



## Unemployment and Poverty in Developing Economies: The case of Nigeria

Sheba Liman Gamba<sup>1</sup>, Danjuma Maijamaa<sup>2</sup>, & Abigail Elisha Goyilla<sup>3</sup>

<sup>1 & 2</sup> School of General Studies,  
Abubakar Tata Ali Polytechnic,  
Bauchi, Bauchi State – Nigeria

<sup>3</sup> Department of Social Sciences,  
School of General Studies and Pre-ND,  
Isa Mustapha Agwai Polytechnic,  
Lafiya, Nasarawa State - Nigeria

### Abstract

*This study examined the effects of unemployment on poverty in developing economies with specific reference to Nigeria, spanning from 1986-2019. The study used time series data. The single equation modelling approach was employed, while the Ordinary Least Square (OLS) regression technique was used in the estimation. The study used unemployed rate (UEM), inflation rate (INF) and income inequality (INQ) as explanatory variables, while poverty (PVT) was used as the dependent variable. The result revealed that unemployment had a statistically significant positive effect on poverty. It was also found that income inequality had a statistically significant effect on poverty level. The granger causality test results revealed a unidirectional causality between income inequality and poverty, with income inequality serving as the source of the causality. The findings revealed the existence of bidirectional causality between inflation and unemployment. Furthermore, the findings revealed the existence of a one-way causation flowing from inflation to income inequality. The study concluded that unemployment is not a major factor responsible for poverty in Nigeria; rather income inequality is the main determinant. The study recommended that fiscal policy measures that will significantly help in reducing income inequality should be implemented so as to curb the increasing rates of poverty in Nigeria, government should address the increasing problem of inequality in income since it was found to be the major factor responsible for poverty in Nigeria, government should adopt appropriate price stability policies so as to reduce the rate of inflation that tends to affect the rate of poverty in the country and that government should design and implement macroeconomic policies and programmes that will help in creating jobs for the teaming youth so as to reduce the raising challenge of unemployment and inflation that could leads to inequality in income in considering the effects of income inequality of poverty in Nigeria.*

**Keywords:** Unemployment, Income Inequality, Inflation, Poverty

**JEL Code:** Classification: J6, I3, I32, P44

### Contribution/Originality

The originality of this paper stems from the fact that it examined the effect of both inflation and income inequality as proxies of unemployment on poverty in Nigeria which is a complete deviation from previous empirical studies on unemployment-poverty relationship. The findings of this study therefore brought to bear the fact that contrary to existing theory that unemployment is a significant factor responsible for poverty in Nigeria, poverty is largely a function of income inequality. This justifies the used of income as one of the

### 1.0 Introduction

In most developing economies, unemployment is regarded as one of the most challenging macroeconomic problem that seems to have impacted negatively on policies and programmes targeted at curbing poverty. The rate at which able-bodied young men and women roam about major streets in these countries with no reliable source of livelihood portrays the eminent danger posed by increasing rates of unemployment and its consequences on households' poverty level. Aminu and Donga (2014) asserted that the full potentials of labour-surplus economy have not been fully exploited. This may not

<sup>1</sup> Corresponding Author's e-mail & Phone No.: [shebaliman@gmail.com](mailto:shebaliman@gmail.com); ☎: +234 803-465-4512



be unconnected to the raising cases of unemployment, attributed to low demand for goods and services, total neglect of the agricultural sectors and the mass exodus of able-bodied youths from the rural to urban areas in search of none existing white cooler jobs. Thomas (2012) maintained that the continued economic crisis, with the associated problems of high rate of unemployment and underemployment in developing countries calls for attention of policymakers. The argument is that the unemployed may not only constitute problems to their immediate families who have to provide them with their basic needs like food, clothing and shelter, increasing rate of unemployment can have indirect effects on the poverty rate in the country since it has the tendency of limiting labour efficiency and productivity.

In Nigeria therefore, the rate of unemployment captures the percentage of those willing and able to work but cannot find employment, and the frequency duration and incidence of unemployment. Umoru and Anyiwe (2013) stated that high rate of unemployment implies output loss to the economy and this will also lead to high inflation. In the 2014 budget, it was projected that the Nigeria economy will grow at 4.5% and at 5.5% in 2015 (National Bureau of Statistics, 2016). The report also stated that by the end of 2015, the unemployment rates was put at 22.0% which suggests that the growth in unemployment within the period was higher than the growth rate of the economy, signifying poor standard of living and rising poverty rate. This literature suggests that economic growth is crucial in poverty reduction debate, but this may only be a necessary and not a sufficient condition for reducing poverty in poverty rated economy like Nigeria. The effects of high unemployment rate are generally negative in all ramifications because the concept itself has a negative connotation. Chinedu (2015) contended that every year, over 90 universities in Nigeria produce thousands of graduates. This is a welcome development, but they linger in the labour market without jobs. In most cases, out of frustration, most of them end up engaging in various social vices, such as armed robbery, kidnapping and drug trafficking just to earn a living.

Poverty as a macroeconomic problem is a complex, multidimensional and multifaceted concept as its effect could manifest in the economic, social, political, environmental and every realm of human existence. Dauda (2017) asserted that poverty in Nigeria differs from what it is in other countries, given that even with the economic growth recorded, poverty is still on the increase with the North-West and North-East geopolitical zones leading in the poverty indices. A significant number of non-poor Nigerians live close to the poverty line and are vulnerable to falling back into poverty (Corral, Molini & Oseni 2015). Iheonu and Urama (2019) observed that Nigeria has the highest rate of extreme poverty in the world, with 86.9 million Nigerians living in extreme poverty in 2018. Unemployment could be seen as a cause of poverty partly because the unemployed may not have reliable sources of income that are necessary to enable those affected escape the consequences of poverty. Unemployment may also make a segment of the society worst-off in terms of income distribution since it has a way of breeding inequality when it comes to who bears the burden of an indirect tax because the market forces that allocate resources do not take this inequality into consideration.

The macroeconomic effects of unemployment and poverty are largely negative in all ramifications. High rates of unemployment in a country for instance could leads to the underutilization of human capital, social exclusion, civil unrest and increasing challenge of youth restiveness, increased crime rates and decrease in labour productivity due to low wages. This so because when the supply of labour exceeds its demand, the wage rate falls. Unemployment is a major contributor to widespread poverty and income inequality since the unemployed often times have less access to income. The South African Reserve Bank (2017) reported that unemployment rates were lower in 1994 than in 2016 from



the first to the last quarter. The official statistic of unemployment in the last quarter of 2016 (Q4 2016) was 26.5% compared to 20% in the last quarter of 1994 (Q4 1994). This suggests that unemployment is a serious macroeconomic challenge in South Africa. Nigeria also is not immune of the problem of rising rates of unemployment. Jelilov, Gylych, Yakubu and Maimuna (2015) reported that the unemployment situation has recently been compounded by the increasing unemployment of professionals such as bankers, engineers and doctors.

Several policies and programmes have been implemented with the aim of reducing the rate of unemployment in Nigeria. These amongst others include, SURE-P, YOUWIN and N-Power programmes among others were all geared towards creating more jobs for the youth which the government assumes if fully and effectively implemented, there will be a reduction in the unemployment rate in the country. Yet, years after the implementation of these well-articulated macroeconomic policies, the rate of unemployment in Nigeria has been increasing at an alarming rate which suggests that the target has not been achieved.

The statistics of the rate of unemployment in Nigeria depicts a disturbing scenario. In 2001, the unemployment rate in Nigeria stood at 13.6%, 14.8% in 2003; it hovers within that range till 2009 when it rose to 19.7%. It has continued on the rise from 21.4 in 2010, 27.4% in 2012 and decline slightly to 23.1% in 2017 (Emmanuel, 2019). World Bank (2016) had reported that per capita poverty rates in Nigeria declined by 10 percentage points, from 46.0 percent in 2004 to 35.6 percent in 2011 and 36.1 percent in 2013. The estimates of poverty rates and trends indicate that Nigeria has been performing above expectations based on previous official poverty figures, which showed stagnation in the national poverty rate at above 60 percent during the period.

The country's rate of inflation also, which supposed to be on a downward trend when the unemployment rate increases in line with the inflation-unemployment trade-off theory has a being increasing also, geometrically, thereby making poor households who are faced with the twin problems of paying taxes and meeting up with their daily basic needs. This if allowed continuing, may have severe consequences and negative multiplier effects on income distribution which is an important indicator of poverty in developing economies. The rising unemployment rate has attracted the attention of scholars as evident in the availability of empirical literature on unemployment related variables. However, most of the scholars (Stephen; 2012; Fatai, 2013; Banda, 2016; Onwachukwu, 2015 & Khobai, 2018) among others concentrated on the relationship between unemployment and inflation and unemployment and economic growth, none of these studies examined the effects of unemployment and poverty.

The motivation for this study stems from the fact that economic theory has it that unemployment is related to variables like income inequality and inflation, previous studies on unemployment failed to capture variables income inequality and time series data covering the period 2019 which is more current looking at the dynamic nature of macroeconomic variables in developing economies like Nigeria. Thus, could it be that the continuous increase in poverty rate in Nigeria is attributed to high rates of unemployment, income inequality and inflation in the country? The specific objectives of this study are to: examine the effect of unemployment on poverty; effect of income inequality on poverty and effect of inflation on poverty in Nigeria respectively. Consequently, the paper is structured into five sections. Section 1 is the introduction, section 2 captures literature review, section 3 captures the methodology, section 4 comprises of the results and discussion, and section 5 shows the conclusion and recommendations respectively.

## **2.0 Literature Review**



## **2.1 Conceptual Review**

Unemployment is often defined by the classical economists as the excess supply of labour over the demand for labour which is caused by adjustment in real wage. The Classical or real-wage unemployment occurs when real wages for jobs are set above the market-clearing level, causing a number of job-seekers to exceed the number of vacancies. Unemployment is a situation whereby people who are physically fit, capable, qualified and ready to work at any time are without jobs (Omitogun & Longe, 2017). This therefore means that unemployment is a situation where some section of the labour or active force are willing, able and capable to work either do not have work to do or are engaged in jobs that do not provide them with the opportunity of using their knowledge, skills and their training maximally as is the case with under-employment. According to Aminu and Anono (2012), unemployment can be conceptualized as the total number of people who are willing and able to work, and make themselves available for jobs at the prevailing wage but have no work to do. This means the unemployed may not necessarily be people without employable skills, they consist of both the skilled and unskilled active labour force that are either without jobs or are under-employed within a specific period of time.

It is important to state that while unemployment is viewed as a serious threat to sustainable growth, zero unemployment rates in an economy is not possible as economic theory has it that there will always be a natural rate of unemployment. This is the rate of unemployment where the real wage rate is in long-run equilibrium. Hence, employment rate to be below the natural rate, employers and potential employees must be willing to be hired. This implies that an employer will engage more employees only if there is an actual decrease in the real wage rate, whereas potential employees, will accept work only if there is an actual or perceived increase in the real wage rate. Interestingly however, countries across the globe are now making efforts toward addressing inflation and unemployment on the assumption that this will go a long way in enhancing economic growth. The case in developing economies like Nigeria, however is sympathetic as the twin problems of unemployment and poverty are on the increase signifying the ineffectiveness of these policies.

It is pertinent to note that any unemployment rate below the natural rate must, in the long run, be a disequilibrium rate because workers are not likely to suffer from money illusion, as they will not ignore what happens to their real pay. Looking at the situation in Nigeria where the rate of unemployment contradicts the rate of money earned as income from taxation and other sources, Gwom and Gozuk (2017) held the view that Nigerians may not be interested at whether a trade-off between inflation and unemployment exists or not; they will be concerned with the availability of jobs and low rate of inflation that can enable them meet their daily needs. The high rate of unemployment in a country therefore signifies the lack of good governance and ineffectiveness in the use of tax revenue.

Inequality can be described as a situation where people have different levels of income or consumption. Income inequality is primarily concerned with the relative position of different persons within the income distribution curve because it is a way of comparing the gap in household incomes in a given region, country or world. Income inequality is fundamentally a summary statistic of the dispersion of income among individuals (Okatch, Siddique, & Rammohan, 2013). A Gini coefficient of zero (0) shows that everyone has equal income. While a Gini coefficient of 1 indicates that all income goes to only one person; hence, higher values of the Gini coefficient denote larger inequality. Therefore, it is of utmost importance to understand the relationship between unemployment and economic growth to ensure sound policies that will boost economic growth. