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Inflation Rate and Poverty Incidence Nexus in Nigeria: Does Lending Rate Moderates The Effect

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ABSTRACT

Poverty incidence is quite high in developing countries, according to the latest data. However, the element that contributes to and mitigates remains a mystery and a source of disagreement in the literature. As a result, the study re-examined the relationship between Nigeria's inflation rate and poverty incidence. It also established the role of borrowing costs in the relationship between inflation and poverty incidence in Nigeria. The analysis spans 40 years, from 1981 to 2020, and secondary data on poverty, inflation, lending, money supply growth, and taxation were culled from World Bank Development Indicators and the Central Bank of Nigeria (CBN) statistical bulletin, 2020 edition. The study used multiple linear regression and an interactive model to achieve the stated objectives. It was revealed that the inflation rate positively correlates with Nigeria's poverty incidence. Also, it was further revealed that the lending rate substantially moderates the inflation rate's positive effect on Nigeria's poverty rate. Therefore, it was concluded that the lending rate is sufficient to change the adverse impact of inflation on the poverty rate within the study under review. The study recommends that government ensure that inflation is kept at bearable digits while monetary authorities should review upward lending rates to discourage excessive borrowing without productivity.

Keywords: Inflation Rate, Money Supply Growth Rate, Poverty Rate and Lending Rate

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INTRODUCTION

One of the serious social and economic issues impeding economic progress in African nations is the overpowering state of poverty. However, prior assessments showed that African nations were not among the poorest, contrary to popular belief (Todaro & Smith, 2007).. This is because the poverty incidence was mainly concentrated in East Asia such as China, Japan, North Korea, South Korea and Taiwan. In 1990, the incidence shifted to South Asia such as Indian, Pakistan, Nepal and Sri Lanka. Regrettably, the anus of poverty issues has now been concentrated in Sub-Sahara Africa countries. In order to provide substantial poverty reduction policies, many scholars in different professions have attributed quite numbers of variables, such as lack quality institutional, social, political and

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An extensive body of literature has generally attempted to empirically evaluate the impact of particular macroeconomic variables on the occurrence of poverty around the world. Significantly, this initiative has given the government, policy makers, and monetary authorities ample information on the selected variables. In many industrialized nations around the world, it has also benefited fiscal planning in addition to the decisions made by the monetary authorities. The selected macroeconomic variables and the poverty rate have a practical yet conventional relationship, according to the known empirical studies (Munir, 2020). The rationale for their research, however, was based on the widespread beliefs that macroeconomic variables should be stable overall since this will allow the poor to escape poverty and rise beyond it.

This study was inspired by recent events in Nigeria over the damaging effects of high inflation rates on people's incomes and purchasing power. The condition of steady growth in prices of products, services, and necessities shows no prospects of changing in the interim due to the current economic mess. This clearly shows that a large number of people will relapse into poverty (Junaidin, 2020). There is a clear link between inflation and poverty, according to economists and scholars studying this issue. For instance, Junaidin(2020) shows that inflation has a little impact on the prevalence of poverty but that there is a positive correlation between these two variables.

With high inflationary pressures or rates, real income is thus reduced. This means that as the cost of food and other necessities rises, the rate of poverty tends to rise proportionally since people's purchasing power declines and they are unable to bargain for higher salaries. According to Talukdar (2012), nominal salaries are unable to keep up with the rate of rising

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inflation in the economy, which has a negative impact on poverty directly on real earnings (purchasing power). Although there are dissenting opinions and conclusions, the majority of evidence supports the premise that the inflation rate increases the incidence of poverty. But it's still unclear whether recent surges in inflationary pressures in Nigeria can account for the prevalence of poverty. Therefore, the idea of lowering lending rates to attract more demand in the economy will be dubious if, as has been shown in other nations, inflation is indeed positively correlated with poverty in Nigeria. Therefore, the question of whether financial instruments like lending rates or interest rates will attenuate the positive impact of inflation on poverty incidence arose and remained to be answered.

