Fiscal Policy and Poverty levels: Empirical evidence from Nigeria

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Abstract

This study examines the determinants of poverty levels in the Nigerian economy from 1990 to 2021.This was aimed at ascertaining how aggregate government spending (GEXP), aggregate public debt (PUD) and tax revenue (TXR) has stimulated the poverty levels in Nigeria. Historical data was collated and estimated employing the ARDL form of Ordinary Least Squares (OLS) technique. The empirical results indicate that all selected fiscal policy variables were significant on poverty levels. While both aggregate public debt and tax revenue increased poverty levels, government spending exert significant negative impacts on the poverty levels in Nigeria. On the basis of the findings of this study, the following recommendations are made. Government should sustain and increase its current budgetary spending as they have been seen to reduce the incidence of poverty in the country. Since aggregate debt cause poverty in Nigeria, meaning that policy intervention should focus on the effective management of the borrowed funds in order to drive the process of economic development. Finally, tax revenue should be more of progressive in Nigeria. The current universal tax policy of government has been proven to cause poverty so there is need to reconsider it for more progressive based tax system.

INTRODUCTION

1.1 Background of the study

Poverty has been generally seen by different Scholars as one of the most difficult challenges facing most of the developing economies around the world, where on average, the majority of the population is considered poor. Poverty is very much disastrous to the extent that it does not only affect the present of a nation but also jeopardizes the future of every society in which they live. In Nigeria, poverty incidence started rising in the late 1970s and early 1980s when the economy experienced difficulties as a result of oil shock, deteriorating terms of trade, debt overhang, and macroeconomic instability.

Tella and Alimi (2016) noted that the Nigerian achievement toward halving the number of people living with less than$1.90/day and $3.10/day is not impressive compared to other developing countries in the Asian, Latin America, Middle East regions, etc. For example, the poverty headcount of people living with less than $1.90/day to the total population has increased from 45.27% in 1985 to 57.06% and 63.5% in 1992 and 1996respectively and later reduced to 53.46% in 2003 and also rises to 53.47% in 2009(World Development Indicator, 2016; Maku and Alimi, 2018). The same data base reported that for those living with less than $3.10/day, poverty level rises from70.64% in 1985 to 76.15% and 81.04% in 1992 and 1996 correspondingly and later reduces to 78.51% in 2003 and 76.46% in 2009 (World Development Indicator,2016; Maku and Alimi, 2018). Due to the high negative effect of poverty on every sector and the world economy at large, reducing it has been of grave concern to many countries including Nigeria in the past few decades to date.

There exists a consensus in the literature that an adequate and effective macroeconomic policy is critical to any successful development process aimed at achieving high employment, sustainable economic growth, price stability, long – viability of the balance of payments and external equilibrium. This, therefore, suggests that the significance of stabilization policy (fiscal and monetary policies) cannot be overemphasized in any growth-oriented economy. Growth and poverty alleviation have a long history of research attention by different scholars, particularly in Nigeria (See, for example, Aigbokhan, 1985, 1998; Obadan, 1997; Ogwumike &Ekpenyong, 1995; among several of such studies). However, none of these studies have attempted to examine the work analytically.

Furthermore, previous works on Nigeria have relied on partial frameworks. The differential effects of fiscal policy on various productive sectors and on the different income groups are neither explored nor captured. Most of these studies have preoccupied themselves with presenting poverty profiles in Nigeria. Some of them have attempted to examine the impact of growth on inequality. But it is quite clear from the literature that growth, inequality and poverty can influence, and in turn be influenced by, fiscal policy.

However, in Nigeria, despite the invaluable significance of economic stabilization policy in the actualization of sustainable development, there seems to be dearth of comprehensive study in Nigeria to the knowledge of the researcher that has investigated in particular the effects of fiscal policy on poverty reduction in Nigeria. This study, therefore, seeks to fill this research gap. Thus, the outcome of this study will be relevance for both the private sector and the public policy makers to be aware of policy implications of the level of fiscal policy adjudication in Nigeria. In addition, this study will add to the existing literature on Fiscal policy and poverty reduction as well as economic growth nexus in Nigeria and by extension, the developing countries of the world.

This work aim to achieve the following objectives;

i. Ascertain the extent to which aggregate government spending impact on poverty levels in Nigeria.

ii. Determine the extent to which aggregate public debt affect poverty levels in Nigeria.

iii. Examine if aggregate tax revenue affect poverty levels in Nigeria.

