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Empirical Analysis of Fiscal Policy on Unemployment in Nigeria: 1981-2016

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Abstract
This study examines the impact of fiscal policy on unemployment in Nigeria employing annual time series data from the CBN statistical bulletin (2016) for the period between 1981 and 2016 and an autoregressive distributed lag model. Unemployment rate was made the dependent variable while the fiscal policy tools of real capital expenditure, real recurrent expenditure and real tax revenue were explanatory variables. The findings of the study reveal that unemployment significantly responds negatively to changes in real capital expenditure but positively to real recurrent expenditure and real tax revenue. In the short-run, real government capital expenditure show an insignificant negative impact on unemployment while real recurrent expenditure exhibits negatively and significant impact on unemployment. In the long run, real capital expenditure has a negative and significant impact on unemployment while real recurrent expenditure and real tax revenue exhibit positive and significant impact on unemployment rate.

Keywords: ARDL, Fiscal Policy, Government Expenditure, Unemployment
JEL Classification: H50, J64, J68

1. Introduction

Unemployment is an endemic social and virulent disease that forms one of the main objectives of macroeconomic thought. Most economies often want to achieve a full employment status because of the contagious challenges unemployment causes in the society. Research has shown that countries with high unemployment rate suffer from societal violence such as civil war, riots and many other vices. Governments' ability to generate revenue from this unemployed labour force would no doubt be hampered.

According to Tobin (1972) total vacancies and unemployment is determined by aggregate demand, and is subject to control by monetary and fiscal policies. Being particular about fiscal policy here, when government implements an expansionary fiscal policy through increase in capital and recurrent expenditure, in form of embarking in new projects like construction and rise in workers' salary, apart from rise in demand for workers through

construction, workers demand for more goods and services within the real sector. Their demand results to high aggregate demand in the economy which will trigger and induce investors to invest in such sector as there is ready market for goods produced. When investment goes high, demand for workers will invariably become high as workers will be needed for production. Hence, unemployment rate will go low.

It is worth mentioning that the term unemployment, like any other term in Economics, has conventionally been defined, described and debated in different ways from one society to another. In the words of Nigerian Labour Force Survey, "unemployment rate is the proportion of labour force that was available for work but did not work in the week preceding the survey period for at least thirty-nine hours" (NBS 2011). In Nigeria, people are considered unemployed when they are between the ages of fifteen and sixty-four, on ground for work and zealously looking for a job at the prevailing wage rate but could not secure any. There are some people who are not counted as being unemployed according to NBS (2015) because they decided to remain at home such as full-time housewives, those who are self employed, those who are full-time students or are in poor health and unable to work.

Despite the fact that tax cut and expansion in government spending could promote economic growth and development and reduce unemployment ceteris paribus, the duo policies would amplify government's debt. The theory, in practice, of this tax cut implies that the government gets less revenue, and if spending exceeds revenue, the government incurs deficit, which could increase its debt load if the budget must balance.

Just as fiscal structure of any economy fundamentally describes the institutional framework within which the government undertakes its financial operations in the form of tax revenue, government expenditure and borrowing, fiscal policy is concerned with a view to achieving certain economic policy objectives such as economic development and growth, price stability, reduction in unemployment, external equilibrium as well as income redistribution. In more recent years, however, the general disentrancement over the limited success in the achievement of the policy objectives has brought into sharp focus the question of effectiveness of fiscal policy in relation to other policies especially monetary policy and the consideration as to whether or not the continued heavy reliance on fiscal policy as an economic stabilization tool is desirable *(Samuelson 1971).*

Taking into consideration the fiscal policy structure adopted by the Federal Government over the years under consideration, it is essential to ask how this has induced employment in the country. The questions that fundamentally come to mind are: did the easing or tightening fiscal policy stance manage to assuage unemployment? What are the implications of such a fiscal policy stance as it affects unemployment? Are these implications significant in real sense? Can we say fiscal policy has short run or long run significant impact on unemployment? As a result, this study seeks to investigate the real impact of fiscal policy on unemployment in Nigeria. To be specific, the study examines the real response and impact of government expenditure and tax revenue on unemployment rate. This study contributes to knowledge in that most studies in economic literature have examined nominal response and nominal impact of fiscal policy on unemployment rate. None so far, to the best of our

knowledge has studied the real impact of fiscal policy on unemployment in Nigeria. This is the gap, in literature, the study wants to cover.

This study is organised as follows: Part Two presents the stylized facts on fiscal policy and unemployment rates in Nigeria within the period 1981 to 2016. Part Three provides a brief review of literature. Part Four discusses the methodology. Part Five analyses the model and discusses the results of the study, Part Six presents the conclusion and policy recommendations.

2. Literature Review

2.1 Stylized facts on Fiscal Policy and Unemployment in Nigeria (1981-2016)

The trend of fiscal policy and unemployment in Nigeria can be summarized in figure 1. Unemployment in the late1970s and early 1980s was not an issue as it hovered around the full employment rate of approximately 5% which extended to late 1990s except for the economic turbulence that entangled the nation in 1991 which led to unemployment hike for the first time within the period to about 14.5%. Though it recorded some marginal decline between 1981 and 1986, the rates were relatively low. The unemployment rate oscillated between 5.3 and 6.4 percent during 1980 - 85 periods. This development was as a result of the calm in the economy during the period.

2.1.1 Budget Deficit (Bd) and Unemployment Rate (U) in Nigeria.

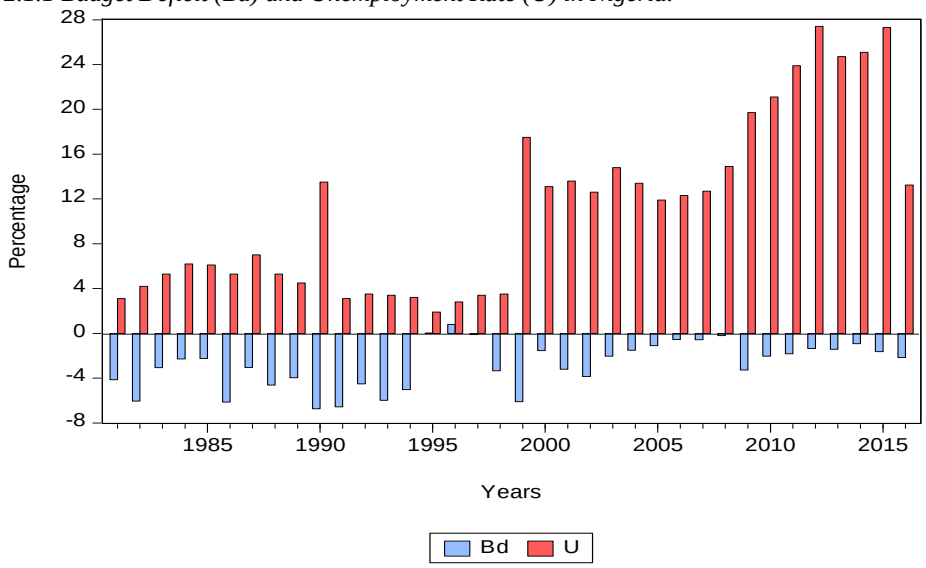

Figure 1: Source: Author's own computations with data from the CBN Bulletin (2017)

The Structural Adjustment Programme (SAP), adopted in 1986, had severe implications on the short run unemployment crisis. Conflicting to the expectations of SAP, which was directed towards inducing greater employment opportunities in the private sector (especially among the small and medium enterprises), the unemployment rate managed to reduce from

6.2 per cent in 1985 to 5.3 percent in 1986 as a result of huge budget deficit. Due to the pressure of SAP (tightening fiscal policy), budget deficit dropped drastically in 1987, which accounted for the organizational down-sizing, re-engineering and rationalization policies on public enterprises. This was further compounded by the continuation of staff retrenchment and placement of embargo on employment in the public sector. Besides, the new policy course brought about some structural changes within the Nigerian labour market. Sectors such as the oil, banking and the external sectors became the "blue chips" as against the public and industrial sectors which used to be the "prime" of the labour market prior to the adoption of SAP in 1986. This development, as a result,, created some structural and frictional unemployment problems in the country. When these problems are considered along with lack of job placement for fresh graduates, the situation becomes more precarious. As pointed out by Umo (1996), " an annual average of about 2.8 million fresh graduates enter the Nigerian labour market, with only about 10 percent of them getting employment". This, no doubt, portrays unemployment as a very serious problem in the country.

It is evident from figure 1 that unemployment fell very significantly after 1987. It fell consistently from 7.0 percent in 1987 to 3.1 percent in 1991. Although it rose marginally to 3.4 percent in 1992, the unemployment rate, however, consistently declined appreciably to 1.8 percent in 1995 before rising to 3.4 and 4.5 percent in 1996 and 1997 respectively. However, the estimated unemployment gap for Nigeria indicated that the unemployment rate (U) varied between 7.27 and 8.0 between 1990 and 1998, but in 1990, despite the high budget deficit (Bd), the country recorded a tremendous rise in the unemployment rate to the tune of 12.3 per cent, the highest so far in two decades (1979-1999) meaning that the deficit was not effective in reducing unemployment That was why the then Federal Office of Statistics published that between 1983 and 1998, unemployment rates averaged at 4.0% which signaled full-employment. It is worthy of note that between 1994 and 1997, the nation witnessed a balanced budget except in 1996 that recorded a fiscal surplus, the first and only, within the period under review. The observed downward trend, due to fiscal policy easing between 1990 and 1994, may be partly attributed to the intensity of the implementation of the Agricultural Development Programmes (ADPs) and the Accelerated Development Area Programmes (ADAPs). The ADAPs was afterward transformed into the Directorate of Food, Roads and Rural Infrastructure (DFRRI). The activities of the National Directorate of Employment which was launched in 1986, the Peoples Bank, Better Life for Rural Women Programme, among others, might have also accounted for the decline in unemployment rate within this period. The intensification and expansion of the informal sector activities could also be an important factor during this period. The informal private sector expanded in scope of activities and in pattern of employment, with more graduates participating in the sector.

More so, between 1999 and 2013, unemployment rate published by NBS (2015) mirrored the concern of the federal government that unemployment was a major issue which showed noticeable increasing trend among youth unemployment. For instance, in 2011, the country recorded unemployment rate of 23.9% and rose to 24.7 in 2013 and increased further to 25.1 and 27.3% in 2014 and 2015. These high rates show clearly that unemployment is an issue in the economy, though the extent of fiscal deficit from 2003 through 2015 was not as high

as those of the 1980s and 1990s. Summarily, Nigeria experienced high fiscal deficit and very low unemployment rate in the 1980s and 1990s. The reverse was the case during the period 2000 to 2016 as evident in figure 1.

From figure 2, it is crystal clear that despite the international development standard that government capital expenditure (GCE) to recurrent expenditure (GRE) should be 70:30, it was more or less the other way round. GRE has all through surpassed GCE with a very wide gap in many years except between 1996 and 1999 in the history of the country. Between 1981 and 1989, GCE and GRE were approximately at pa.

2.1.2 Capital Expenditure(Gce) and Recurrent Expenditure (Gre)

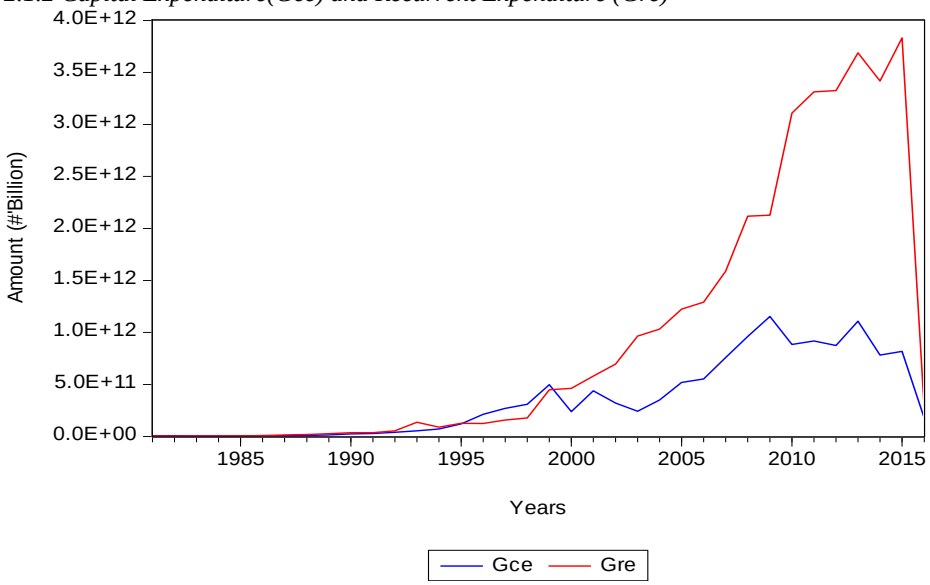

Figure 2 Source: Author's own computations with data from the CBN Bulletin (2017)

2.2 Empirical review

Fiscal policy is the use of government expenditures, taxes and deficits (or surpluses) as a policy to change the tide of the economy. According to The Free Dictionary, fiscal policy describes taxation and spending that the government pursues in an effort to influence the overall state of the economy. While government deficits can be financed through increases in the money supply (and surpluses be accompanied by decreases in it), macroeconomics defines fiscal policy as one in which money supply is held constant, so that the deficits must be financed by government borrowing through increases in its bond sales to the public. In the same way, fiscal surpluses could be invested into purchase of bonds from the central bank and their retirement, without changing the money supply in circulation in the economy. To repeat, fiscal policy could be bond-financed. Realistically, fiscal and monetary policies are entwined and they are supportive policy for effective result. Economies employ them based on their economic systems (Handa 2009).

Classical economists dispute that fiscal policies cannot, in the long term, affect the level of real output (GDP). Contrary to this, the Keynesian economists posit that fiscal policy can affect the level of national output and employment level (Anderton 2010). The significance of fiscal policy as a policy instrument for economic development was prominently initiated by Keynes (1936) in his General Theory in which he showed that the total national income was an indicator of economic activity and brought out the connection of economic activity to total government expenditure (Cacci *et al* 2003). Even if the ultimate aim of fiscal policy is the long run stabilization of the economy, it could be achieved by moderating short run economic fluctuations. In this context, Culberston (1968) asserted that 'by fiscal policy, we refer to government actions affecting its receipts and expenditures which we ordinarily take as measured by the government's net receipts, its surplus or deficit'. Hence fiscal policy could be used to influence employment when geared towards that direction like the N-Power programme of the present Nigerian government which started in 2016, specifically on employment, as this study would verify.

According to the Keynesian theory, spending on government programmes is a way (transmission mechanism) the federal government can attempt to influence employment. When the government funds new public work programmes, such as building infrastructure like roads or train system, it can create jobs that serve to reduce unemployment and increase disposable income and spending. If such programmes promote overall economic growth, public-sector workers may be able to find jobs in the private sector after the projects are complete. In the opposite, taxation is one of the primary fiscal policy tools the government has at its disposal to reduce unemployment. Theoretically, high taxes mean consumers would have less disposable income, whose resultant effect is reduction in consumption. When consumers' purchase drops, businesses realise less revenue and are most likely to reduce workers in order to cut costs. Cutting taxes is a common method government uses to spark economic growth and reduce unemployment. Tax reduction puts more money into the hands of consumers, which can lead to increased revenue for business expansion and employment. Also, it would allow consumers to have more disposable income which results to high consumption and increase in aggregate demand.

Previous researchers conducted several studies regarding the impact of fiscal policy on unemployment globally among whom were: Antonio and Ilian (1998); Michele, C. (2005); Anthanasios (2013);, but very few did for the Nigerian economy, among whom are Nick, Igwe and Wilfred (2015)*;* Egbulonu and Amadi (2016); Abubakar (2016); and Obayori (2016).

Genius, Ireen and Andrew (2013) examined the impact of fiscal policy on unemployment in South Africa using annual time series data for the period 1980 to 2010. A vector error correction model was employed to determine the effects of fiscal policy aggregates on unemployment in South Africa. Results from the study revealed that government consumption expenditure and tax had a positive impact on unemployment while government investment expenditure negatively affected unemployment in South Africa.

Egbulonu and Amadi (2016) carried out a study on effect of fiscal policy on unemployment rate in Nigeria for the period 1970 to 2013. They used government expenditure, government debt stock (proxy of Government borrowing), government tax revenue and unemployment

rate (dependent variable) employing co-integration and Error Correction Model (ECM). The study revealed that a long run relationship between unemployment rate and fiscal policy tools existed. Their finding showed a negative relationship between fiscal policy tools (government expenditure and government debt stock) and unemployment rate in Nigeria while government tax revenue exhibited a positive relationship with unemployment rate. However, the finding did not reveal any impact of capital and recurrent expenditure on unemployment rate.

Abubakar (2016) came up with a research finding on dynamic effect of fiscal policy shocks on output and unemployment in Nigeria by employing the Structural Vector Autoregression (SVAR) method to analyse annual series on unemployment rate, output, fiscal policy shock (public expenditure and tax revenue) variables for the period 1981-2015. It revealed that the effect of tax revenue shock on unemployment was found to be negative but short-lived. Public expenditure had an insignificant positive impact on unemployment in Nigeria according to the study.

Ozoh, Uma and Odionye (2016) examined the influence of fiscal policy on unemployment and inflation reduction in Nigeria. They employed the Autoregressive Distributed Lag (ARDL) and an Unrestricted Error Correction Model. The findings revealed the following among others: federal government capital expenditure (a tool of fiscal policy) in the first and second year did not reduce unemployment rate but it did significantly in the third year. Petroleum profit tax and company income tax did not significantly reduce inflation but only custom and excise duty did.

Of all the studies embarked upon on the effect, impact or influence of fiscal policy on unemployment in Nigeria, to the best of our knowledge, none of the researchers has studied the real fiscal policy effect on unemployment. Also, very scanty of them have researched on the disaggregated impact of government expenditure (capital and recurrent) on unemployment. Thus, this study is different from other researches in that it investigates the impact of disaggregated government expenditure and tax revenue on unemployment rate in real term in Nigeria.

3. Methodology

Due to few papers on this topic in economic literature, very few methods have been used so far. Some used OLS which would not give an acceptable model; Cointegration method which perhaps only analyses the long run relationship; VAR and VECM which have issues with theory and equality of lag periods which in real world situation may not be obtainable. Others used SVAR which is mostly used for relationship; ARDL and its Error Correction. To analyse the impact of fiscal policy on unemployment in Nigeria, this study employed the Autoreegressive Distributed Lag (ARDL) and Error Correction models because the techniques of analysis are backed with economic theory and take care of lag differences as obtainable in real life situation.

After testing for unit root using the Phillip Peron (PP) and the Augmented-Dickey Fuller (ADF) tests, the Lag Selection Order Criteria is used to select the best model then the ARDL equation is estimated. We shall examine the possibility of existence of a long run relationship in our model using the ARDL bound test. If it exists, we shall employ the

cointegrating equation and long run test thereby giving us an error correction model (ECM) used to estimate the short and long run equation and the existence of error correction. Residual tests are further performed to test for normality using Jarque-Bera test, heteroskedasticity employing White test and serial correlation using Lagrange Multiplier test.

3.1 Model Specification

The study adapts the model of Genius, Ireen and Andrew (2013) majorly because of the similarity but difference in country, data period and some other peculiarities. The model is modified to test for the effects of fiscal policies on unemployment in Nigeria. Unemployment is modeled as a function of only fiscal policy variables, government expenditure disaggregated into capital and recurrent spending, and tax revenue. This is expressed as follows:

u = f (rgre, rgce, rtr,) ……..... 1

All the variables in the dataset are first transformed into the natural logarithm for obvious statistical reasons of standardization, equality of the variables and removal of trend as rightly said by Mobolaji and Oluwatoyi (2012). The model specification in equation 1 thus assumes the form:

lnu = β +βlrgce + βlrgre + βlrtr + μ..... 2

where:

lu = Logarithm of unemployment rate

lrgce = Logarithm of real government capital expenditure (aggregate government capital expenditure deflated by inflation) at current prices

lrgre =Logarithm of real government recurrent expenditure (aggregate government consumption expenditure deflated by inflation) at current prices

lrtr =Logarithm of real tax revenue (total non oil tax revenue deflated by inflation).

μ = an error term.

We expect that when government expenditure (capital and recurrent) increases through springing up of programmes that are employment driven, more labour is demanded and thus reduces unemployment. Hence, capital and recurrent expenditure have negative impact on unemployment. Increased tax reduces disposable income of the people which will lead to reduction in aggregate demand. When aggregate demand goes down, demand and sales will as well reduce making businesses unable to sell their goods. The resultant effect is that businesses will lay off workers. Therefore, tax increase will increase unemployment i.e. positive relationship.

3.2 Data Issue

Annual time series data covering the period 1981 to 2016 are sourced from the CBN Statistical Bulletin 2017 series. The data are transformed to natural logarithm and then tested for stationarity. The ADF and PP unit root tests are used and test results are presented.

4. Results

4.1 Empirical Results

For the most part, both the ADF and PP results suggested that the null hypothesis of the presence of unit root in the variables in levels could not be rejected at 5% significance level indicating that the variables are non-stationary in levels. But, when the variables were first differenced the null hypothesis of the unit root in each of the series was rejected at 1% significance level. Therefore, we conclude that all the variables are integrated of order 1. This is as presented in Table 4.1.

Table 4.1: Unit Root Test Result

	ADF		PP	
	At Level	At 1st Diff	At Level	At 1st Diff
Lu	-1.9979	-7.9392***	-1.9394	-9.0260***
Lrgce	-1.6266	-4.7890***	-1.5405	-4.5051***
Lrgre	-1.7082	-5.0429***	-1.6725	-4.7347***
Lrtr	-1.1163	-5.6383***	-0.9736	-8.3139***

*Note: *** denotes significance at 1% level; Source: Author's own computations from E-Views 9*

From the unit root tests result using ADF and PP test in Table 4.1, all the variables were non stationary at level even at 10% level of significance. However, all the variables were stationary at 1% significant level. Hence, the study employs the first difference of the variables in question.

Table 4.2: Lag Order Selection Criteria

AIC	SIC	HQ	Adj. R-sq	Model Specification
0.674230	1.090548	0.809939	0.635180	ARDL(1, 1, 3, 0)
0.717980	1.134299	0.853690	0.618864	ARDL(1, 3, 1, 0)
0.730499	1.193076	0.881288	0.620946	ARDL(2, 1, 3, 0)
0.735388	1.197965	0.886177	0.619088	ARDL(1, 1, 3, 1)
0.736971	1.199547	0.887759	0.618485	ARDL(1, 1, 4, 0)

Note: AIC: Akaike information criterion; SC: Schwarz information criterion; HQ: Hannan-Quinn information criterion; Source: Author's own computations from E-Views 9

Since there is need to ascertain the best lag for each variable in the model, we employed the lag selection criteria of AIC, SIC and HQ. The result given in Table 4.2 shows that ARDL (1,1,3,0) model was selected. Hence the study keeps using this model.

Based on the ARDL (1, 1, 3, 0) model selection, the real fiscal policy tools (GCE, GRE and TR) were regressed against unemployment rate (U) to give use the result in Table 4.3. From the result, previous U has a significant negative impact on the present U. Real GCE and its lag value have negative significant impact on U but GCE is not significant even at 10%. Therefore, 1% increase in RGCE lagged 1 period, on the average, will lead to 0.48% reduction in unemployment. This is in line with our expectation. Unexpectedly, RGRE result showed positive response all through the periods (0- 3 lag periods) and they are all significant at 5% level.

