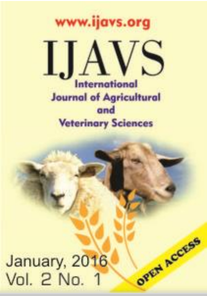

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RESEARCH ARTICLE

An Economic Evaluation of the Effectiveness of Fiscal and Monetary Policies as Tools for Poverty Reduction in Nigeria, 1990-2014.

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ABSTRACT:

An economic evaluation of the effectiveness of fiscal and monetary policies as tools for poverty reduction in Nigeria were carried out in this study by employing the ordinary least square (OLS) technique, using the data of annual time series for the period of 1990 to 2014. The OLS result shows that government expenditure, interest rate and tax contribute to poverty reduction (per capital income) positively but not significantly, while the contribution of money supply is also positive and significant. Hence if a policy aims at improving the standard of living of people, then effective use of fiscal and monetary policies are in dispensable. Both policies should be seen as complementing each other.

Keywords: *Evaluation, Expenditure, Government, Interest Rate, Money Supply, Poverty.*

INTRODUCTION

In the last three decades, one of the major challenges facing Nigeria is poverty. It afflicts people in various depths and levels, at different times and phases of existence. There is no nation that is absolutely free from poverty. The main difference is the intensity and prevalence of this malaise. The complexity of the concept makes it difficult to have a unanimous definition. In this contest, we can see poverty as the opposite of well-being.

The Central Bank of Nigeria (1999) views poverty as "a state where an individual is not able to cater adequately for his or her basic needs of food, clothing shelter; is unable to meet social and economic obligations, lacks gainful employment, skills, assets and self-esteem; and 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".

The World Bank (2004) utilized inductive approach to uncover various dimensions of poverty such as well-being, psychological, basic infrastructure, illness and assets. One of such definitions is "the lack of what is necessary for material well-being – especially food, housing, land and other assets. In other words, poverty is the lack of multiple resources that leads to hunger and physical deprivation."

Evidence in Nigeria has shown that the number of those in poverty has continued to be on the increase. For instance, the number of those in poverty increased from 27% in early 1980 to 46% in 1985; it declined slightly to 42% in 1992, and increased very sharply to 67% in 1996. In 1999, it is reported that poverty has increased to 70% (FOS, 1999). The Federal Government, then responded by declaring ₦470 billion budgets for year 2000 which was "to relieve poverty" (NBS, 2012). The current available statistics puts the Nigerian population at 158,423, 182. Out of this figure; 79,923,437 lives in rural area, while 50, 78,739, 143 of the rural dwellers are poor (IFAD, 2014).

Furthermore, according to World Bank and UNDP (2014) statistics, Nigeria which impressively ranked 6th and 7th in Petroleum Export and Petroleum Production respectively, ranked 194th in GNP per capital and is undeniably classified as the 25th poorest nation in the world.

However, the above scenario has not come into being because of non-recognition of the problem at hand. Nigeria government, be it military or civilian, has not come without introducing and leaving behind one form of poverty alleviation or reduction programs meant to reduce the level of poverty, give hope to the poor and, or move towards some sort of wealth creation. Strategies, policies and plans have been articulated; programs and projects have been formulated and executed over the years.

In other to reduce poverty in Nigeria, what is needed is a holistic battle against the worsening scourge of poverty which is only possible through all-inclusive macroeconomic policies; fiscal and monetary policies that would create job for the teeming unemployed graduate in the country which in turn, would reduce poverty level in the long run.

This research work provides an economic evaluation of the effectiveness of fiscal and monetary policies as a tool for poverty reduction in Nigeria.