From the above the following hypotheses are stated;

H_{01}: aggregate government spending does not significantly impact on poverty levels in Nigeria

H_{02}: aggregate public debt does not significantly impact on poverty levels in Nigeria

H_{03}: there is no evidence that aggregate tax revenue significantly affects poverty levels in Nigeria

2.0 LITERATURE REVIEW

2.1 Conceptual Review

Poverty and Poverty Levels in Nigeria

The concept of poverty has been defined by different scholars in many different ways in relation to environment, nature and pervasiveness. Poverty can be explained as deprivation from material well-being. World Bank (2014) explained poverty as the lack of necessary material well-being- especially food, housing, land, and other assets. From this definition, we can deduce that poverty is hunger, not being able to go to school, lack of shelter and fear for the future because one does not have a job to provide the basic necessities of life. Central Bank of Nigeria (1999) explains further that the person is unable to meet social and economic obligations, lacks assets, self-esteem, has limited access to social and economic infrastructure such as education, health, portable water, and sanitation; and consequently, has limited chance of advancing his or her welfare to the limit of his or her capabilities.

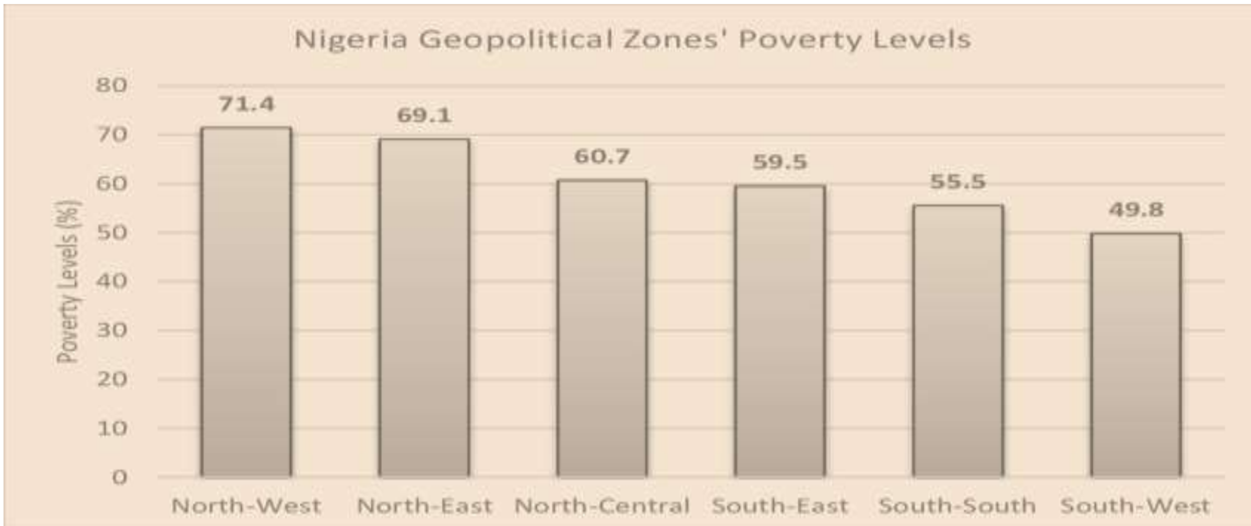
There have been worrisome developmental feelings that trickle down the minds of policy analysts, politicians, state actors, students, and the academia. It had led to several hot debates about poverty being peculiar to a particular continent- Africa in this regard. It is common knowledge that Nigeria as a developing economic system had been witnessing poverty before 1960. It is somewhat taken that people exchange what they manufactured for what they needed by trade by barter. Invariably, you can only get what you want when you exchange or offer what you have made. This indicates no expansion in income derivable. But, multiplication of potential wants.

The poverty situation in Nigeria can be explained as being pervasive. Since the1980s, poverty level in Nigeria has continued to increase despite improvement in GDP. For instance, according to the UNDP report, the percentage of those who are poor according to a head count ratio rose from 6.2% in 1980 to 29.3% in 1996 and decline to 22% in 2004. Also 70.2% of the population live on less than $1 a day. Similarly, there is a high inequality gap between the rich and the poor because55.7% of the total income is earned by the richest 20% of the population while apaltry 4.4% of the total income goes to 20% of the poorest.

The problem of poverty is not restricted to any particular environment or homogenous group in Nigeria. Poverty varies according to the different geographical regions. According to Central

Bank of Nigeria, the regional distribution of poverty according to the different geo-political zones is shown in Figure 1:

Figure 1: Distribution of Poverty Levels According to Regions in Nigeria (%)



Source: CBN,2021

The six different geo-political zones in Nigeria have different cultures, economic and religions background that can affect their poverty level. Figure 1 shows that Poverty rate was higher in North East and North West zones, relative to South South and South west zones that recorded 55.5% and 49.8% of the population respectively. The Northern region has shown to have the highest incidence of poverty while the zone with the least incidence of poverty is South East zone mostly occupied by the Igbos. The high incidence of poverty in the north can be attributed to their culture, tradition and sometimes religion which encourages early marriages and view Western education as a distraction. Similarly, the low incidence of poverty in the South East could be attributed to the fact that Igbos have internal mechanism that enables them to always seek for self-sufficiency and with no established culture that limits economic participation by gender.

The information in Nigeria reveals that the figures of the poor has proceeded to ascend in geometrical ways. An example is, the figures of those impoverished augmented from 27% in 1980 to 46% in 1985, it decreased slightly to 42% in 1992 and inflated slimy again to 67% and 70% in 1996 and 2000 severally before falling significantly to 54.4% in 2004 and above 65% in 2013 (Ogunleye, 2006; Global Economic Prospect (2015a). Poverty is a prevalent pandemic in most African countries.

This explains varied levels of human like wants in social groups. Poverty is a knotty question because there are lots of human needs in social groups, which might either be in-adequately met or unmet; completely owing to magnitude of reasons: Financing public infrastructure, enhanced agriculture production, buoyant works, etc., which were the fundamental thrust of development. Infrastructure investment across the region, for example, in sea, land or air ports, electricity capacity, and transportation, assisted to sustain development (Patrick, 1987; Balogun 1999) across geographical boundaries is very much relative.

In other words, the level of impoverishment experienced is different from country to country. However, some people hold the belief that poverty is reported as 'really' associated with the Dark Continent (Adichie 2009) of which Nigeria is one. Kazeem (2018),' noted that the United Nations' Sustainable Development Goal (SDG) to end extreme poverty by 2030 is unlikely to be metin large part in Nigeria. Furthermore, he noted that a new written report by The World Poverty Clock revealed that Nigeria has taken over India as the country with the most extreme poor people in the world.

The struggle to lift more citizens out of extreme poverty is an indictment on successive Nigerian governments which have mismanaged the country's vast oil riches through incompetence and corruption (Kazeem, 2018). Recent studies reveal that over 91 million Nigerians are now living in extreme poverty.(Vanguard, 16 Feb, 2019). Corruption has been the hill top for poverty exposure in Nigeria. For Nigeria has a long chronicle and has been a theme of discussion by many expert (Ogbeidi, 2012; Hope Sr, 2017). Funds meant for improvement are carried off and misappropriated by dishonest regime officials. Ewhrudjakpor (2008), accounts that Nigeria is socioeconomically reversed even with her plentiful oil wealth and 70 percent of her people is still under the curse of impoverishment and present that regime must enact against improper conduct and putrescence of regime officials to get the better of poverty.

2.1.2 Fiscal Policy: Concept and Significance

Fiscal policy has been variously conceptualized by different scholars. Generally, Fiscal Policy (FP) is the economic term that defines the set of principles and decisions of government in setting the level of public expenditure and how the expenditure is funded (Badreldin, 2013). Reem (2009) defined fiscal policy as the means by which a government adjusts its levels of spending in order to monitor and influence a nation's economy. The policy is used along with monetary policy in different combinations to direct a country's goals. According to Reem (2009) fiscal policy is based on the theories of British economist John Magnard 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. For the Keynesians, fiscal policy refers to the manipulation of taxes and public spending to influence aggregate demand.

Shahid and Naved (2010) defined fiscal policy refers to government's efforts to influence the direction of the economy through changes in taxes or expenditures. It is the planning of revenue and expenditure levels and pattern by government to influence the circular flow, or specifically to promote full employment production, price stability and national welfare (Fashola, 2001). This constitutes basically the objectives of fiscal policy. These objectives are to be achieved through expansionary or contractionary fiscal policies. Governments directly and indirectly influence the way resources are used in the economy. Bhatia (2008) noted that fiscal policy consists of steps and measures which the government takes both on the revenue and expenditure sides of its budget and that it is the aggregate effects of government expenditures and taxation on income, production and employment. Dwivedi (2009) stated that it is government's programme of taxation, expenditure and other financial operations to achieve certain national goals. He posited that whatever the objectives and the order of priorities, the two basic instruments of fiscal policy used to achieve social goals are taxation and public expenditure According to Jhingan (1997), he opined that fiscal policy refer to government actions affecting its receipts and expenditures which we ordinarily taken as measured by the government's net receipts, its surplus or deficit.

Ijeh (2008) refer to fiscal policy as government action plan concerning how to raise funds and disburse funds. He further posited that it is the use of government revenue and expenditure programmes to affect the economy in a way to produce desirable effect such as achieving full employment, general good price level, aggregate demand and economic growth and development. He noted that the instruments of fiscal policy are taxation, government expenditure, government budget, public debts and subsidy. Government intervention in the economy through its fiscal policy is usually enunciated in its budget. Government tries to manipulate the fiscal policy instruments to stabilize the economy and achieve a desired level of economic growth. Bhatia (2008) posited that when an economy is stabilized, investment decisions are more favourably affected as consumption expenditure does not fall below certain minimum level and forms a cushion against economic contraction.

Musgrave and Musgrave (2004) identify the following as the objectives of fiscal policy;

i. The provision of social goods, or the process by which total resource use is divided between private and social goods and by which the mix of social goods is chosen. They referred to this as allocation function.
ii. Adjustment of the distribution of income and wealth to ensure conformance with what society considers as "fair" or "just" state of distribution. This is referred to as distribution function.
iii. The use of budget policy as a tool for maintaining high employment, a reasonable degree of price level stability, and an appropriate rate of economic growth, with allowances for effects on trade and on the balance of payment. This is referred to as the stabilization function.

Fiscal policies often come in either of expansionary or contractionary forms when the government wishes to effectively regulate or manage the level of aggregate demand in any economy (Onifade, Çevik, Erdoğan, Asongu&Bekun, 2020). The expansionary fiscal policy is applied when the government wishes to stimulate aggregate demand and this is often visible when the government increases expenditures on projects in the various sectors of the economy or when it lowers tax burdens while paving the way for higher disposable income for its citizens in addition to some transfer payments. The major rationale behind this is the multiplier effect which holds that public spending could help to stimulate private spending and tackle the challenges associated with economic recession thereby boosting economic growth as popularly demonstrated by the Keynesian economic school of thought (Jaramillo &Cottarelli, 2012).

However, there are concerns about the opinion that the expansionary fiscal policy could exacerbate inflationary pressure and, in some situations, higher government spending may not create the desired stimulus on economic growth, but rather lead to an undesirable or negative impact on growth: a scenario often referred to as the crowding out effect. The public sector can exercise undue advantage over the private sector in capital accumulation and when the government aims at expanding expenditure by boosting tax revenue via higher taxes, this may become a disincentive to private sector investment (Afonso& Sousa, 2011).

Furthermore, expansionary policies may also pave the way for excessive deficit financing since experiences have shown that several nations resort to borrowing in order to sustain the execution of various public projects. Shonchoy (2010) noted that higher public debt could reduce private sector confidence due to the need for debt servicing which might exacerbate tax burden on the private sector and thus engender a detrimental effect on economic growth and productivity in the long run. Sawyer (2012) noted that future generations should be prevented from the burden of unsustainable debt by tackling the deficit in public finance and strengthening private sector confidence thereby helping to sustain growth and employment in the medium term.

The contractionary fiscal policies are geared towards downsizing and regulating excess in aggregate demand. They are often applied when inflationary pressure is seen to be posing a dangerous threat to economic stability and in some circumstances when prevailing levels of public expenditures have risen to the point of crowding out the private sector efficiency. In such situations, government expenditures are generally scaled-down with the implementation of various austerity measures especially to reduce the overall recurrent expenditures and transfer payments with a possible increase in tax revenue. However, there are also arguments indicating that some contractionary fiscal policies may not produce the expected results as they could also exacerbate economic crisis by creating more disruptions on the growth path(Dellepiane-Avellaneda, 2015).

2.1.2.1 Role of Fiscal Policy in Poverty Levels in Nigeria

Fiscal policy has been a major tool of macroeconomic management in Nigeria because of the dominant role of the public sector in the economic activities in Nigeria; the intermittent fall in the international price of crude oil since the late 1970s,the persistent fiscal deficit since the early 1970s (and with the decline in oil revenue, needs a new focus that the public sector plays major roles in the economy and the underdeveloped nature of money and capital markets in the country. Prior to the 1970s,rapid economic growth (i.e. increase in productivity) and rising per capita income were thought of to automatically improve people's welfare but experience proved otherwise.

High economic growth did not necessarily transform income structure into an equitable distribution of benefits as the country experienced high inflation and unemployment. Attention shifted in the 1980s to the development of human capital in line with basic human needs approach to eliminating poverty and consequently, Nigeria embraced greater investment in education, infrastructural development, health, nutrition and other social sector. This approach did not also reduce the poverty incidence level because they were not tied to the real sector and did not impact on income-generating efforts as job creation/availability could not be realised. The poverty incidence rose to 43 percent in 1980, though it later fell to 34% in 1982. It rose to

61% in 1985 and over 70% in early 1986 and Nigeria was ranked 54th in the Human Poverty Index.

The situation called for concerted efforts by the government to improve the living standard of the people hence a restructuring of the economy through the implementation of Structural Adjustment Programme (SAP) was instituted in mid-1986 yet social indicators were still not responding positively to the reform measures but rather got worse hence to reduce social cost of adjustment, several other measures were introduced which called for the implementation of more various programmes that could impact positively on the welfare of citizenry hence, various governments at all levels and at different times embarked on programmes amongst which included the Directorate of Food, Roads and Rural Infrastructure (DFRRI), Better Life Programme (BLP), Family Support Programme (FSP), National Directorate of Employment (NDE), People's Bank of Nigeria, Family Economic Advancement Programme (FEAP), Federal Urban Mass Transit Program, National Agency for Mass Literacy and National Agricultural Land Development Authority (NALDA), Agricultural Development Programmes (ADP), Nomadic and Adult Education Programme (NAEP) etc. The National Poverty Eradication Programme (NAPEP) was embarked upon since 2001 which consisted of four schemes namely: Youth Empowerment Scheme, Rural Infrastructures and Development Scheme, Social Welfare Services Scheme, Rural Resources Development and Conservation Scheme aimed at eradicating absolute poverty (Adogamhe, 2010).

