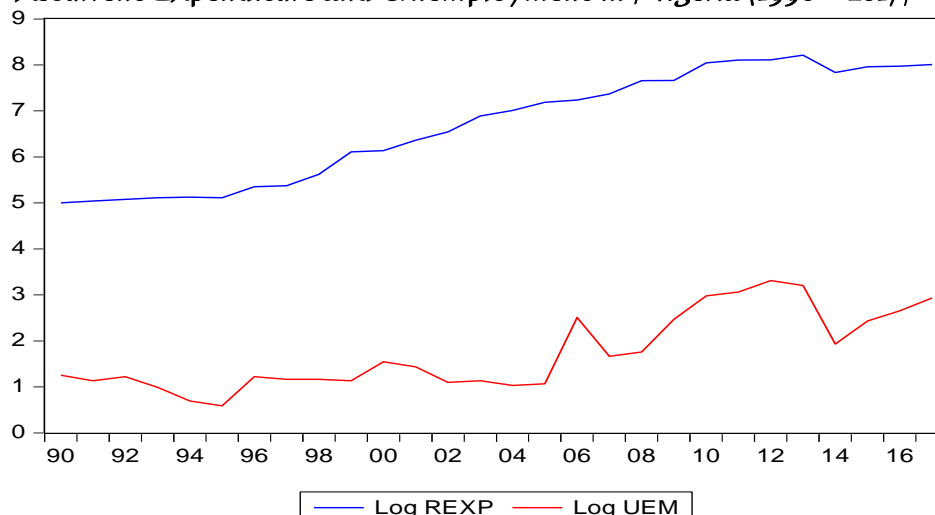
social infrastructures, aggregate demand will be stimulated leading to employment generation.

Capital Expenditure and Unemployment in Nigeria (1990 – 2017)



The theoretical underpinning is that increased capital expenditure will result in decreased unemployment. Capital projects, such as building roads will lead to employment of labor, promote investment and employment generation through rising aggregate demand. During the period under review, capital expenditure was continually increasing (with very few cases of decrease), and this is supposed to result in reduction in unemployment rate. However, unemployment also was on the increase during the review period. Unemployment rose between 2005 and 2007 and beginning from 2014 has maintained an upward trend despite increasing capital spending by government during the period under review. Again, this is opposed to theory given the Nigerian situation. It is possible that capital funds are either misused or misappropriated resulting in a situation where a lot of capital projects are never completed even when all the funds meant for the projects are released and payments are made.

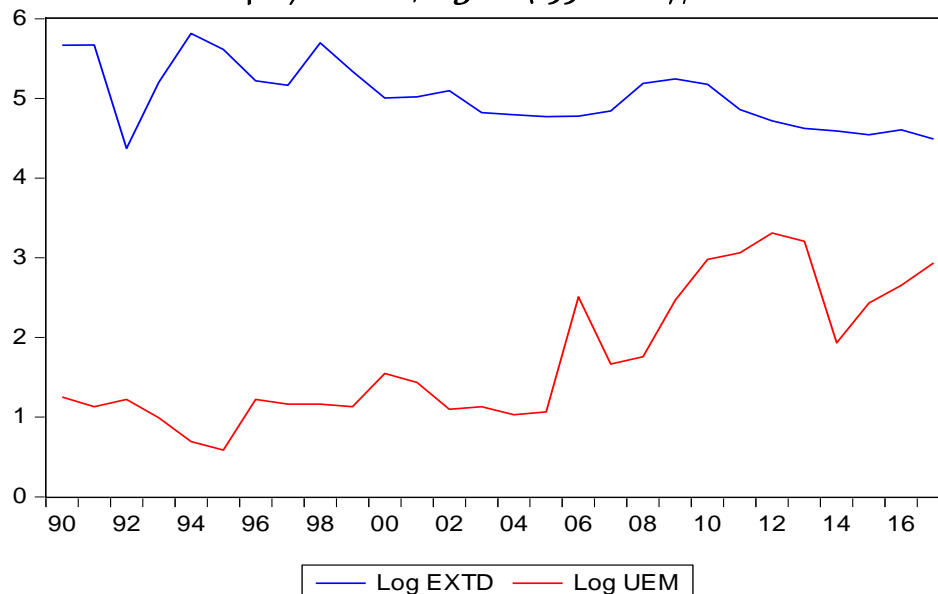
Recurrent Expenditure and Unemployment in Nigeria (1990 – 2017)





Like capital expenditure, increase in recurrent expenditure by the government ought to stimulate employment generation by increasing income and promoting aggregate demand. From the graph above we see that at some points during the period under review, increases in recurrent expenditure results in increases or decreases in unemployment. However, in general, it appears that given the trend above, rising recurrent expenditure is accompanied by rising unemployment in Nigeria. When recurrent expenditure dropped between 2013 and 2014, unemployment reduced; however, when recurrent expenditure rose albeit slowly (2015 to 2017), unemployment rose sharply during the same period. This situation is not unconnected to the institutional, political and security issues plaguing the country recently. These sad situations have reduced investors' confidence, discourage investment and stifle the growth of industries resulting in unemployment. People will rather decide to use their money to buy what to eat rather than invest in a totally unstable/insecure market.

External Debt and Unemployment in Nigeria (1990 – 2017)



From the trend, reduction in external debts resulted in a decrease in unemployment during 1990 to 1995. There was less pressure on the government to pay huge debt arrears and therefore it was possible to channel available resources into capital expenditure which resulted in increased employment generation. Increased foreign debts resulted in increasing unemployment between 1996 and 2004. Thereafter, foreign debts tend to be sluggish upward and downward though it generally tilted upwards. Unemployment increased sharply from 2004, dropped sharply in 2007 and beginning from 2008 maintained an upward trend throughout the period under review. The brief review of fiscal policy tools performance in the aspect of reducing unemployment in Nigeria raises serious cause for concern. The current situation of unemployment in Nigeria is embarrassing and totally unacceptable. Nigeria's unemployment level is alarming. Nigeria's unemployment rate increased from 18.8 per cent in the 2017 to 23.1 per cent in 2018 NBS (2018). This suggests that those unemployed increase by 3.3 million to about 20.9 million people in Nigeria.



However, it appears that the situation is worse than what is portrayed above in spite of the so-mouthed increase in economic growth rate (GDP). As noted by Adawo, Essien and Ekpo (2012), Nigeria is experiencing a jobless growth and it is likely that unemployment figures are manipulated (so as not to portray reality) for political reasons. However, unemployment rate in Nigeria shows a glowing red alert. Less than 40 per cent of the country's 200 million people are fully employed. This figure suggests the grim reality facing many people such as that described in the *Vanguard* Newspaper of Dec. 6, 2018 about a certain Josh Okere who has been unemployed for 6 years now. "You set out from your house in the morning not knowing where you are going to, you're just having that hope, that belief, that when you go out you'll find something better," he said.

Theoretical Literature

This section focuses on the classical theory of unemployment, the Marxian theory of unemployment, the Keynesian theory of unemployment and Wagner's theory of public expenditure.

Classical Theory of Unemployment

The classical theory, as analyzed by Pigou (1933) and Schumpeter (1934) argue that the labor market like every other market is subject to the basic competitive model and characterized by perfect information. The actors in the market, that is, the suppliers of labor and the demanders of labor will almost always be at equilibrium at a prevailing market price (wage rate). The classicists therefore see unemployment as the necessary result of government intervention in the labor market through the fixation of minimum wage. They argued that where the wage rate is set above equilibrium, excess supply occurs resulting in unemployment. Therefore to avoid the menace of unemployment, the labor market, like every other market should be allowed to operate on its own to equilibrate demand for and supply of labor such that any unemployment that might exist will be voluntary (or natural) since everyone will have to choose whether or not to be employed at the going wage rate.

The Marxian Theory of Unemployment

Marx (1867) argued that unemployment is an inherent economic phenomenon in the classicist model. In his *Theory of Surplus Value*, Marx stated that "it is in the very nature of the capitalist mode of production to overwork some workers while keeping the rest as a reserve army of unemployed paupers". According to Marx, unemployment is inherent in the unstable capitalist system and periodic crises of mass unemployment are to be expected. Since the major aim of the bourgeois (or capitalists) is to accumulate more and more profit, they will stop at nothing (even at the expense of the proletariats or workers) but to accomplish that. As a result, the very mode of capitalist production will tend toward the use of capital (machines and other man-made aids to production) other than labor in order to reap greater profits. This substitution of man for machines creates more profits for the capitalists and unemployment and the cycle will continue until a revolution takes place which will usher in a classless society. Thus, according to Marx



unemployment can only be tackled by the demolition of capitalism and the enthronement of socialism climaxing in communism (John, 1984).

Keynesian Theory of Unemployment

The Keynesians faulted the classicists' theory of unemployment as being voluntary. Keynes (1936) argued that unemployment is involuntary and occurs as a result of cyclical fluctuations in market driven economies. Like Marx, Keynes saw unemployment as inherent in a strictly market driven economy. During the Great Depression of the mid-1930s, market forces failed woefully in correcting the wide distortions from equilibrium. The levels of unemployment were appalling. The world economy was crumbling. Classical economics proved helpless in contending the menace. Keynes (1936) stated that "unemployment happens when there is insufficient aggregate demand in the economy to offer employment to everybody who needs to work". Therefore "when demand for most goods and services falls, fewer production is required and thus fewer workers are required, wages are sticky (not flexible) and do not fall to meet the equilibrium level, and mass unemployment result." Thus, Keynes argued for demand management policies (fiscal and monetary) by government to stimulate aggregate demand, investment and employment. This idea worked in Europe during the economic crisis and thus set the stage for a new frontier in economic thinking referred as the Keynesian economics.

Wagner's Theory of Fiscal Policy

A German economist Adolph Wagner (1835-1917) propounded a theory on public expenditure based on observation of his country and other countries. Wagner (1890) argued that "for any country, public expenditure rises constantly as income growth expands." The prediction therefore is that the development of an industrial economy will be accompanied by an increased share of public expenditure in the gross national product. Based on the theory public expenditure basically must influence the economy positively, which in turn will result in increased spending with concomitant economic progress. Wagner (1890) argued that "as progressive nations industrialize, the share of the public sector in the national economy grows continually." According to Singh (2008), government involvement and increase in spending becomes necessary because of the increasing social, administrative, protective and welfare functions in the state.

Empirical Literature

This section focuses on a brief review of some related empirical findings on the subject matter. Fatas and Mihov (2001) in their work "The Effects of Fiscal Policy on Consumption and Employment: Theory and Evidence" reviewed the United States and found a positive impact of government expenditure shocks on employment. Bassani and Duval (2006) sought to investigate the influence of fiscal policies and institutions on unemployment in 21 OECD countries during 1982-2003 utilizing cross-country/time series data. They found that high rate of tax collection increases the rate of unemployment. In a related study, Monacelli and Perotti (2010) evaluated a VAR model to examine the effect of fiscal policy on labor market variables in the United States. They found that an increase in government spending of 1 percent created output and employment multiplier



around 1.3 and 0.6 respectively, showing that every point an increase in GDP brings an extension in employment of around 1.3 million jobs. Therefore employment rose significantly in reaction to increased government spending. Umut (2015) adopted the VAR method to explore the effect of fiscal policy in the Netherlands. The study revealed that fiscal shocks exert significant impact on GDP, Unemployment rate, Consumption and Investment. The work proposes that unemployment ascends in response to a fiscal contraction although it falls to fiscal expansion. Also, Samira and Khalil (2015) studied the government civil expenditures effect on unemployment rate in Iran from period of 1997-2013. They utilized the generalized ADF unit root test, Johansen co-integration test, (VAR) technique and VEM to estimate the relationships that exist between the variables. The long run relationship was explored and a negative and significant connection of aggregate government civil expenditure on unemployment rate was established. Also, Holden and Sparrman (2016) evaluated the effect of government purchases on unemployment in 20 OECD countries, for the period 1980-2007. Their review discovered that an expansion in government purchases equivalent to one percent of GDP lessens unemployment by around 0.3 percentage point in the same year. The effect is more noteworthy and more persevering under less "employment-friendly" labor market institutions, and more prominent and more diligent under a fixed exchange rate regime than under a floating regime. The effect is additionally more prominent in downturns than in booms. The effect on unemployment reflects a consistent positive effect of enhanced government purchases on employment to population rate.