THEORETICAL FRAMEWORK AND LITERATURE REVIEW

Definition of Concepts

Fiscal policy refers to the part of government policy concerning the raising of revenue through taxation and other means and deciding on the level and pattern of expenditure for the purpose of influencing economic activities or attaining some desirable macroeconomic goals (Anyanwu, 1996). Fiscal policy simply defined is the manipulation of government revenue through tax system, government expenditure and debt management to achieve pre-determined macro-economic objectives. Fiscal policy defines the scope and structure of services to be financed by the government, adjust the distribution of income through taxes and maintained stability of the economy so that these goals can be achieved if aggregate demand grows in pace with productive capacity. If aggregate demands does not expand more rapidly than productive capacity, inflationary pressures will increase. On the other hand, if aggregate demand does not expand as much as growth of productive capacity in the economy, there will be rising unemployment. Although many analysts have argued that an important issue in the conduct of macroeconomic policy is the optimal policy mix-a combination of monetary and fiscal policies to achieve the objectives of macroeconomic policy. To them, the question of monetary-fiscal policy mix arises because both policies are interrelated and mutually reinforcing thus suggesting that they are complementary. Furthermore, the effectiveness of one depends on the other. The policy instrument for controlling demand is monetary policy which influences the supply of money and availability of credit and fiscal policy which affects the aggregate flow of purchasing power. Thus, aggregate demand can be influenced through the use of either fiscal or monetary policy. In fact, it is possible to achieve the same level of aggregate demand with different combinations of fiscal or monetary policies. Monetary policy operates by changing money supply to affect indirectly the levels of prices, employment and growth. Fiscal policy, on the other hand affects aggregate demand by changing the income available to spending units in the economy and its impact will depend on the nature of government spending i.e. what goods government decides to buy, what taxes it decides to charge and what amount it decides to transfer. Any of these policies could affect the level of demand and cause an increase in consumption spending. Investment subsidy could also increase investment spending. The appropriate impact of fiscal policy depends very much on the state of the economy. Fiscal policy is expected to be expansionary, if expected level of demand is low and restrictive, if expected pressure and demand is high in the light of government objectives. An expansionary fiscal policy involving higher government spending can crowd out some interest sensitive private sector spending. In a recession, an expansionary monetary policy complemented by fiscal stimulus is required to stimulate growth, output and unemployment.

On the other hand, when an economy is over heated, tightening of fiscal and monetary policies is required. This assertion is in line with the Keynesian views of fiscal policy that expansionary and contracting fiscal policy can be used to influence macroeconomic performance and hence reduce poverty.

Empirical Literature Review

Many studies have shown that government expenditure is positively related with economic growth and poverty reduction but due to high expenditure most of the developing countries are facing the problem of fiscal deficit. Fiscal deficit leads to inflation in the economy. In many developing countries high fiscal deficit crowding out the private investment in the long run and decreases the employment and output which adversely affects the poverty.

Bennet (2007) examined the role of fiscal policy in alleviating poverty in the case of Nigeria. He used the general equilibrium model for the study and concluded that the government revenue also positively redistributes income but government expenditures are the important and effective tools of income redistribution and reduction in poverty. He further concluded that the fiscal policy should be formulated in such a way that it redistributes income from the rich people of the society to poor ones.

Zafar and Zahid (1998) analyze relationship between macroeconomic variables and economic growth in Pakistan. They have concluded that budget deficit is negatively correlated with the economic growth and output as it considered as a sign of macroeconomic instability. They further concluded that fiscal deficit reduces the output through taxes and current expenditure (civil servant salaries etc.) that negatively affect the private sector productivity and it also crowd out the private sector investment as weak credit market performance.

Keho Yaya (2010) investigated the causal relationship between budget deficit and economic growth in six countries and found mixed results. In three cases he did not find any casual relationship between budget deficit and growth while in remaining three cases evidence shows that budget deficit adversely effected the growth.

Catao and Terrones (2003) examined the relationship between fiscal deficit and inflation. A strong positive relationship between fiscal deficit and inflation among high-inflation and developing country group were studied. Solomon and Wet (2004), examined the effect of budget deficit on inflation in Tanzania and found that economy experienced a high inflation rate accompanied by high fiscal deficit.

Volker (2005) have done study on Tanzania's growth process and reduction in poverty that how the large scale privatization, liberalization and monetary and fiscal policy affect the poverty through different channel, like private investment and exchange market. He argues that economic reforms and macroeconomic stabilization, resulting in strong growth and low inflation which significantly impact poverty.