Since the implementation of SAP, poverty level has tremendously increased (UNDP Nigeria, 1998; World Bank, 2014) and the country classified as a poor nation since then.

The UNDP Human Development Indices (HDI) for 2015 ranked Nigeria among the poorest countries with HDI of 0.52.Population of poor Nigerians increased more than fourfold in absolute terms. Accordingly, the percentage of the core poor increased from 62% in1980 to soothe at 93% in 1996 whereas the moderately poor only rose from 28.9% in 1992to 36.3% in 1996 (FOS, 1999). The depth and severity of poverty in Nigeria shows rural areas to be the most affected. Some reasons adduced were that: large concentration of the populace resides there and the many years of neglect of the area in terms of infrastructural development and lack of information on governance. The CBN/World Bank assessment of the poverty situation and reduction in Nigeria in 2009 attested to the fact that the living and environmental conditions of those living in the rural areas have worsened and urban poverty was also on the increase.

A key component of fiscal policy management is allocation of resources consistent with policy priorities. Shaw, Gupta and Sarma, (2003) says that "the process has three dimensions – structural aspects dealing with the formulation of goals, objectives and policies in terms of decision packages; analytical aspects or the application of objective criteria with reference to which the proposals are evaluated both for the costs and benefits and priorities formulated; and informational aspects dealing with the monitoring of the progress made in the implementation of policies. These aspects are applicable to the entire spectrum of fiscal policy management and are exemplified in the budgetary process of government.

2.2 Theoretical Frame work

The theory of Vicious Circle of Poverty

Lastly, the vicious circle of poverty proposed by Nurkse, (1953). He explains how less developed countries continue to be poor due to lower-income level, lower domestic savings, and lower consumption level. These factors interrelate to form a circle that perpetuate the incidence of poverty. According to this theory, it is poverty that further begets poverty, traps people in extreme poverty, and negates any possibility to break the circle. Therefore, the lower level of income, low domestic savings, and low consumptions have forced the countries in SSA to accumulate public debt to supplement their domestic savings. However, the accumulated debt is grossly underutilized and their debt burden becomes burdensome on government spending on social sectors (Sani, Said, Ismail & Mazlan, 2019). Besides, the Structural Adjustment Measures (SAP) imposed on indebted country to streamline its economy toward the debt servicing usually forced the country to decrease their public expenditure on important sectors like education, health and developmental project (Sani & Yahaya, 2021). This happened in the 1980s and 90s when many countries in SSA were requested to cut down government expenditure which eventually reduced consumption level and standard of living and aggravated the incidence of poverty in the region. Empirical literature on the relationship between public debt and poverty has been plentiful particularly in developing countries.

2.3 Empirical Review

Okafor, Ogbonna and Okeke (2017) investigated the effect of government expenditure on human capital development in Nigeria from 1986 to 2015. Governmental expenditure in education and government expenditure on health were employed as the independent variables while human Development index was employed as the dependent variable. Augmented Dickey Fuller Unit root Test and Vector Autoregression Test were employed in analyzing the data. The findings show no direct relationship between Human Development Index and Government expenditure in education and health. The study has also show that an inverse relationship exists between human development index and government expenditure on education and government expenditure on health in the previous years. Human development index was also observed to be positively related to government expenditure in education and health in the current year.

Nnenna, Stanley and Ijeoma (2017) investigated the effect of government expenditure on human capital development in Nigeria also using a time series data from 1986 to 2015, obtained from Central Bank of Nigeria (CBN) statistical bulletin. The study employed the Vector Autoregression (VAR) analysis as its method of analysis. The result of the VAR model show that Human Development Index (HDI) is significant in the current year but tends to converge insignificantly in the previous years. That what influence human capital development in Nigeria are the nature, pattern and level of governmental expenditure in education and health, and that government policy in the sector could be targeted in these areas.

Adekoya (2017) evaluated the impact of fiscal fundamental on unemployment in Nigeria from 1981 to 2015. Government expenditure, government revenue, interest rate, and public debt were employed as the independent variable while unemployment rate was employed as the dependent variable. Ordinary least square was employed in analyzing the data. The results indicates that government expenditure and interest rate exerts significant positive impact on unemployment rate in Nigeria where government revenue and public debt has insignificant positive impact on unemployment rate in Nigeria. The result equally shows that unemployment granger cause government expenditure and government revenue in Nigeria.

Ozoh, Uma and Odionye (2016) carried out an assessment of the effects of fiscal policy on unemployment and inflation reduction in Nigeria from 1981 – 2014. Federal government capital expenditure, petroleum profit tax, company income tax, and custom and excise duty were employed as the independent variables while unemployment rate and inflation rate was employed as the dependent variable. The study employed Autoregressive Distributed Lag (ARDL) bounds testing which is based on the estimation of an Unrestricted Error Correction Model. The findings revealed that federal government capital expenditure 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.

Egbulonu and Amadi (2016) investigated the effect of fiscal policy on unemployment in the Nigerian economy from 1970 to 2013. Government expenditure, government debt stock (as proxy for government borrowing) and government tax revenue were employed as the independent variable while unemployment rate was employed as the dependent variable. Augumented Dickey-Fuller (ADF), cointegration test and Error Correction Model (ECM) were employed in analyzing the data. The study revealed that a long run relationship between unemployment rate and fiscal policy tools used in the study. The study also found 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. This means that increase in tax rate reduces employment in Nigeria. The results also reveal that, there exist a long-run equilibrium relationship between unemployment and fiscal policy in Nigeria.

Obayori (2016) investigated fiscal policy and unemployment in Nigeria from 1980 to 2013. Government capital expenditure and government recurrent expenditure were employed as the independent variables while unemployment rate was employed as the dependent variable. The data was analyzed with Augmented Dickey Fuller (ADF), co-integration and ECM methods. The study found indicates a long run relationship between fiscal policy and unemployment. The study also found that government capital and recurrent expenditure have both negative and significant relationship with unemployment in Nigeria.

Abubakar (2016) carried out an econometric investigation on the dynamic effects of fiscal policy on output and unemployment in Nigeria from 1981 – 2015. Gross domestic product (GDP) and unemployment rate were employed as the dependent variables while total public expenditure and total revenue were employed as the independent variables. Augmented Dickey Fuller (ADF), Johansen Cointegration test and Structural Vector Autoregression (SVAR) were employed in analyzing the data. 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.

Kizilkaya, Koçak and Sofuoğlu (2015) examined the impact of taxes, government expenditures, income and infrastructure (electricity consumption) on the human development from 1998-2007 for 14 OECD countries. Panel unit root, panel co-integration, panel FMOLS, panel DOLS and panel vector error correction-based causality methods was used in the study. The study revealed that taxes have a negative impact on human development while government expenditures as fiscal policy variables have positive and significant impact on human development and concluded that government should give importance to public policy, especially to education and to health care section.

Oyedele, Emerah and Ogege (2013) applied cointegration and regression analysis in investigating the impact of external debt and debt servicing on poverty reduction in Nigeria using time series data that spanned from 1980 to 2010. Specifically, the empirical analysis followed three procedures. First, the time series properties of the underlying variables were examined with the help of the Augmented Dickey-Fuller (ADF) unit root procedures. Second, the long-run relationship among poverty reduction, debt –Income ratio, debt-service, degree of openness, growth of agricultural value added, per capital income, inflation rate and investment income ratio was examined using the Johansen and Juselius (1990) procedures. Lastly, a multiple regression analysis was undertaken to examine the impact of external debt and debt servicing on poverty reduction. From the results, it was found that both the external debt and debt servicing cause poverty in Nigeria. This finding suggests that government needs to mobilize domestic saving to adequate manage the external debt.

Gomanee, Morrissey, Mosley, and Verschoor (2005) examined the relationship between government aids and level of welfare. Representing the level of welfare, infant mortality rates and human development index indicators was used. In the study, 104 low-income and middle-income countries were examined for the period which spanned between 1980 and 2000 and concluded that government aids increase level of human development and decrease infant mortality rate.

3.0 METHODOLOGY

3.1 Research Design

This study makes use of the ex-post-facto research design which is aimed at establishing the impact of one variable and another. This study will use descriptive and regression analysis. According to Emaikwu (2010), descriptive and regression research are targeted at determining the direction and magnitude of relationship among two or more variables so in this case, ex-post facto research design will be used to determine the effect of fiscal policy on poverty levels in Nigeria from 1990 to 2021. Annual time series data spanning the period from 1990 to 2021 were employed in the study. The data were sourced from the CBN Statistical Bulletin (2020) and the World Bank's World Development Indicators (2021).

3.2 Analytical Framework and Model Specification

In the absence of a clear-cut macroeconomic theory that highlight the direct link between fiscal policy and the incidence of poverty, the classical poverty model by Le Goff & Singh, (2014) is employed. The model has been augmented with debt and tax revenue and government spending variables to test for its impact on fiscal policy and the level of poverty as specified below.:

$$poverty\ levels = f(fiscal\ policy)$$

But fiscal policy here is decomposed into: aggregate public debt (PUD), aggregate government spending (GEXP) and government tax revenue (TXR), while poverty level is coded POV.

So,

$$POV = f(PUD, TXR, GEXP)$$

The above becomes the operational model for this study.

Where,

POV = poverty levels

PUD = aggregate public debt

TXR = government tax revenue

GEXP = aggregate government expenditure

β_0 = intercept of the model

$\beta_1 - \beta_3$ = coefficients of the model

e_0 = error term

3.3 Method of Data Analysis

The simple ordinary least squares based on the ARDL framework to examine the relationship between fiscal policy and poverty levels. The model is autoregressive because the dependent variable is explained in part by the lagged values of itself. The approach involves estimating the following equation:

$$POV_t = \alpha_0 + \alpha_1 POV_{t-i} + \alpha_2 PUD_{t-i} + \alpha_3 TXR_{t-i} + \alpha_4 GEXP_{t-i} + \mu_t \ldots \ldots \ldots \ldots \ldots \ldots \ldots (3.2)$$

Equations 3.2 are the derived from the derived model earlier adopted for this study.

Where,

t = time

α_0 = constant term

α_1 - α_4 = long-run coefficients

μ_t = white noise error term

3.4 Hypothesis Testing and Decision Rule Criteria

The decision rule was employed to test the hypothesis of the study and to make comparison between the probability value and the critical value. The study adopted 5% as its level of significance.

The following decision rules were adopted for rejecting or not rejecting the null hypotheses:

If,

i. Probability value (p-value) > 0.05 critical value; **do not reject the null hypothesis (H_{0i})**. Meaning that there is no sufficient statistically significant evidence to reject the null hypothesis at the 5% level of significance.

ii. Probability value (p-value) < 0.05 critical value; **reject the null hypothesis (H_{0i})**. Meaning that there is sufficient statistically significant evidence not to reject the null hypothesis at the 5% level of significance.

4.0 DATA PRESENTATION AND ANALYSIS

4.1 Descriptive Statistics

The study conducted the descriptive statistics of the relevant variables involved. Table 4.1 vividly shows these statistics. It shows total number of observations, mean, median, maximum, minimum, standard deviation and the sum of mean deviation. This study's dependent variable is poverty level is coded POV, while aggregate public debt (PUD), aggregate government spending (GEXP) and government tax revenue (TXR). However, POV has a minimum of 33.8 and a maximum value of 57.2. In the same measure, the maximum and minimum values for PUD are 0.6322% and 0.008%; for TXR are 27.1% and 5.48%; of GDP respectively.

Table 4.1: Descriptive Statistics

	POV	GEXP	PUD	TXR
Mean	45.72168	8.529361	0.270029	14.63190
Median	47.05000	8.067751	0.265040	14.75660
Maximum	57.20000	17.28619	0.632230	27.10063
Minimum	33.80000	5.089349	0.008414	5.475386
Std. Dev.	6.893243	2.794471	0.177792	6.043177
Skewness	-0.298648	1.371730	0.258901	0.277583
Kurtosis	1.897021	4.854916	1.910653	2.313099
Jarque-Bera	2.097768	14.62305	1.939727	1.040057
Probability	0.350329	0.000668	0.379135	0.594504
Sum	1463.094	272.9396	8.640915	468.2208
Sum Sq. Dev.	1473.021	242.0810	0.979914	1132.120
Observations	32	32	32	32

Source: Researcher

For the degree of volatility, the standard deviation in table 4.1 showed that POV in Nigeria was more volatile having a standard deviation value of 6.893243. This is clearly so because the standard deviation value is the highest among all the data included in the model.

4.2 Model Estimation

The estimated ARDL long-run model at levels from the coefficients is stated below:

POV = 55.4351 - 2.2535*GEXP + 22.6135*PUD + 0.4312*TXR

From the model estimation above, public debt and tax revenues had positive effects on poverty levels while government aggregate spending had negative effect. However, the contribution of PUD to poverty levels was seen to be the highest with a coefficient value of 22.6135.

4.3 Hypotheses Testing

To test the hypotheses, we will use probability criteria, if:

$p > 0.05$: Accept H_O.

$p < 0.05$: Reject H_O.

4.3.1 Testing of Hypothesis One (1)

Hypothesis one is restated below:

H_{01}: aggregate government spending does not significantly impact on poverty levels in

Nigeria

Table 4.2: Extraction for Testing Hypotheses One

Variable	Coefficient	t-Statistic	Prob.*	Decision
GEXP	-2.2535	-7.3478	0.0000	Reject H01

Source: Researcher

First of all, the result shows that there is a negative and significant relationship between GEXP and POV (representative of the poverty levels) in Nigeria. The result means that a single unit increase in GEXP leads to a decrease of 2.2535 in poverty levels in Nigeria. Since the computed probability value of GEXP (0.0000) is less than the critical test level of 0.05 (i.e. $P < 0.05$), we reject the null hypothesis and conclude that aggregate government spending significantly impact on poverty levels in Nigeria.

4.3.2 Testing of Hypothesis two (2)

Hypothesis two is restated below:

H02: aggregate public debt does not significantly impact on poverty levels in Nigeria

Table 4.3: Extraction for Testing Hypotheses Two

Variable	Coefficient	t-Statistic	Prob.*	Decision
PUD	22.6135	4.0769	0.0022	Reject H02

Source: Researcher

The result in table 4.3 as issued in regression revealed that there is a positive and significant relationship between PUD and POV (representative of the poverty levels) in Nigeria. The result means that a single unit increase in PUD leads to an increase of 22.6135 in poverty levels in Nigeria. Since the computed probability value of PUD (0.0000) is less than the critical test level of 0.05 (i.e. $P < 0.05$), we reject the null hypothesis and conclude that aggregate public debt significantly impact on poverty levels in Nigeria.

4.3.3 Testing of Hypothesis three (3)

Hypothesis three is restated below:

H03: there is no evidence that aggregate tax revenue significantly affects poverty levels in Nigeria

Table 4.4: Extraction for Testing Hypotheses Three

Variable	Coefficient	t-Statistic	Prob.*	Decision
TXR	0.4312	3.9947	0.0025	Reject H03

Source: Researcher

Thirdly, the result in table 4.4 as issued in regression revealed that there is a positive and significant relationship between TXR and POV (representative of the poverty levels) in Nigeria. The result means that a single unit increase in TXR leads to an increase of 0.4312 in poverty levels in Nigeria. Since the computed probability value of TXR (0.0000) is less than the critical test level of 0.05 (i.e. $P < 0.05$), we reject the null hypothesis and conclude that aggregate tax revenues significantly impact on poverty levels in Nigeria.

4.4 Discussion of Results

This study employed regression analysis to examine the effects of fiscal policy on poverty levels in Nigeria. The rest of this section discusses the findings of the study.

4.4.1 Effect of aggregate government spending on poverty levels in Nigeria

The first objective of this study was to determine the effect of aggregate government spending on poverty levels in Nigeria. The regression analysis shows that aggregate government spending have negative and significant relationship with poverty levels in Nigeria. The coefficient of aggregate government spending is positive. Aggregate government spending indicating a negative and significant relationship with poverty levels value added in the long run, conforms to economic theory in terms of the sign and the magnitude in terms of its significance makes economic sense. Aggregate government spending being one of the key factor of fiscal policy used in Nigeria is expected to show a negative relationship with poverty levels coupled with the labour intensive nature of the Nigerian economy.

Government aggregate spending has negative and significant relationship with poverty incidence indicating that it could turn around fortunes of people if properly harnessed with the essential infrastructural support (Jotwani, Singh &Adabar, 2012). Informal businesses and small-scale enterprises that seem more prevalent would thrive. Massive investment spending is essential if poverty is to be reduced.

4.4.2 Effect of aggregate public debt on poverty levels in Nigeria

Another objective of this study was to determine the effect of aggregate public debt on poverty levels in Nigeria. The regression analysis shows that aggregate public debt is positive and significant; implying that an increase in value of aggregate public debt in Nigerian would increase poverty levels in Nigeria. The coefficient of the value of aggregate public debt in Nigeria is positive. This implies that the value of aggregate public debt has a positive impact on poverty levels in the Nigerian economy. The positive impact of public debt agrees with the Vicious Circle of Poverty and debt overhang theory (Sani & Yahaya, 2021). This finding coincides with the result of Oyedele, Emerah and Ogege (2013) that external debt cause poverty in Nigeria. This is a pointer that policy intervention should focus on the effective management of the borrowed funds in order to drive the process of economic development.

4.4.3 Effect of tax revenue on poverty levels in Nigeria

From the findings, it was established that tax revenue have positive and significant effect on poverty levels in Nigeria. The coefficient of tax revenue was found to be positive. This implies that the tax revenue exert a direct impact on the demand and use of poverty levels sector product in the economy. Further observations indicate that the tax revenue is statistically valid in this respect. Tax revenue found a positive and significant relationship with poverty levels in the long run and this agrees with the crowding-out effect theory (Sani & Yahaya, 2021).

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study examines the determinants of poverty levels in the Nigerian economy. This was aimed at ascertaining how aggregate government spending (GEXP), aggregate public debt (PUD) and tax revenue (TXR) has stimulated the poverty levels in Nigeria. Historical data was collated and estimated employing the ARDL form of Ordinary Least Squares (OLS) technique. The empirical results indicate that all selected fiscal policy variables were significant on poverty levels. While both aggregate public debt and tax revenue increased poverty levels, government spending exert significant negative impacts on the poverty levels in Nigeria.

5.2 Recommendations

On the basis of the findings of this study, the following recommendations are made.

a) Government should sustain and increase its current budgetary spending as they have been seen to reduce the incidence of poverty in the country.
b) Since aggregate debt cause poverty in Nigeria, meaning that policy intervention should focus on the effective management of the borrowed funds in order to drive the process of economic development.
c) Finally, tax revenue should be more of progressive in Nigeria. The current universal tax policy of government has been proven to cause poverty so there is need to reconsider it for more progressive based tax system.

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