Adefeso and Mobalaji (2010) composed on the fiscal-monetary policy and economic growth in Nigeria. Their significant target was to re- estimate and reconsider 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 method were employed to scrutinize the data and draw policy inferences. Their findings demonstrated that the effect of monetary policy is much stronger than fiscal policy. They recommended that there ought to be more attention and dependence on monetary policy for the purpose of economic stabilization in Nigeria. Njoku and Ihugba (2011) undertook to assess the relationship between unemployment and growth in Nigeria during 1985-2009. One of the findings was that the economy grew by 55.5 percent during 1991-2006 and the population expanded by 36.4 percent. This typically should have resulted in a reduction in the rate of unemployment, however, unemployment increased by 74.8 percent. Adawo, Essien and Ekpo (2012) in their work "Is Nigeria's Unemployment Problem Unsolvability?" found that the growth of labor force in Nigeria is about 0.3 percent annually and the growth of the GDP that averaged 3.5 percent could not absorb the unemployed. They argued that the Nigerian economy experienced a "jobless growth" in opposition to theory.

Muritala and Taiwo (2011) employed the ordinary least squares estimation technique to investigate the effect of recurrent and capital expenditure on GDP and finds that both components of government expenditure have significant positive effects on the GDP which in turn stabilizes the economy. In a related work, Yahya, Haruna and Mariam



(2013), investigated the impact of recurrent and capital expenditure on Nigeria's economic growth using multiple regression analysis for data covering the period 1987 to 2010 and find that the impact of both components of expenditure was statistically insignificant, though the impact of recurrent expenditure was positive and that of capital expenditure, negative. This too was alluded to by Ogbonna and Appah (2012). Futher, Amassoma and Nwosa (2013) studied the relationship between unemployment rate and productivity growth in Nigeria for the period 1986 to 2010. Co-integration and error correction model approach were applied to analyze the relationships amongst the variables. Results of the study suggested that there is still need for government to make serious steps against the rising unemployment rate, since unemployment is a noteworthy hindrance to social progress and results in misuse of trained manpower. This too corroborated the findings of Appah (2010) and Aregbbyen (2007). Also, Nwosa (2014) reviewed the effects of government expenditure on unemployment and poverty rates in Nigeria for the period 1981 to 2011. He used the Ordinary Least square (OLS) estimation approach and found that government expenditure has positive significant impact on unemployment rate, but negative and insignificant impact on poverty rate. The review of the empirical literature reveals that findings are fraught with differing conclusions. This study seeks to study the individual influence of fiscal policy tools on unemployment in Nigeria.

RESEARCH METHODOLOGY

Basic Research Design

The study adopts a descriptive research design which ensures that the procedure to be employed in the study is carefully planned so as to obtain correct and reliable information about the research work. The study relies on secondary data.

Sources of Data

The population of this study is fiscal policy instruments data on government expenditure-current and recurrent, public debt, tax revenue and unemployment (in percentage) from 1990 to 2018. The sample size is 28 annual observations ranging from 1990 to 2018. Secondary data (time series data) is used and were obtained from Central Bank of Nigeria (CBN) publications of 2008, 2014, 2015, 2017 and 2018.

Analytical Techniques

Stationarity test was done on each of the variables using the Augmented Dicker Fuller (ADF) and Phillip -Perron (PP) tests to ensure that the variables are suitable for analysis. The Johanson Co-integration technique was employed to ascertain if there is co-integration among the variables. Once the co-integration was ascertained the Vector Error Correction (VEC) model was applied to determine the dynamic influence of fiscal policy instruments on unemployment in both the short-run and long-run relationship among the co-integrating variables (Asika, 2004). The study also employed the multiple regression technique which offers explanation on the relationship between a dependent variable and two or more explanatory variables.



Model specifications

This study used the econometric technique of Ordinary Least Square (OLS) in form of Multiple Linear Regressions to the relative regression coefficients.

The mathematical model for the study is as follows:

$$UEM = f(CExp, RExp, TaxRev, ExtD, Inf, Exc) \dots \dots \dots (1)$$

The Econometric Model for Eqn (1) can be written as:

$$UEM_t = \beta_0 + \beta_1 CExp_t + \beta_2 RExp_t + \beta_3 TaxRev_t + \beta_4 ExtD_t + \beta_5 Inf + \beta_6 Exc + U_t \dots \dots \dots (2)$$

The double-log form of the above model is represented below:

$$LogUEM_t = \beta_0 + \beta_1 LogCExp_t + \beta_2 LogRExp_t + \beta_3 LogTaxRev_t + \beta_4 LogExtD_t + \beta_5 LogInf + \beta_6 LogExc + U_t \dots \dots (3)$$

Where; β_0 is the parameter which represents the intercept

$\beta_1 - \beta_6$ are the coefficients or the regression parameters used in determining the significance of the effects of each of the independent variables on the dependent variable UEM.

UEM_t = Uemployment

$CExp_t$ = Capital Expenditure

$RExp_t$ = Recurrent Expenditure

$TaxRev_t$ = Tax Revenue

Inf_t = Inflation Rate

Exc_t = Exchange Rate

$ExtD_t$ = External Debt

U_t = Error or Random disturbance term.

The expected signs of the coefficients of the explanatory variables are: $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$, $\beta_4 < 0$, $\beta_5 > 0$, $\beta_6 < 0$. The model above was used to estimate the OLS Regression.

Measurement of variables and A priori Expectations

Recurrent Expenditure (RExp) was measured by yearly federal government recurrent expenditure, Capital Expenditure (CExp) was measure by yearly federal government capital expenditure, External Debt (ExtD) was measured by total federal government borrowing source from international countries or organization and Tax Revenue (TaxRev) was measured by total tax revenue generated in Nigeria. The expected signs of the coefficients of the explanatory variables are: $\beta_1 < 0$, $\beta_2 < 0$, $\beta_3 < 0$, $\beta_4 < 0$, $\beta_5 > 0$, $\beta_6 < 0$. The economic implications are that the explanatory variables (recurrent expenditure, capital expenditure, tax revenue, external debt and exchange rate) should be negative, that is reducing unemployment and inflation should be positive that is reducing unemployment by stimulating economic growth.



DISCUSSION OF FINDINGS

Stationarity test was conducted on all the variables to ensure that they are stationary and thus useful for the analysis. The Augmented Dicker Fuller and Phillips-Perron test statistic results show that all the variables were integrated at the first difference without which they cannot be suitable for analysis (Gujarati & Porter, 2009). The table below shows the results of the stationarity test at 5% critical values of -2.98.

Table 1 Augmented Dicker Fuller (ADF) Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UEM(-1))	-1.038720	0.206533	-5.029329	0.0000
D(TAXR(-1))	-0.735576	0.196605	-3.741383	0.0010
D(REXP(-1))	-1.216551	0.198898	-6.116458	0.0000
D(INF(-1))	-0.846575	0.201157	-4.208536	0.0003
D(EXTD(-1))	-1.779886	0.174205	-10.21719	0.0000
D(EXC(-1))	-1.334619	0.196633	-6.787359	0.0000
D(CEXP(-1))	-0.945165	0.203786	-4.638021	0.0001

Phillips-Perron (PP) Stationarity Test Results

D(UEM(-1))	-1.038720	0.206533	-5.029329	0.0000
D(TAXR(-1))	-0.735576	0.196605	-3.741383	0.0010
D(REXP(-1))	-1.216551	0.198898	-6.116458	0.0000
D(INF(-1))	-0.846575	0.201157	-4.208536	0.0003
D(EXTD(-1))	-1.779886	0.174205	-10.21719	0.0000
D(EXC(-1))	-1.334619	0.196633	-6.787359	0.0000
D(CEXP(-1))	-0.945165	0.203786	-4.638021	0.0001

Author's computation using Eviews 9

In the application of the ADF test, the Akaike Info Criterion (AIC) with a maximum lag of 2 was used and from the tests above all the variables are integrated of difference one. The Phillips-Perron test also shows that the variables are stationary with significant prob-values. This suggests that further analysis can be carried out on these variables. The Johanson Co-integration test was carried out to determine the dynamic influence of the fiscal policy instruments on unemployment during the period. Below is a result of the co-integration test.

Table 2 Johanson Cointegration Test Results

Date: 05/01/19 Time: 15:14
Sample (adjusted): 3 28
Included observations: 26 after adjustments
Trend assumption: Linear deterministic trend
Series: UEM EXC EXTD INF REXP TAXR CEXP
Lags interval (in first differences): 1 to 1



Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob. **
None *	0.957564	265.5753	125.6154	0.0000
At most 1 *	0.929732	183.4214	95.75366	0.0000
At most 2 *	0.862152	114.3799	69.81889	0.0000
At most 3 *	0.728840	62.85822	47.85613	0.0011
At most 4	0.468385	28.92699	29.79707	0.0627
At most 5	0.279956	12.49924	15.49471	0.1345
At most 6 *	0.141267	3.959732	3.841466	0.0466

Trace test indicates 4 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 Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None *	0.957564	82.15393	46.23142	0.0000
At most 1 *	0.929732	69.04144	40.07757	0.0000
At most 2 *	0.862152	51.52170	33.87687	0.0002
At most 3 *	0.728840	33.93123	27.58434	0.0067
At most 4	0.468385	16.42775	21.13162	0.2008
At most 5	0.279956	8.539509	14.26460	0.3265
At most 6 *	0.141267	3.959732	3.841466	0.0466

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

** MacKinnon-Haug-Michelis (1999) p-values

Author's Computation using Eviews 9

Based on Johanson co-integration test results above, the null hypothesis of no co-integration is rejected base on the Trace test and the Maximum Eigenvalue. Both the Trace test and the Maximum Eigenvalue show that there are 4 co-integrating equations at the 0.05% level. The result reveals that the variables are co-integrated and therefore have a long-run relationship. The dynamic long-run effects of fiscal policy variables on employment can be captured using the Vector Error Correction (VEC) Model. Below is the result.

Table 3 VEC Estimates: Long-run Analysis

Vector Error Correction Estimates
 Date: 05/01/19 Time: 15:33
 Sample (adjusted): 3 28
 Included observations: 26 after adjustments
 Standard errors in () & t-statistics in []



Co-integrating Eq:	CointEq1
UEM(-1)	1.000000
INF(-1)	0.051107 (0.01708) [2.99240]
REXP(-1)	0.006156 (0.00149) [4.12870]
EXTD(-1)	0.058018 (0.00624) [9.29142]
CEXP(-1)	0.010964 (0.00105) [10.4291]
EXC(-1)	0.002453 (0.01363) [0.17992]
TAXR(-1)	-0.003684 (0.00023) [-15.9458]
C	-24.33604

Author's Computation using Eviews 9

According to Osuala (2010) the equations for capturing long-run relationships among variables and their impacts can be modeled thus:

$$ECT_{t-1} = [Y_{t-1} - n_j X_{t-1} - \sum m R_{t-1} - \sum x T_{t-1} - \sum g S_{t-1}] \dots \dots \dots (4)$$

Equation 4 above is the long-run co-integrating equation where ECT_{t-1} is the error correction term which captures the dynamic long-run relationship and influences of the explanatory variables X_{t-1} , R_{t-1} , T_{t-1} , S_{t-1} and the variable of interest Y_{t-1} . Based on the result above Eqn (4) can be written as follows:

$$ECT_{t-1} = 1.000UEM_{t-1} + 0.058EXTD_{t-1} + 0.011CEXP_{t-1} + 0.006REXP_{t-1} - 0.003TAXR_{t-1} + 0.002EXC_{t-1} + 0.051INF_{t-1} - 24.336 \dots \dots \dots (5)$$

Based on the VEC result above, the long-run dynamic impacts of the various explanatory variables is captured by the individual coefficients in the model. The result reveals that there exists a positive long-run relationship between capital expenditure (CEXP), recurrent expenditure (REXP) and unemployment (UEM). The result also reveals a positive long-run relationship between external debts (EXTD) and unemployment



(UEM). The result further reveals a positive long-run relationship between exchange rate (EXC), inflation rate (INF) and unemployment (UEM). However, a negative long-run relationship exists between tax revenue (TAXR) and unemployment (UEM). Therefore, all things being equal, a per cent increase in capital expenditure (CEXP) will result in 1.1 per cent increase in unemployment (UEM) in the long-run. Similarly, a per cent increase in recurrent expenditure (REXP) will result in 0.6 per cent increase in unemployment. Also, a per cent increase in external debt (EXTD), ceteris paribus, will result lead to 5.8 per cent increase in unemployment in the long-run. Further, a per cent increase in exchange rate (EXC) and inflation (INF), ceteris paribus, will result in a 0.2 per cent and 5.1 per cent increase in unemployment (UEM) respectively in the long-run. However, based on the results, a per cent increase in tax revenue (TAXR) will, ceteris paribus, result in 0.3 per cent reduction in unemployment (UEM) in the long-run.

The findings reveal positive long-run relationships amongst the variable of interest. This raises cause for worry. Government expenditure are not fully utilized for productive purposes and therefore do not engender employment generation as theory puts it. Again, it is observed that inflation and unemployment in Nigeria tend to move in the same (upward direction) in the long-run. Among other factors, this may be due to the political instability (new government new policies), institutional deficiencies and warped economic policies. However, enhancing and expanding tax revenue base through the promotion and implementation of favorable tax policies, ensuring that tax payers' funds are used for productive purposes to benefit the public will reduce unemployment in the long-run. The short-run relationships amongst the variables were also tested with the result presented below:

Table 4 VEC Estimates: Short-run Analysis

Error Correction:	D(UEM)
CointEq	-0.602501 (0.23495) [2.56440]
D(UEM(-1))	-0.595329 (0.44628) [-1.33399]
D(INF(-1))	0.033062 (0.07669) [0.43109]
D(REXP(-1))	-0.009604 (0.00607) [-1.58219]
D(EXTD(-1))	-0.013300 (0.01612) [-0.82515]



D(CEXP(-1))	-0.007886 (0.00768) [-1.02685]
D(EXC(-1))	0.070665 (0.04837) [1.46091]
D(TAXR(-1))	0.000878 (0.00077) [1.14216]
C	1.394898 (1.70542) [0.81792]

Author's Computation, EvIEWS 9

According to Gujarati and Porter (2009), the short run variables relationship model can be estimated as:

$$\Delta Y_t = \alpha + \sum_{i=1}^p \gamma_i \Delta Y_{t-i} + \sum_{j=1}^q \eta_j \Delta X_{t-j} + \sum_{m=1}^r \xi_m \Delta R_{t-m} + \sum_{r=1}^s \chi_r \Delta T_{t-r} + \sum_{h=1}^k \phi_h \Delta S_{t-h} + \lambda ECT_{t-1} + U_t \dots (6)$$

Equation (6) is the short run estimates where ΔY_t refers to the variable of interest, in this case, unemployment and the ΔX_{t-j} , ΔR_{t-m} , ΔT_{t-r} , ΔS_{t-h} all measure the changes that affect the dependent variable in the short-run. ECT_{t-1} is the error correction term and U_t is the residual term. The result above can be imputed into Eqn (6) as follows:

$$\Delta UEM_t = 0.6025 ECT_{t-1} - 0.5953 UEM_{t-1} - 0.0096 REXP_{t-1} + 0.0009 TAXR_{t-1} - 0.0133 EXT D_{t-1} - 0.0079 CEXP_{t-1} + 0.0707 ECH_{t-1} + 0.0331 INF_{t-1} + 1.3949 \dots (7)$$

The results above reveal that recurrent expenditure (REXP), capital expenditure (CEXP), and external debts (EXTD) all have a favorable effect of reducing unemployment in the short-run. From the results, a per cent increase in recurrent expenditure (REXP) is associated with a 0.96 per cent reduction in unemployment (UEM) on average, ceteris paribus, in the short-run. Also, a per cent increase in capital expenditure (CEXP) is associated with a 0.79 per cent reduction in unemployment (UEM) on average, ceteris paribus, in the short-run. Further, a per cent increase in external debt (EXTD) is associated with a 1.3 per cent reduction in unemployment (UEM) on average, ceteris paribus, in the short-run. On the other hand, tax revenue (TAXR), inflation (INF) and exchange rate (EXC) are positively related with unemployment (UEM) in the short run. The result shows percent increase tax revenue (TAXR) is associated with a 0.09 per cent increase in unemployment (UEM). Also, a per cent increase in exchange rate (EXC) is associated with a 0.71 per cent increase in unemployment (UEM) on average, ceteris paribus, in the short-run. Further, a per cent increase in inflation will result in a 0.33 per cent increase in unemployment (UEM) on average, ceteris paribus, in the short run. The



error correction term or the adjustment coefficient is 0.63 suggesting that the previous year's departure or deviation from long run equilibrium is corrected in the current period at an adjustment speed of 63%.