Rashid and Kemal (1997) studies the macroeconomic policies and their impact on poverty reduction, founds that the growth above a threshold level of about 5 percent, increase in employment and remittances are the most important variables explaining the change in poverty over time.

The data used for this study are time series data for the period of 1990 to 2014 are collected from various secondary sources. These include relevant journals, internet, National Bureau of Statistics (NBS) bulletin for the year 2012, Central Bank of Nigeria (CBN), Publications for the 2012 and World Bank Publications for the year 2014.

This work made use of econometric procedure in estimating the relationship between the variables. The Ordinary Least Square (OLS) technique was adopted for obtaining the numerical estimates of the coefficients of the equation.

The OLS method was adopted because it has some optimal properties; its computational procedure is fairly simple and it is also essential components of most of other estimation technique. In demonstrating the application of the OLS method, the multiple linear regression analysis was used where the Gross Domestic Product per capital (GDP_{pc}), money supply (M_2), interest rate and government expenditure were the relevant variables. The GDP_{pc} was used as the dependent variable while money supply, interest rate and government expenditure were the independent variables. The choice of this method was justified because the data were time series data.

In specifying the model, emphasis is placed on whether fiscal and monetary policies has any significant influence on poverty reduction between 1990 and 2014 in Nigeria as incorporated by the World Bank reports (1983;1990; 1991).

Gross domestic Product (GDP) per capital proxied poverty reduction as the dependent variable while money supply (M_2), interest rate and government expenditure, tax proxied monetary and fiscal policies respectively as the independent variables.

Having established this link, the first equation is formulated as;

$GDP_{PC} = f(FP, MP)$ ---------------------------- (I)

The equation (I) above states that GDPpc is a function of fiscal and monetary policies.

The transformation of equation (I), above into a linear equation then becomes;

$GDP_{PC} = \beta_0 + \beta_1 GEXP + \beta_2 TAX + \beta_3 M_2 + \beta_4 INTR + \mu$ ---- (II)

Where;

GDP_{PC} = Gross Domestic Product per capital at Current Local Currency.

GEXP = Government Expenditure on goods and services at current Local Currency.

TAX = Taxes on goods and services at Current Local Currency.

M_2 = Money and quasi money comprise the sum of currency outside banks, demand deposits etc.

INTR = Real interest rate is the lending interest adjusted for inflation as measured by the GDP deflator.

β_0 = Autonomous parameter or the intercept.

β_1 = Parameter which is expected to measure government expenditure.

β_2 = Parameter which is expected to measure tax rate.

β_3 = Parameter which is expected to measure money supply.

β_4 = Parameter which is expected to measure interest rate.

μ = The error term, (which measure variables not includedin the model).

Drawn from the model, our a-priori expectation or the expected pattern of behaviors between the dependent variable and the independent variables (GEXP, M_2, INTR, and TAX) are: GEXP>0, M_2>0, INTR<0 and TAX>0. Indicating that, an increase in GEXP, M_2, TAX and a reduction in INTR are expected to reduce poverty in Nigeria.

RESULTS AND DISCUSSION

From the regression result, Gross Domestic Product Per Capital (GDP_{PC}) is the dependent variable which is used as proxy for poverty reduction while Government Expenditure (GEXP), Money Supply (M_2), Interest Rate (INTR), and Taxation (TAX), are used as the explanatory variables. The regression result is therefore summarized as follow;

$GDP_{PC} = \beta_0 + \beta_1 GEXP + \beta_2 M_2 + \beta_3 INTR + \beta_4 TAX + \mu$

$GDP_{PC} = -34134.50 + 3.19E\text{-}09 + 2.35E\text{-}08 + 2410.938 + 1.02E\text{-}07$

SE = (39719.69) (2.40E-08) (5.70E-09) (2205.328) (1.64E-07)

t-stat = -0.859385 0.133079 4.124549 1.093233 – 0.621478

F –stat = 128.5840

R^2 = 0.962570

$\bar{R}^2$ = 0.955084

D.W. = 1.309086

The regression result shows that the estimated coefficient of the intercept obtained was -34134.50 and the t-statistic is -0.859385. This shows a negative relationship of the intercept. The estimated probability is 0.4003; this indicates the statistical insignificance of the intercept.