Table 4.3: ARDL Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.187446	0.084661	-2.214089	0.0370
DLU(-1)	-0.487721***	0.170727	-2.856723	0.0089
DLRGCE	-0.233495	0.208151	-1.121756	0.2735
DLRGCE(-1)	-0.341465***	0.161598	-2.113051	0.0457
DLRGRE	0.340017***	0.156140	2.177644	0.0399
DLRGRE(-1)	0.475403***	0.198472	2.395311	0.0251
DLRGRE(-2)	0.207148***	0.094989	2.180761	0.0397
DLRGRE(-3)	0.224061***	0.104123	2.151888	0.0421
DLRTR	0.377622***	0.164142	2.300580	0.0308
R-squared	0.686317			
Adjusted R-sq.	0.577209			
DW	1.946615			
F-statistic	6.290295			
Prob(F-stat.)	0.000239			

*Note: *** significant at 1% level; Source: Author's own computations from E-Views 9*

RTR has an expected positive and significant impact on U, so a 1% increase in RTR, on the average, will lead to 0.38% increase in U. The R-sq and adjusted R-sq showed that the overall goodness of fit is around 69 and 58%. That is, 69% of the variations in unemployment rate in Nigeria is explained by fiscal policy tools of RGCE, RGRE and RTR. The F- statistics showed an acceptable figure as its *p*-value showed significance of fit. DW result of approximately 2.0 (1.946) shows the absence of serial correlation at a glance.

In order to examine whether fiscal policy has the ability to impact on unemployment in the long run, we tested the ARDL model for existence of any long run relationship using ARDL Bound Test. The result is given in Table 4.

Table 4.4: ARDL Bound Test Result

Test Statistic	Value	K
F-statistic	15.91934	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Author's own computations from E-Views 9

Since the F-statistics (15.92) is more than the critical value bound at 1% (4.29 – 5.61), we reject the null hypothesis of no long run relationship between fiscal policy and unemployment and hence accept the alternative hypothesis that it exists. This result takes us to employing the error correction mechanism to examine the short, long and speed of adjustment coefficients of the model.

Table 4.5 presents the cointegrating equation consisting of short run impact and the error correction mechanism (ECM) of the ARDL model using the selected specification (1, 1, 3, 0). The coefficient of the ECM (-1.49) shows a negative sign and high speed of adjustment which is correctly signed meaning that about 149% of the disequilibrium is corrected in a quarter. It is also significant at 1% as the t-statistics (-8.714011) and probability showed.

Table 4.5: ARDL Cointegrating Equation (ECM and Short Run Coefficients)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DLRGCE)	-0.233495	0.208151	-1.121756	0.2735
D(DLRGRE)	0.340017***	0.156140	2.177644	0.0399
D(DLRGRE(-1))	-0.207148***	0.094989	-2.180761	0.0397
D(DLRGRE(-2))	-0.224061***	0.104123	-2.151888	0.0421
D(DLRTR)	0.377622***	0.164142	2.300580	0.0308
ECM(-1)	-1.487721***	0.170727	-8.714011	0.0000

Cointeq = DLU - (-0.3865DLRGCE + 0.8379DLRGRE + 0.2538DLRTR - 0.1260) *** significant at 1% level

Source: Author's own computations from E-Views 9

The short run coefficients are shown above the ECM coefficient on Table 4.5. Except for DLRGRE, all variables are correctly signed in line with our expectation and also except for DLRGCE, all variables are significant at 1% level of significance. In the short run, 1% increase in RGCE, on the average, leads to 0.23% reduction in U. However, it is found to be insignificant even at 10% level. The RGCE has negative significant impact on U at 1 and 2 lag periods, meaning that 1% increase in RGRE, on the average, leads to 0.21 and 0.22% decrease in U in the two subsequent years. Also, in the short run RTR has a positive significant impact on U.

Table 4.6: Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.125996	0.056995	-2.210627	0.0373
DLRGCE	-0.386470	0.181166	-2.133238	0.0438
DLRGRE	0.837946	0.192794	4.346323	0.0002
DLRTR	0.253826	0.109316	2.321957	0.0294

Source: Author's own computations from E-Views 9

From the result in Table 4.6, RGCE, RGRE and RTR have a long run impact on the U, and except for RGCE, all have positive impact on U. This means that, in the long run, 1% increase in RGCE, on the average, will lead to 0.39 significant decrease in U. Also a 1% increase in RGRE and RTR will lead to 0.84 and 0.25% significant increase in U in the long run period. The variables are all significant as their t-statistics show values above 2 and p-values below 0.05.

Table 7: Residual Diagnostic Test

Test	Null Hypothesis	t-Statistic	Prob.
Jarque-Bera (JB)	There is a normal distribution	0.8761	0.6452
Langrage Multiplier (LM)	No serial correlation	0.609895	0.7372
White (CH-sq)	No conditional heteroskedesticity	8.139883	0.4199

To authenticate the parameter estimation of the results achieved by the model used in this study, residual checks were performed. The model was tested for fitness using three main tests: The Jarque-Bera test for normality; Langrage Multiplier (LM) test for serial correlation; and the White test for heteroskedesticity. Results presented in Table 7 suggested that there is a normal distribution in the unemployment model; there is no serial correlation; and there is no conditional heteroskedesticity.

4.2 Discussion of Result

The study started by sourcing for data between 1981 and 2016 for both unemployment rate and real fiscal policy tools of tax revenue, capital and recurrent expenditure. The data, being of different statuses were transformed using natural logarithm for equalization and removal of trend as posited by Adefeso and Mobolaji (2010), Genius, Ireen and Andrew (2013), Nick, Igwe and Wilfred (2015) and many others, which is contrary to Obayori (2016) that used rate and actual figure together. Unit root test was carried out employing ADF and PP. The results stated that all the four variables were stationary at first difference. This is also contrary to Obayori (2016). ARDL and ECM techniques were employed to analyse the dataset. Results show that unemployment responded negatively to changes in real government capital expenditure but positively to real government recurrent expenditure and real tax revenue. All are in line with our a-priori expectation except recurrent expenditure as obtained in the study of Ozoh, Uma and Odionye (2016). The reason could be due to incessant increase of government expenditure on increment in salaries and debt services without increasing employment. In the short run, real government capital expenditure showed an insignificant negative impact on unemployment which concurred with the study of Ozoh, Uma and Odionye (2016) though their study showed significance. In the long run, real capital expenditure has a negative and significant impact on unemployment while real recurrent expenditure and real tax revenue exhibited positive and significant impact on unemployment rate. This is in line with Fatah and Mihov (2001).

5. Conclusion and Policy Recommendations

This study examined the impact of real fiscal policy on unemployment in Nigeria employing annual time series data for the period between 1981 and 2016. The Autoregressive Distributed Lag and error correction model were used to find out the effects of real fiscal policy aggregates on unemployment in Nigeria. The fiscal policy tools considered in this study were real government capital expenditure, real government recurrent expenditure and real tax revenue. Results from this study discovered that unemployment respond negatively to changes in real government capital expenditure but positively to real government recurrent expenditure and real tax revenue. The responses were all significant. In the short run period, real government capital expenditure showed an insignificant negative impact on unemployment. While real government recurrent expenditure exhibited a negatively and significant impact on unemployment after a year, real tax revenue impacted positively and significantly on unemployment in Nigeria. In the long run, real capital expenditure has a negative and significant impact on unemployment while real recurrent expenditure and real tax revenue exhibited positive and significant impact on unemployment rate.

A number of policy implications regarding alleviation of unemployment using the fiscal policy framework are suggested in this study. The study suggests that government should reduce the corporate tax rate as lower rates would help promote further investments through expansions by existing businesses who currently suffer from massive corporate tax burdens. Lowering the corporate tax rate in Nigeria would reduce cost of production, increase GDP and promote employment. Government should also reduce personal income tax rates that are progressive. Although this would reduce revenue inflow of the country, the tax revenue base could be broadened since many people are yet to be paying tax. As an emerging economy, Nigeria should implement policies that promote aggregate demand, boost economic growth and lower astounding rates of unemployment. Low income tax rates raise the average propensity to save as well as the households' tendency to consume thereby increasing aggregate demand. Government should emulate the relatively low personal income tax rates adopted by other emerging economies. More so, this study suggests that government should increase real capital expenditure geared towards investment (such as infrastructure system development). It should be done in a way that a greater percentage of the annual budget be allocated to capital expenditure and reduce government recurrent expenditure (like debt servicing and social grants) if it needs to lessen the high rates of unemployment in the economy.

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