

EFFECT OF FISCAL POLICY ON MISERY INDEX IN NIGERIA

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ABSTRACT

This study examined the effect of fiscal policy on misery index in Nigeria from 1981 to 2018. The fiscal policy variables such as government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) was used. Dummy variable to capture the effects of policy shift on misery index in Nigeria. Direct policy was coded zero (0) while indirect or market based policy was coded one (1). Misery index was measured by the sum of unemployment, inflation and lending rates less growth rate of real GDP per capita. This study adopted the ordinary least square (OLS) method of regression analysis. The study conducted some other tests such as: R^2 , T-test, F-test, DW-tests, Philip Perron (PP) unit root test, Johansen cointegration test and error correction mechanism (ECM). From the results of the analysis, it was shown that government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) conformed to the Keynesian theory of government expenditure. That is, increase in government capital expenditure (GCEX) and government recurrent expenditure (GREX) reduced misery index in Nigeria in the current period. It implies that rising external debt in current period worsened misery index in Nigeria. The analysis further revealed that the fiscal policy alone under the current regime of market based policy performed poorly in tackling economic misery in Nigeria due to the fact that it is insignificant. In line with the findings, the study recommends that: the government should sustain the recent expansionary fiscal policy actions and it should give more priority to capital expenditure than the recurrent expenditure component. This because it has the capacity of creating employment opportunities through building and construction works for the teeming Nigerian population. Hence, reducing the rate of unemployment and misery index in Nigeria.

Keywords: Fiscal Policy, Misery Index, Inflation, Unemployment, Economic Growth.

1. INTRODUCTION

The place of fiscal policy in macroeconomic management cannot be overemphasized. Its effective use is central to the health of any economy, as government's power to tax and to spend affects the disposable income of citizens and corporations, as well as the general business climate. In this regard, the interrelationship between public spending and private sector performance is of paramount importance. On one hand, government expenditure can provide an impulse for private sector growth, while on the other hand, it can be harmful if it results in budget deficits and leads to competition for scarce financial resources from the banking sector as the government seeks to finance the deficits. In such circumstances, the crowding out of the private sector by the government sector outweighs any short term benefits of an expansionary fiscal policy. The key to all these, therefore, lie in striking a good balance in fiscal management. Having enough expenditure outlays to meet the needs of

government and support growth is appropriate but not so much as to deny the private sector the resources it needs to invest and develop (Kareem, Afolabi, Raheem and Bashir, 2013). Fiscal policy instruments and measures, modern governments participate in almost every part of social and economic life by influencing aggregate demand and supply, attempting to create the full employment conditions and moderate inflation, leading the policy of stable foreign trade balance and supporting steady economic development. The prudent and sustainable fiscal operations promote “noninflationary economic growth, low and stable levels of fiscal deficit and public debt, reduction of budget imbalances in situations of high fiscal deficit and public debt” (Chukuigwe & Abili, 2008). The objective of fine-tuning macroeconomic imbalances such as: general price level, unemployment, and low growth rate is to maximize the economic wellbeing of the people. When the peoples’ wellbeing is maximized, the level of economic misery will be minimized. Economic misery is measured in misery index.

According to Okun (1966), misery index as the sum of inflation and unemployment rates for a particular economy. A higher level of inflation and unemployment have a negative impact on the welfare of the citizens. Okun (1966) noted that the misery index is a measure of economic distress due to the significant cost burden imposed on the citizenry by the negative economic conditions. In its original form, the index was computed as a combination of unemployment and inflation rates. As Mankiw (2010) later explained, the index measures the level of economic discomfort as an unweighted sum of unemployment and inflation which constitutes two important indicators of macroeconomic policy outcomes. Unemployment and inflation as the key components of the misery index, remain critical problems of macroeconomic management in the country.

Poor management of fiscal policy through government expenditure and tax operation has the implication of leading to increase in general price level, high unemployment rate, balance of payment deficit, unequal distribution of income, poverty among others. If fiscal policy fails in creating productive employment opportunities and addressing issues of poverty and income inequalities prevalent in developing countries including Nigeria, it calls for serious concern. The use of macroeconomic policies have played an indispensable role in the achievements of recent impressive growth experienced by some developing countries, such recent growth patterns have bypassed important segments of the society, thereby undermining its sustainability and worsening existing poverty level, unemployment rates and income inequalities (Pedro and Paula, 2013). With respect to Nigeria, available data show that there was increase in the average growth of unemployment and poverty rates from 3.93% and 42.07% respectively between 1981 to 1990 to an alarming rate of 14.7% and 63.99% respectively between 2001 and 2010 (World Bank, 2013).

In Nigeria, despite huge government expenditure occasioned by the implementation of expansionary fiscal policy which has often been accompanied by monetary expansion, there seems to be rising unemployment, inflation and slow growth of GDP. This scenario requires further investigation into the relationship between macroeconomic policies and the problems of unemployment, inflation and slow growth of GDP which are key indicators of misery index. Also, empirical studies on fiscal policy focused on its impact on economic growth, unemployment and inflation nexus separately (Holden and Sparrman, 2013 and Ezeabasilli, Mojekwu and Herbert, 2012). There is no known empirical study on the effect of fiscal policy on misery index. This study therefore examines the effect of fiscal policy on misery index in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Clarifications

Fiscal Policy

Reem (2009) defined fiscal policy as the means by which a government adjusts its level of spending in order to monitor and influence a nation's economy. According to Reem (2009), fiscal policy is based on the theories of a British economist John Maynard Keynes whose theory basically states that governments can influence macroeconomic productivity levels by increasing or decreasing tax levels and public spending. This influence in turn, curbs inflation, increases employment and maintains a healthy value of money. Fiscal policy is the use of government's revenue and expenditure as instruments to influence the economy. Examples of such tools are expenditure, taxes, debt. For example, if the economy is producing less than potential output, government spending can be used to employ idle resources and boost output. Government spending does not have to make up for the entire output gap. There is a multiplier effect that boosts the impact of government spending. For instance, when the government pays for a bridge, the project not only adds the value of the bridge to output, but also allows the bridge workers to increase their consumption and investment, which helps to close the output gap. The effects of fiscal policy can be limited by crowding out. When the government takes on spending projects, it limits the amount of resources available for the private sector to use. Crowding out occurs when government spending simply replaces private sector output instead of adding additional output to the economy. Crowding out also occurs when government spending raises interest rates, which limits investment. Defenders of fiscal stimulus argue that crowding out is not a concern when the economy is depressed, plenty of resources are left idle, and interest rates are low. Fiscal policy can be implemented through automatic stabilizers. Automatic stabilizers do not suffer from the policy lags of discretionary fiscal policy. Automatic stabilizers use conventional fiscal mechanisms but take effect as soon as the economy takes a downturn: spending on unemployment benefits automatically increases when unemployment rises and, in a progressive income tax system, the effective tax rate automatically falls when incomes decline. For the purpose of this study, fiscal policy is measured by the operations of the government in terms of its spending, tax, and borrowing to meet the economic needs of its citizens. According to Otto and Ukpere (2015), fiscal policies define the use of taxation and public spending by government to achieve pre-set macroeconomic goals. It is about the use of government income and expenditure to direct the economy in the way governments deem fit. Such macroeconomic objectives include the attainment of: (i) full employment; (ii) stable prices; (iii) a positive balance of payment; (iv) economic growth; (v) equitable distribution of income among others. Some of these goals may conflict; for instance, a policy that will drive up employment is likely to create inflation, while a policy that will reduce inflation is likely to generate unemployment and lower the rate of economic growth.

Misery Index

Misery index otherwise known as the economic discomfort index (EDI) is one of the early attempts at developing a comprehensive index comprising a range of indicators for tracking macroeconomic conditions along the business cycles. The index was created by Okun (1966). It comprises of inflation and unemployment rates for a specific economy. It was made popular in the early part of 1970s, when the United States of America was experiencing economic stagflation. As a result of the stagflation, a higher level of either inflation or unemployment was shown to have a negative impact on the welfare of the citizens. Okun (1966), therefore, suggested the misery index as a measure of economic distress due to the significant cost burden imposed on the citizenry by the negative economic conditions in the United States at the time. In its original form, the index was computed as a combination of

unemployment and inflation rates. Mankiw (2010) explained that the index measures the level of economic discomfort as an unweighted sum of unemployment and inflation which constitutes two important indicators of macroeconomic policy outcomes. Over the years, other variants of the index have been developed such as the Barro (1999) misery index which includes interest rates and GDP growth rate into the mix. Hufbauer, Kim, and Rosen (2008) and Barro (1999) works applied to other countries in measuring the index. The index has since then, become an important measure of economic livelihood in many countries and employed by policy makers to guide policy (Cohen et al., 2014). Largely, the index is a vector quantity that has magnitude and direction that is usually triggered by the direction and magnitude of unemployment, growth rate and inflation at any given point in time. Hence, an upward movement in the misery index signals the presence of a negative consumer sentiment associated with an economic discomfort. This study sees misery index in line with Barro's (1999) view as an aggregation of unemployment, inflation, interest rate minus growth rate of GDP in Nigeria.

2.2 Theoretical Literature

The theoretical underpinnings of this work is based on the Keynesian theory of government intervention proposed by Keynes in his book, 'The General Theory of Employment, Interest and Money', published in 1936. The Keynes theory states that expansion of government expenditure accelerates economic growth. Keynes (1936), assumes the aggregate supply function to be stable. He concentrates his entire attention upon the aggregate demand function to fight economic depression. He submitted that the lingering economic depression was a result of failure on the part of the government to control the economy through appropriate economic policies (Iyoha, 2003). Consequently, he proposed the concept of government intervention in the economy through the use of macroeconomic policies (Torres, 2010). According to Keynesian economists, when the economy is knocked off balance by serious economic shocks, the government can help restore normalcy by increasing demand through government spending. And because the influx of government spending drives businesses to hire factor input and consumers to spend, its impact is multiplied (Mankiw, 2010). In summary, this theory holds that increase in government expenditure leads to increase in economic activities and higher economic growth. The Keynesian theory asserts that government expenditure especially deficit financing could provide short - term stimulus to help halt a recession or depression. During a recession, aggregate expenditure is deficient causing the underutilization of inputs (economic resources). Aggregate expenditure (AE) can be increased, according to Keynes (1936), by increasing consumption spending (C), increasing investment spending (I), increasing government spending (G), or increasing the net exports (X-M). i.e, $AE = C + I + G + (X-M)$. For the sake of simplicity, this analysis holds that public spending measures have a direct impact on aggregate demand, which will stimulate the economy. In line with the explanations of this theory, an expansionary fiscal policy has the promise of minimizing economic misery and improve wellbeing through increase in the level of investment, employment generation, higher productivity and economic growth.

2.3 Empirical Literature Review

There are empirical studies on the effect of fiscal policy on separate indicators of misery index. For instance, Bassani and Duval (2006) explored the impact of fiscal policies and institutions on unemployment in the past decades. They estimated reduced-form unemployment equations using cross-country/time series data for 21 OECD countries during 1982 – 2003. They found that high rate of taxation increases the rate of unemployment.

In the work of Olawunmi and Ayinla (2007) on the contribution of fiscal policy in the achievement of sustainable economic growth in Nigeria using Solow growth model estimated with the use of ordinary least square (OLS) method. It was found that fiscal policy has not been effective in the area of promoting sustainable economic growth in Nigeria. They, however, stated that factors such as wasteful spending, poor policy implementation, and lack of feedback mechanism for implemented policy evident in Nigeria, which are indeed capable of hampering the effectiveness of fiscal policy have made it impossible to come up with such a conclusion.

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

Magazzino (2011) examines the nexus between public expenditure and inflation for the Mediterranean countries during the period 1970-2009, using a time-series approach. He found a long-run relationship between the growth of public expenditure and inflation for some countries. Furthermore, Granger causality tests results show a short-run evidence of a unidirectional and bidirectional relationship from expenditure to inflation for all countries.

Ezeabasilli, Mojekwu and Herbert (2012) examined the relationship between fiscal deficits and inflation in Nigeria using data over 1970–2006, a period of persistent inflationary trends. They adopted a modeling approach that incorporates cointegration techniques and structural analysis. The results reveal a positive but insignificant relationship between inflation and fiscal deficits in Nigeria.

Nwaoha (2012) investigated the effect of public spending (recurrent and capital) on inflation in Nigeria during the period 1980-2006 using the econometric approach rooted in error correction method. He observed that recurrent expenditure exerts positive and significant influence on inflation. This implies that, the higher the recurrent expenditure, the higher the inflation.

Holden and Sparrman (2013) examined the effect of government purchases on unemployment in 20 OECD countries for the period 1980 to 2007. The study observed that an increase in government purchases which equals one percent of GDP reduced unemployment by about 0.3 percentage point in the same year. This effect was observed to be greater in downturns than in booms, and also greater under a fixed exchange rate regime than a floating regime.

Anthanasios (2013) studied the unemployment effects of fiscal policy in Greece based on the SVAR methodology. He found evidence that the unemployment and growth effects can be quite sizeable in case of cuts in government purchases and in particular government consumption and to a lesser extent government investment. Tax hikes reduce output and increase unemployment, in particular those leading to higher implicit direct and indirect tax rates. The impact effects of fiscal policy on output and unemployment are more sizeable when considering recent year developments. Both output and unemployment respond in a more persistent manner, compared to pre-crisis years.

Olayungbo (2013) examines asymmetry causal relationship between government spending and inflation in Nigeria from the period of 1970 to 2010. The asymmetry causality test shows that a uni-directional causality exists from negative government expenditure changes (low or contractionary government spending) to positive inflation changes (high inflation) in the Vector Autoregression (VAR) model. The finding implies that inflationary pressure in Nigeria is state dependent, that is high inflation is caused by low or contractionary government spending.

Austin and Ogbole (2014) in their study, investigated the relationship between public sector spending and macroeconomic variables in Nigeria for a period of 1970-2010. They tested the causal relationships between government expenditure (GE) and other explanatory variables with GDP, unemployment (UER), inflation (IFR), Balance of payment (BOP) using OLS and Johanson's co-integration/ Granger causality analyses. It was revealed in their analysis that public sector was more effective though marginally in stimulating economic growth (measured by GDP) in the period of regulation and more effective in reducing unemployment and enhancing BOP in the period of deregulation. With respect to maintaining price stability, the public sector was significantly more effective in the period of deregulation. Granger causality test shows causal flow from government expenditure (GE) to BOP no causal flows to GDP, inflation rate (IFR) and unemployment (UER).

Nwosa (2014) examined the impact of government expenditure on unemployment and poverty rates in Nigeria for the period spanning 1981 to 2011. The study employed an ordinary least square (OLS) estimation technique. From the empirical analysis, the study observed that government expenditure had positive and significant impact on unemployment rate while government expenditure had a negative and insignificant impact on poverty rate. Based on the findings, this study recommended that urgent attention should be accorded to rising unemployment and high poverty rates in order to achieve objective 20-2020 and of halving poverty rate by 2015.

Nguyen (2014), investigates the long-run and short-run impact of government spending on inflation in three Asian emerging economies including India, Indonesia and Vietnam by applying the cointegration and Vector Error Correction Model to time series data for the period 1970-2010. The results confirm a cointegrating causal link between government spending and inflation in the long-run in all three sampling countries. Evidence also supports the causal relationship between government spending and inflation in the short-run. For India, government spending has a positive short-run impact on inflation, consistent with the Keynesian view.

Otto and Ukpere (2015) in their study examined the impact of fiscal policy on inflation in Nigeria. The study was necessary because of the current demands of the Academic Staff Union of Universities (ASUU), which is likely to increase government spending and possible inflation. Using data from the Central Bank of Nigeria spanning 32 years, the study used an ordinary least squares regression analysis, and observed that fiscal policy impacts on inflation but such impact is not significant. Therefore, government may on the basis of this study, implement the agreement it had with the Academic Staff Union of Universities without the fear of inflation."

Ozoh, Uma and Odionye (2016) in their study assessed the influence of fiscal policy on unemployment and inflation reduction in Nigeria. The dependent variables were unemployment and inflation rates while federal government capital expenditure, petroleum

profit tax, company income tax and custom and excise duty were the independent variables. The study employed Autoregressive Distributed Lag (ARDL) bounds testing which is based on the estimation of 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 does not reduce unemployment rate but it does significantly in the third year. Petroleum profit tax and company income tax do not significantly reduce inflation but only custom and excise duty did. The joint effect of all the tax variables was significant in inflation control. On this basis, the following recommendations were made among others: there is the need for massive capital expenditure in productive ventures in Nigeria, especially on agriculture; effective tax design is imperative so as to capture every individual in Nigeria. Abubakar (2016) in his study examined the effect of fiscal policy shocks on output and unemployment in Nigeria under the Keynesian framework by employing the Structural Vector Autoregression (SVAR) methodology to analyze annual time series on the relevant variables for the period 1981-2015. Augmented Dickey Fuller (ADF) test for unit root result indicated that all variables were integrated of order one and Johansen Cointegration test confirms the presence of long run relationship among the variables. The findings of the SVAR model shows shock in public expenditure as having a positive long- lasting effect on output. Revenue shock was found to exert a positive effect (lower than that of public expenditure shock) on output. However, the effect of revenue shock on unemployment was found to be negative but short-lived. The study recommended that government should restructure its spending pattern by allocating more to productive expenditure. It was also recommended that government should harness its revenue potentials by expanding its revenue base via effective and efficient taxation system and also through diversification of its revenue base.

Ubesie (2016) in his study investigated the effect of fiscal policy on economic growth in Nigeria. This study adopted secondary data which were obtained from the Statistical Bulletin of the Central Bank of Nigeria (CBN) covering the period from 1985 to 2015. Descriptive statistics and the ordinary least square (OLS) multiple regression analytical method was used for the data analysis after ensuring data stationarity. The results from the analysis revealed that total government expenditures is significantly and positively related to government revenue, with expenditures climaxing faster than revenue. Investment expenditures were much lower than recurrent expenditures evidencing the poor growth in the country's economy. Consequently, it is recommended that government should formulate and implement viable fiscal policy options that will stabilize the economy. This could be achieved through the practice of true fiscal federalism and the decentralization of the various levels of government in Nigeria.

Obayori (2016) in his study investigated the effect of fiscal policy on unemployment in Nigeria. The study specifically examined the impact of government capital and recurrent expenditure on unemployment rate in Nigeria. The study adopted aggregate annual time series data from 1980 to 2013. The method of co-integration and ECM was used. The study found a long run equilibrium relationship among the variables. The parsimonious ECM result reveals that the two independent variables (Government Capital and Recurrent Expenditure) have both negative and significant relationship with unemployment in Nigeria. The result also reveals a long run relationship between fiscal policy and unemployment, as depicted by both the sign and the statistical significant of the coefficient of the ECM. From the result so far, it is obvious that fiscal policy is effective in reducing unemployment rate in Nigeria. Based on these findings, the study recommended amongst others that expansionary fiscal policy should be encouraged as it plays a vital role in the development process of an

economy. Also, there should be appropriate policy mix improvement in quality of government expenditure. This will enable Nigeria government to increase her capital expenditure especially in the area of infrastructural development through power supply so that the citizenry can utilize such to boost the production and hence increase employment opportunities in Nigeria.

Omodero, Ihendinihi, Ekwe and Azubuike (2016) studied empirically, the impact of fiscal policy on the economy of Nigeria between 1994 and 2014. They employed secondary method of data collection from CBN statistical bulletin and used multiple regression of ordinary least square estimation to analyze the data. In the model, real GDP (as dependent variable) was regressed on capital expenditure, recurrent expenditure, tax revenue and external debts. The study has revealed that there exists no significant relationship between capital expenditure, recurrent expenditure, tax revenue and the real GDP representing the economy. However, the study found a significant negative relationship existing between external debts and the real GDP. This supports the Keynesian view of government active intervention in the economy using appropriate various policy instruments. The study therefore recommends that: government should use fiscal policy to complement the adoption of effective monetary policy and maintain the rule of law to promote stability in the Nigerian economy. Government should ensure that capital expenditure and recurrent expenditure are properly managed in a manner that it will raise the nation's production capacity and accelerate economic growth even as it reduces external borrowing."

Adekoya (2017) in his research work empirically examined the impact of fiscal fundamental on unemployment in Nigeria. The study employed the annual time series data on government expenditure, government revenue, interest rate, and public debt from Central Bank of Nigeria Statistical Bulletin covering the period of 1981-2015. The result of this study revealed that government expenditure (GX) and interest rate (IR) exerts significant positive impact on unemployment rate in Nigeria where government revenue (GR) and public debt (PDT) has insignificant positive impact on unemployment rate in Nigeria. The result also revealed that unemployment granger cause government expenditure and government revenue in Nigeria. It was concluded that fiscal fundamental does not granger cause the rate of unemployment in the country, thus, the past values of government expenditure, government revenue and public debt does not significantly influence the rate of unemployment in the country. As a result, the study recommends that government should refocus expenditure in the country to areas such as development of infrastructural facilities so as to increase the rate of productivity in the country and bring economic growth necessary for increase employment of labour. Government should also redefine its priority to include harnessing of other sources of revenue of the country, such as massive investment in the exportable agricultural products in the country. In contrast, government should also design framework that will ensure effective implementation and completion of project and programmes in the country so as to ensure that objectives of each project and programme is achieved most effectively and efficiently.

Nwaeze, Kalu and Tamuno (2017) in their study examined the relationships between fiscal deficit, financing options vis-a-viz domestic and external borrowing financed deficits and unemployment rate in Nigeria. The study adopted the vector autoregression (VAR) econometric technique to analyze the time series data obtained from the Central Bank of Nigeria and other sources. It found long run relationship between unemployment and the other endogenous variables, namely; GDP per capita, overall fiscal deficit, domestic credit to the private sector, domestic borrowing financed deficit, external borrowing financed deficit and foreign direct investment. The study also found positive relationship between

unemployment rate and fiscal deficits. However, the variation in unemployment is mainly from overall fiscal deficit financed through domestic borrowing. The study concluded that, fiscal deficits especially when financed through domestic borrowing components, have contributed in fueling worsening unemployment problem in Nigeria. This is found to be empirically true as mounting public debt burden pose an obstacle to initiating new critical development projects that could generate employment. It recommended that the rising trend of using domestic sources to finance fiscal deficit should be moderated and discouraged. If borrowing is absolutely necessary, external borrowing should be a better alternative. In the stead of public borrowing, fiscal managers should also undertake holistic tax reforms to improve tax revenue and use same to fund government expenditure expansions, especially new critical capital projects with positive linkages. “

Maku and Alimi (2018) in their study examined the impact of fiscal policy instruments on employment generation in Nigeria within the periods of 1980-2015. They used the Augmented Dickey Fuller test to estimate the stationarity level, Engel Granger cointegration test for long-run relationship and ordinary least square for long-run estimates. The findings show that government spending and manufacturing output had negative impact on unemployment rate in Nigeria. It suggests that government spending and output from manufacturing industry reduce unemployment rate in Nigeria. However, tax revenue and agricultural output have direct impact on unemployment rate in Nigeria. The findings suggest that government expenditure has the potential of creating more jobs if they were expended on appropriate capital projects that are capable of facilitating employment creation and linking rural-urban centres smoothly and not encouraging migration. Manufacturing sector also has the prospect of alleviating jobless growth, likewise the agriculture sector if policies are targeted at raising their outputs.

Morakinyo, David and Alao (2018) in their study investigated the impact of fiscal policy instrument on economic growth in Nigeria. They used annual time series secondary data which spanned from 1981-2014 obtained from the CBN annual statistical bulletin. They proxied fiscal policy instrument with government recurrent expenditure, government capital expenditure, public domestic debt, and public external debt while economic growth was proxied with gross domestic product (GDP). They adopted ordinary least square (OLS) technique and vector error correction mechanism in data analysis. The study found that recurrent expenditure and public domestic debt exert negative relationship while the capital expenditure and external debt exert positive relationship in the long run on the economic growth (GDP) and in the short-run the entire variables are having positive influence except recurrent expenditure on the economic growth (GDP). The study recommends that the government should put in place effective debt management strategies and fight the problem of corruption because without a reduction of the level of corruption in the country, fiscal policy components will not achieve the required level of economic growth in Nigeria.”

3. METHODOLOGY

3.1 Model Specifications

Following the Keynesian model and the empirical models adopted by Omodero, Ihendinihi, Ekwe and Azubiike (2016) studied empirically, this study specifies its model with some modifications as follows-

$$MDX = f(GCEX, GREX, GEDT, DMV) \dots \dots \dots 3.1$$

The ordinary least square (OLS) form of the model can be written as:

$$MDX = \psi_0 + \psi_1 GCEX + \psi_2 GREX + \psi_3 GEDT + \psi_4 DMV + u \dots \dots \dots 3.2$$

The log transformed form of the equation is written as:

$$\text{MDX} = \psi_0 + \psi_1 \log \text{GCEX} + \psi_2 \log \text{GREX} + \psi_3 \log \text{GEDT} + \psi_4 \text{DMV} + u \dots \dots \dots 3.3$$

$$\psi_1 < 0; \psi_2 < 0; \psi_3 > 0; \psi_4 < 0;$$

Where-

MDX = Misery index (the sum of unemployment, inflation, lending rates less GDP growth rate)

GCEX = Government capital expenditure

GREX = Government recurrent expenditure

GEDT = Government external debt

DMV = Dummy variable

ψ_0 = constant or intercept

ψ_1 - ψ_4 = co-efficient of explanatory variables

u = error term or stochastic variable

3.2 Data Collection and Analytical Technique

The nature of this work nature suggests that data be collected from secondary sources. This is the reason it obtained data from the secondary sources. They include: journals, books, conference papers, Central Bank of Nigeria (CBN) statistical bulletin. This study adopted the ordinary least square (OLS) method of regression analysis. The study conducted some other tests such as: R^2 , T-test, F-test, DW-tests, Philip Perron (PP) unit root test, Johansen cointegration test and error correction mechanism (ECM). E-views 10.0 was used to facilitate the estimation processes.

4 RESULTS AND DISCUSSION OF FINDINGS

4.1 Unit Root Analysis

The Philip Perron (PP) unit root test was employed to ascertain whether the time series data used in this study were stationary or not. The results of the PP unit root test are presented and discussed in table 4.1 as follows-

“Table 4.1- PP Unit Root Stationary Test

Variables	PP Statistics at Levels	1% Critical Value	5% Critical Value	PP Statistics at first Difference	1% Critical Value	5% Critical Value	Order of integration
MDX	-2.798692	-3.621023	-2.943427	-9.724657**	-3.626784	-2.945842	I(1)
Log(GCEX)	-0.883411	-3.621023	-2.943427	-6.268876**	-3.626784	-2.945842	I(1)
Log(GREX)	-1.431489	-3.621023	-2.943427	-8.039243**	-3.626784	-2.945842	I(1)
Log(GEDT)	-2.900566	-3.621023	-2.943427	-4.654941**	-3.626784	-2.945842	I(1)
DMV	-1.464055	-3.621023	-2.943427	-6.000004**	-3.626784	-2.945842	I(1)

Source- Computed from E-view 10.0

Note: (**) indicates (1%) and (5%) Significant Levels

The unit root test in the table 4.1 above shows that misery index, government capital expenditure, government recurrent expenditure, government external debt and dummy variable were stationary at first difference [that is, I(1)] at 1% and 5% significant levels. Therefore, the time series data used in this study were stationary.

4.2 Johansen Cointegration Test

In order to test for a longrun equilibrium relationship between fiscal policy and misery index, Johansen cointegration test was carried out. The choice of Johansen cointegration test was informed by the fact that all the variables were stationary at first difference. The Johansen cointegration test for the model was presented in tables 4.2.”

“Table 4.2- Johansen Cointegration Test for the Model

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.720071	103.8756	69.81889	0.0000
At most 1 *	0.529600	59.31301	47.85613	0.0029
At most 2 *	0.311715	32.91703	29.79707	0.0212
At most 3 *	0.293145	19.84271	15.49471	0.0104
At most 4 *	0.197485	7.700173	3.841466	0.0055

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.720071	44.56263	33.87687	0.0019
At most 1	0.529600	26.39598	27.58434	0.0703
At most 2	0.311715	13.07432	21.13162	0.4454
At most 3	0.293145	12.14254	14.26460	0.1054
At most 4 *	0.197485	7.700173	3.841466	0.0055

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Source- Computed from E-view 10.0

From the result in table 4.2, trace statistic indicated 5 cointegrating equations and max-eigen statistics indicated 2 cointegrating equations. This means that a longrun equilibrium relationship exist between the fiscal policy variables and misery index in Nigeria.

4.3 Error Correction Mechanism Model

In order to adjust for the shortrun, the ECM model that established the relationship between fiscal policy and misery index was estimated. The ECM became necessary because of the lonrun equilibrium relationship. Hence, the need for shortrun adjustment. The result of the parsimonious error correction model was presented in tables 4.3.

Table 4.3- Parsimonious ECM Estimates for Fiscal Policy Model
Dependent Variable- D(MDX)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.052373	5.805075	0.009022	0.9929
DLOG(GCEX)	-2.648695	9.549508	-0.277365	0.7840
DLOG(GCEX(-1))	-5.143130	9.912108	-0.518873	0.6088
DLOG(GCEX(-2))	5.428229	9.881271	0.549345	0.5881
DLOG(GREX)	-1.055476	17.56481	-0.060090	0.9526
DLOG(GREX(-1))	-4.604443	13.02630	-0.353473	0.7270

DLOG(GEDT)	8.461789	6.959038	1.215942	0.2363
DLOG(GEDT(-2))	5.673946	6.806121	0.833653	0.4131
DLOG(GEDT(-3))	-6.303439	6.533004	-0.964861	0.3447
D(DMV)	20.84533	23.56437	0.884612	0.3855
ECM(-1)	-0.474911	0.206534	-2.299439	0.0309
<hr/>				
R-squared	0.611850	Mean dependent var	0.377647	
Adjusted R-squared	0.565133	S.D. dependent var	17.45439	
S.E. of regression	16.03400	Akaike info criterion	8.643492	
Sum squared resid	5913.048	Schwarz criterion	9.137315	
Log likelihood	-135.9394	Hannan-Quinn criter.	8.811900	
F-statistic	21.61056	Durbin-Watson stat	1.756919	
Prob(F-statistic)	0.015898			

Source- Computed from E-view 10.0

From the results in table 4.3, Adjusted R^2 is 0.565133. This means that about 56% of the variation in the dependent variable is as a result of the variations in the explanatory variables. The remaining 44% may be attributed to the variables that are not included in the model. The F-statistic of 21.61056 indicates that the overall model is statistically significant at 5 percent (%) level. The result of DW-statistic of 1.756919 shows no autocorrelation of the error term in ECM. This means that the estimates based on OLS is not spurious. The value ECM of -0.474911 indicates approximately 47% speed of adjustment to shortrun dynamics.

The theoretical apriori expectations show that government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) conformed to theory. This means that increase in government capital expenditure (GCEX) and government recurrent expenditure (GREX) reduced misery index, but statistically insignificant in Nigeria in the current period. It implies that rising external debt in current period worsened misery index in Nigeria. The analysis further revealed that the fiscal policy alone under the current regime of market based policy performed poorly in tackling economic misery in Nigeria. This may be attributed to high level of corruption, insecurity and poor economic infrastructure confronting policy environment in Nigeria.”

4.4 Stability Test

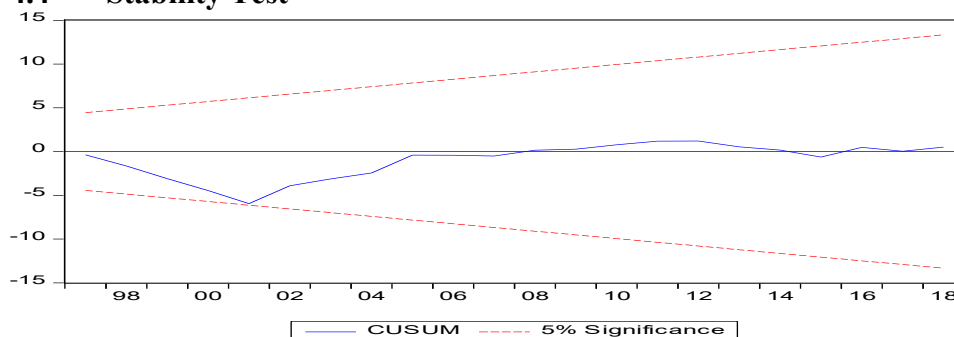
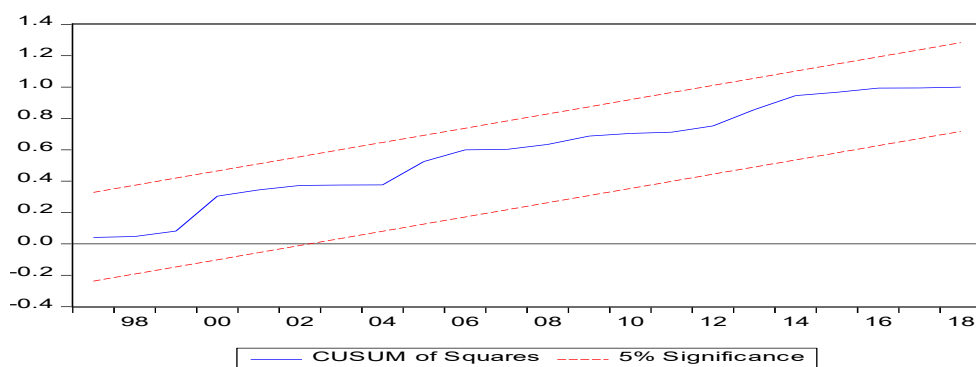


Figure 4.1: Cumulative Sum for the Model



“Figure 4.2- Cumulative Sum Square for the Model

5. CONCLUSIONS AND RECOMMENDATIONS

This study examined the effect of fiscal policy on misery index in Nigeria from 1981 to 2018. The fiscal policy variables such as government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) was used. The study also introduced dummy variable to capture the effects of policy shift on misery index in Nigeria. Two major policy regimes was operated in Nigeria, direct and market based policies. Direct policy was coded zero (0) while indirect or market based policy was coded one (1). Misery index was measured by the sum of unemployment, inflation and lending rates less growth rate of real GDP per capita. This study adopted the ordinary least square (OLS) method of regression analysis. The study conducted some other tests such as: R^2 , T-test, F-test, DW-tests, Philip Perron (PP) unit root test, Johansen cointegration test and error correction mechanism (ECM).

From the results of the analysis, it was shown that government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) conformed to the Keynesian theory of government expenditure. That is, increase in government capital expenditure (GCEX) and government recurrent expenditure (GREX) reduced misery index in Nigeria in the current period. It implies that rising external debt in current period worsened misery index in Nigeria. The analysis further revealed that the fiscal policy alone under the current regime of market based policy performed poorly in tackling economic misery in Nigeria due to the fact that it is insignificant. The insignificant nature of the fiscal policy variables of government capital expenditure (GCEX), government recurrent expenditure (GREX) and government external debt (GEDT) indicate that the conduct of fiscal policy alone is ineffective in managing misery index. This may be attributed to high level of corruption, insecurity and poor economic infrastructure confronting policy environment in Nigeria. Moreover, using fiscal policy to manage economic misery in an environment prone to weak institutions may not yield the expected results. The policy implication is that the weak institutions of the government needs to be strengthened. Also, the reforms in the public sector in terms of prioritization of public spending should be sustained if we must keep misery index low.

In line with the findings, the study recommends that: the government should sustain the recent expansionary fiscal policy actions and it should give more priority to capital expenditure than the recurrent expenditure component. This because it has the capacity of creating employment opportunities through building and construction works for the teeming Nigerian population. Hence, reducing the rate of unemployment and misery index in Nigeria. Also, the various government institutions and anti-graft agencies should be strengthened and be made effective in handling issues of diversion and misappropriation of

public funds. This will go a long way in providing the needed infrastructure that improves business environment, increase the level of investment, create jobs and keep misery index very low in Nigeria. It is also recommended that government external debt profile be reduced as it will instill confidence in foreign investors to come. As a result, jobs will be generated and misery index minimized.”

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