The estimated coefficient of government expenditure (GEXP) to GDP_{PC} is positively related at 3.19E-09 with t-estimated value as 0.133079. The estimated probability of the estimate is obtained as 0.8955. This indicates that the estimated coefficient of federal recurrent expenditure is statistically not significant.

Also, the estimated coefficient of interest rate (INT) is 2410.938 while the t-estimated value is 1.093233. This shows that interest rate is positively related to GDP_{PC} but statistically insignificant with a probability value of 0.2873. This positive relationship did not conform with the apriori expectation. However, high interest rate, all things been equal, is an indication of a growing economy which reduces poverty.

The estimated coefficient of money supply (m_2) to GDP_{PC} is positive with the estimated value of 2.3E-08 and t-statistic of 4.1245449, it has an estimated probability of 0.0005 which indicates that it is statistically significant.

Furthermore, the estimated coefficient of tax is 1.02E-07 while the t-statistic is 0.621478 and it is positively related to GDP_{PC}, having an estimated probability value as 0.5413 which indicate that is statistically insignificant.

This finding conform with Bennet (2007) where he opined that government revenue (tax) also positively redistributes income, but government expenditures are the important and effective tools of income redistribution and reduction in poverty. This however, contradict the findings of Zafar and Zahid (1998), where they observed and concluded that fiscal deficits reduces the output through taxes and current expenditure (civil servants salaries etc) that negatively affects the private sector productivity and it also crowd out the private sector investment as weak credit markets performance.

The coefficient of determination (R^2) from the regression results is 0.9625570. This implies that about 96% of the systematic variation of GDP_{PC} is accounted for by the independent variables (i.e. GEXP, INR, M_2 and TAX). The remaining 4% are explained by the variables not included in the model. The adjusted coefficient of determination ($\bar{R}^2$) which is given as 0.95084 shows they is 95% level of goodness of fit of the model.

The Durbin-Watson statistical value of 1.309086 is an indication of the presence of autocorrelation in the model.

This study has empirically attempted to investigate the effects of fiscal and monetary policies on poverty reduction in Nigeria from 1990 to 2014 by employing the ordinary least square regression analysis. It was observed from the analysis that the Government expenditure on goods and services (recurrent expenditure) does not influence the level of poverty in

Nigeria. Government recurrent expenditure should be used as a means of implementing government policies. If government policies are well implemented, it contributes in achieving the macroeconomic objective of poverty reduction among others.

Money supply (M_2) from the analysis impacted significantly on the level of poverty. The result shows that money supply has positive influence on poverty and that the influence is statistically significant. Within the period under review, money supply has been used in influencing the level of poverty in Nigeria.

Results further show that interest rate contributes positively to poverty reduction but that its contribution is not statistically significant. High interest rate encourages savings which in turn influence investment and hence reduces poverty. However, care must be taken as high interest rate on the other hand can also discourage investment and aggravate poverty level.

Finally, result shows that indirect tax has positive relationship with poverty reduction. A well-articulated and implemented tax policy positively redistributes income and hence reduces poverty.

CONCLUSION

The results imply that poverty can be reduced through government expenditure, interest rate, money supply and tax in Nigeria.

Hence, if the objective of a policy is to improve the standard of living of the people by reducing poverty, then effective use of fiscal and monetary policies is indispensable. Both policies should be seen as complementing each other. In other words absolute reliance should not be on any one of these major economic management policies at all time. They should be implemented in economic situations for which they are best suited.

CONFLICT OF INTERESTS:

The authors declare no conflict of interests whatsoever.

CONTRIBUTION OF AUTHORS:

AM did the introduction, the model specification and the analysis of the results, while AJO did the definition of concepts, the empirical and theoretical literature review. All authors read and approved of the final manuscript.

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