In the short-run, fiscal policy instruments especially government expenditure (capital and recurrent) and external debt had the positive effect of reducing unemployment. This is true given the fact that once funds are disbursed and utilize especially for capital projects there is increase in employment of unused/underused resources, mobilization of workers and payment of remuneration which will increase income and aggregate demand. However, this relationship is capture only in the short-run. In the long-run, fiscal policy variables tend to promote unemployment. This is the case because of the cupidity of government officials resulting in embezzlement and misappropriation of public funds. Further high levels of corruption and inappropriate economic policies result in stifling the completion of capital projects and the use of funds for productive ventures. Inflation and unemployment in Nigeria during the period under review rose together both in the short run and in the long run. This portray red alert. This is the case because the productive base of the country is underutilized and unfavorable policies together with the dearth of basic amenities such as near constant power supply is impeding economic progress.

The OLS estimate was also carried out to determine the relationship between the dependent variable and the independent variable. The result is discussed below.

Table 5 OLS Estimates

Dependent Variable: UEM				
Method: Least Squares				
Date: 05/03/19 Time: 16:37				
Sample: 1990 2017				
Included observations: 28				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.729856	2.155812	0.338553	0.7383
EXC	0.043341	0.013814	3.137443	0.0050
EXTD	0.008878	0.008110	1.094742	0.2860
INF	-0.009295	0.027925	-0.332849	0.7425
REXP	0.003093	0.000952	3.249449	0.0038
TAXR	0.001227	0.000237	5.174951	0.0000
CEXP	-0.008424	0.001357	-6.208317	0.0000
R-squared	0.934792	Mean dependent var	8.207143	
Adjusted R-squared	0.916162	S.D. dependent var	7.625490	
S.E. of regression	2.207948	Akaike info criterion	4.634322	
Sum squared resid	102.3757	Schwarz criterion	4.967373	
Log likelihood	-57.88051	Hannan-Quinn criter.	4.736139	
F-statistic	50.17477	Durbin-Watson stat	1.840261	
Prob(F-statistic)	0.000000			

Author's computation using Eviews



The result shows a positive coefficient or constant suggesting that if the entire explanatory variables are held constant, unemployment (UEM) will grow by 72 per cent. The result show that tax revenue (TAXR), exchange rate (EXC), external debts (EXTD) and recurrent expenditure (REXP) all have a positive relationship with unemployment rate in Nigeria. This is not in line with the expectation of a negative relationship. Inappropriate economic policies, poor implementation, malfunctioning institutions, corruption, political instability and inconsistency of government with regards to addressing economic problems are some of the factors that bring about the opposite result. Every economic policy requires viable institutions and humans to work successfully. On the other hand, Inflation (INF) and capital expenditure (CEXP) have a negative relationship with unemployment (UEM) in Nigeria in line with a prior expectation. A 1 per cent increase in inflation rate will result in a decrease (negative impact) in unemployment (UEM) by 0.9 per cent. Also, a 1 per cent increase in capital expenditure (CEXP) will result in a 0.8 per cent decrease in unemployment (UEM). The R-squared of 0.93 shows a strong positive significant relationship among the variables. The adjusted R-squared of approximately 0.92 shows the coefficient of determination suggesting that the model has passed the test of goodness fit and therefore is accurate for the model. This also suggests that 93 per cent of the changes or variation in the dependent variable is explained by the explanatory variables in the model.

CONCLUSION AND RECOMMENDATIONS

The unemployment situation in Nigeria is intolerable. Government efforts through fiscal policy measures do not readily yield desirable results. The major reasons are lack of political will and institutional failures. It is therefore recommended that our institutions be strengthened, enhanced and monitored consistently to ensure that they deliver on their mandate. Political office holders and appointees must be those suited for the job, square pegs on square holes. Government must ensure that any funds released for capital projects are utilized for productive purposes by strictly monitoring the use of public funds. Also, policy makers must always remember that all borrowed funds (external/domestic debts) must be used for intended purpose (s) if those funds must yield the needed returns. If government spending is channeled towards productive ventures, unemployment will be reduced drastically. Rather than search for nonexistent jobs it is recommended that graduates and other school leavers learn practical skills that will make them self-employed or employers of labor. As demonstrated in this study, the problem is not what to do, or what policies to enact to solve the menace of unemployment. The problem is lack of sustained political will to implement those policies and strictly adhering to every aspect of those policies. Any recommendations will be useless if not implemented to the later.

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