Hypothesis Development

The extent of basic economic deprivation could be referred to as poverty. These deprivations have different dimension such as low incomes, failure to buy or afford basics goods and services essential for survival and enhance dignity. The word poverty can also takes in poor health facilities and failure to maintain healthy life, inadequate power to enhance one's better life. Fikri (2016), regards to poverty as purely economic liability and cancerous towards economic growth and development. One reason of poverty is a lack of money and assets to cover basic requirements such as food, clothing, and housing, as well as the quality of health and education available. Apart from poverty, it is also related with restricted work, and most people who are classified as poor do not have a job (are unemployed), and their education and health levels are often inadequate. Inarguably, poverty is conceptualized differently by country wise because factors leading to poverty is quite differs though synonymous. In some developing countries, corruption level is their major cause of poverty incidence while other are encountering with poor macroeconomic decision or policy summersault. Whichever way, the most prominent among all the causes poverty is inflation rate. Inflation rate is not a new phenomenon and it is everywhere (Friedman, 1970). It is a prolonged and uncontrollable rise in the prices of commodities and consumer goods in general.

The trade –off between inflation rate and poverty is contentious in the literature. Many economists have considered different economic factors as control variables since inflation is a direct effect of some monetary decisions and market deficiency. Several studies have found a link between inflation and poverty (Cardoso, 1992; Powers, 1995; Ravallion, 1998; Braumann, 2004; Chaudhry and Chaudhry, 2008, Danlami, Hidthiir, and Hassan. 2020).Despite this straightforward direction, some strand of the literature still reported that poverty incidence cannot be explained with inflation rate even considering economic condition either good or bad. This has placed the relationship under a scrutiny and consistent assessment and investigation. For instance, Blank and Blinder (1985) revealed that regardless of support given to the inflation –poverty nexus in the literature, their study provided another contrary evidenced.

Meanwhile, the gap identified in the existing literature is that existing studies focused extremely on how inflation rate affects poverty or the extent at which poverty rate responded to high inflationary pressures. Some research, such as Aiyedogbon and Ohwofasa (2012), Chani, Pervaiz, Jan, and Ali (2011), shown the impact of monetary factors such as money

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supply, exchange rate, and interest rate on the inflation-poverty model. Despite controlling for such characteristics, their research found that poverty responded positively to high inflation. Siyan, Adegoriola, and Adolphus (2017) investigated the causation direction between these two variables using the Granger Causality test. To the best of our knowledge, no studies have considered monetary tools such as lending rate as moderating factor in the inflation –poverty relationship. This study provided adequate empirical insight on the influence of lending rate in moderating the effect of inflation on poverty in Nigeria. These findings confirmed that assumptions of monetarists that the best tools to reduce inflation is increase interest rate of high lending rate.

Murjani(2019) employed inflation, unemployment, and economic growth to know whether poverty responded positively to changes in the aforementioned variables. The study's methodological gap was thought to be bridged by ARDL. Inflation, unemployment, and economic growth all have a substantial impact on poverty, thanks to Autoregressive Distributive Lag (ARDL). The findings demonstrated that, in the long run, inflation, unemployment, and economic growth all have a major impact on poverty. Only inflation and economic growth have been shown to have a major impact on poverty in the short run. Yolanda (2017) offered fresh insight into the influence of inflation on poverty and the human development index in Indonesia. The study spans the years 1997 to 2016, and data on inflation and poverty rates were collected. The results of a simple model revealed that the rate of inflation has a positive and significant influence on poverty in Nigeria. Siyan, Adegoriola, and Adolphus (2016) examined the influence of unemployment and inflation on poverty in Nigeria between 1980 and 2014. VAR model, and granger causality was employed to estimate the desirable data. It was revealed that the increase in poverty in Nigeria was attributed to the previous high inflation and unemployment in the country. Their resulted demonstrated that there is existence of relationship that runs through inflation to poverty and not other way round. In the study carried out by Paul and Sharma (2012) examined the effect of inflation rate on poverty in different period. It was revealed that the poor people were badly hurt with rate of inflation in the economy. The study conducted by Talukdar (2012) in developing countries assessed the influence of inflation on poverty. The study considered 115 developing countries between 1981 and 2008. It was revealed that inflation rate positively and significantly influences poverty in developing countries. It was stated empirically that inflation is negatively related to poverty in low income economies

1. METHODOLOGY

Due to the nature of the study, secondary data were gathered from CBN statistical bulletin 2020 edition and World Bank Development indicator. Expo facto research design and OLS techniques was considered to measure the relationship between inflation rate and poverty incidence in Nigeria. Inflation was selected as the main variable while money supply growth rate, taxes, and lending rate as the control variables. However, lending rate was further applied as the interactive variables that were assumed to moderate high inflation rate. Finally,

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interaction terms of inflation and Lending rate (INF*LNDR) and Money supply growth rate and Lending rate (MSygr*LNDR) are incorporated to deal with the research questions.

METHOD

The purpose of this study is to determine whether the inflation rate is positively associated to poverty incidence in Nigeria and whether the lending rate moderates the influence of the inflation rate on poverty incidence. This article used Adeleye and Eboagu's (2019) empirical and model of idea and characterized each dependent variable as a linear function of inflation rate, money supply growth rate, taxes, and lending rate. The interplay of inflation and money supply growth rates with lending rate represents the link between inflation rate and poverty incidence. The model's explicit forms are provided here.

POVHC = F (INF, MSYGR, TAXES, LNDR)

$POVHC= \beta_0 + \beta_1 INF + \mu \ldots (1)$

$POVHC= \beta_0 + \beta_1 INF + \beta_2 MSYGR + \mu \ldots (2)$

$POVHC= \beta_0 + \beta_1 INF + \beta_2 MSYGR + \beta_3 TAXES + \beta_4 LNDR + \mu \ldots\ldots (3)$

$POVHC= \beta_0 + \beta_1 INF + \beta_2 MSYGR + \beta_3 TAXES + \beta_4 LNDR + \beta_5 (INF*LNDR) + \mu \ldots (4)$

$POVHC= \beta_0 + \beta_1 INF + \beta_2 MSYGR + \beta_3 TAXES + \beta_4 LNDR + \beta_5 (MSTGR*LNDR) + \mu \ldots (5)$

Where POVHC symbolizes Poverty Headcount \$3.25 as the dependent variable; INF is Inflation rate, MSYGR is Money supply growth rate, TAXES is Tax revenues, LNDR is Lending Rate and μ is the general error terms. Note, the signs of the coefficients of the interaction terms, β5 in model 4 and 5 evaluate if the interaction of INF*LNDR and MSYGR*LNDR reduce the effect of inflation on poverty. It is expected that a negative sign indicates that lending rate will moderate the positive signs of inflation rate on poverty incidence.

RESULTS AND DISCUSSION

Table 1. Descriptive Statistics

VARIABLES	PVHC3	INFL	MSPGR	LNDR	TAX2
Mean	77.7118	19.5815	25.3089	18.7092	3395.14
Std. Dev.	4.33623	18.1281	18.5237	4.17121	2252.08
Skewness	-0.5336	1.65265	1.30418	0.56865	0.75084
Kurtosis	1.78784	4.3637	5.28456	4.88165	2.64313
Jarque-Bera	3.69507	18.1116	17.0323	6.84824	3.37511
Probability	0.15763	0.00012	0.0002	0.03258	0.18497
Observations	34	34	34	34	34

Source: Author's Computation

The table 1 above indicted the mean and standard deviation value. It was shown that the mean value for poverty rate, inflation rate, money supply growth rate, lending rate and taxes

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are 77.7, 19.5, 22.3, 18.7 and 3395.14 respectively. Also, it corresponding standard deviation value is an indication of any form of disparity between mean values in each variables. It is understood that 4.33, 4.17 and 2252.08 standard deviation figures for poverty rate, lending rate and taxes depict larger disparities away from their mean values. Meanwhile, 18.12 and 18.52 standard value of inflation rate and money supply growth rate inferred a small disparity. In addition, the probability value attached to Jarque –Bera demonstrated that except inflation rate, money supply growth rate, and lending rate, all other variables are normally distributed.

Table 2. Correlations Matrix

VARIABLES	**PVHC3**	**INFL**	**MSPGR**	**LNDR**	**TAX2**
PVHC3	1				
INFL	0.283859	1			
MSPGR	0.217517	0.173366	1		
LNDR	0.313732	0.430527	0.391984	1	
TAX2	-0.567	-0.2523	-0.17419	-0.12236	1

Source: Author's Computation

The table 2 above shows correlation among the variables employed in the study to avoid multicollinearity issues. With the results in the table, it is obvious that independent variables are not serially correlated. It was reported that inflation rate, money supply growth rate, and lending rate have a positive correlation with a low percentage, while taxes have negative correlation with poverty rate.

TABLE 3. Interactive Regression Outputs

Variables	**Model (1)**	**Model (2)**	**Model (3)**	**Model (4)**	**Model (5)**	**Model (6)**
	PVHC4	PVHC4	PVHC4	PVHC4	PVHC4	PVHC4
INFL	0.0067 (0.1038)	0.0607 (0.1503)	0.0325 (0.3818)	0.0130 (0.7433)	0.1299 (0.4363)	0.0155 (0.703)
MSPGR		0.0406 (0.321)	0.0244 (0.4936)	0.0078 (0.8347)	0.0113 (0.7674)	0.0786 (0.5936)
Tax			-0.0009 (0.0021) **	-0.001 (0.0018) **	-0.001 (0.002) **	-0.0010 (0.0019)
LNDR				0.2216 (0.2272)	0.3454 (0.1742)	0.3381 (0.2607)
INFL*LNDR					-0.0056 (0.4702)	
MSPGR_LNDR						-0.0038 (0.6188)

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_cons	76.38*** (0.000)	75.49*** (0.000)	79.82** (0.000)	76.51*** (0.000)	74.49*** (0.000)	74.49*** (0.000)
Observations	40	40	40	40	40	40
R-squared	.08	.10	.35	.39	.39	.39
Normality test	0.2813	0.2697	0.1493	0.6898	0.8899	0.0653
F-statistics (p-value)	0.1037	0.1648	0.0040	0.005	0.0123	0.0123
Standard errors are in parentheses						
**** p<.01, ** p<.05, * p<.1*						

Source: Author's Computation

Discussion

The table 3 above revealed the empirical results and presented based on the ordinary least square estimations. Model 1, 2, 3 and 4 report estimation without interaction while model 5 and model 6 reported estimation with interaction. Model 5 shows the interaction of lending rate with inflation rate (INF*LNDR) while model 6 reports interaction of lending rate with money supply growth rate (INF*LNDR). Model 1 in Table 3 represents a basic linear model for measuring the association between Nigeria's inflation rate and poverty rate. It was discovered that the inflation rate and the poverty rate have a positive association. The inflation rate coefficient is 0.0067, which suggests that a 6.7 percent increase in the inflation rate raises poverty by 6.7 percent, although the association is not statistically significant. Model 2 estimated the influence of money supply in the inflation and poverty relationship. It was revealed that money supply contributed to the positive increase in poverty rate. For instance, the coefficient of money supply is 0.0406, which connotes that a percentage increase money supply will influence inflation rate and poverty will increase by 4percent. Model 3 indicated the presence of taxes in the relationship between inflation and poverty rates. It was discovered that the tax coefficient is -0.0009, implying that a unit increase in tax revenue reduces poverty by 0.9%. The inclusion of the lending rate was predicted in model 4. The loan rate has been proven to have a positive link with poverty, with a correlation of 0.2216. This means that every unit increase in lending rate causes poverty to rise by 22%.

The primary aim of this study is to ascertain if contractionary monetary policy tools such as lending rate will aid the reduction of poverty when interacted with rate of inflation and quantity of money in the circulation. This study dwell more on the interactive effect between inflation rate and lending rate. The coefficient of interactive term is negative but insignificant all thought the model. Since the coefficient of inflation and its interaction term depicts negative signs, it shows that lending increase in lending rate will reduce inflation and subsequently reduce poverty incidence. The coefficient of interaction term (INFL*LNDR) is -0.0056, this means a unit increase in lending rate when inflation is increase will reduce poverty by 5.6percent. Also, the coefficient of interaction term (MSPGR*LNDR) is -0.0038, which means that a unit increase in lending rate will outweigh the positive effect of money supply on poverty rate by 3.8percent. It was observed that except taxation, none of the

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variables indicate a positive impact on poverty incidence in Nigeria for the period under review.

CONCLUSION

This study used time series data from 1981 to 2020 on poverty rate proxy with poverty headcount at $3.29 per day and inflation rate to explore the relationship between inflation rate and poverty incidence in Nigeria. In broader conditions, this paper deals with two different research objectives. For instance it determines whether inflation rate contributes to poverty incidence in Nigeria. It investigates whether lending rate moderates the influence of inflation on poverty incidence in Nigeria. Specifically, because of the positive signs between inflation and poverty rate, this study revealed that the empirical question whether inflation rate contribute positively to poverty incidence in Nigeria is true. Also, the negative sign of the moderating effect of lending rate with inflation on poverty is an indication that increase in lending rate during inflationary period will tends to reduce positive effect of inflation and subsequently reduce the number of poor people consigned into poverty line. Therefore, the study recommends that monetary policy tools such as lending rate should be adopted in order to reduce the effect of inflation on poverty. Also, this will directly reduce the amount of money in the circulation; however, a careful decision must be taken to avoid distorting economic growth and productivity.

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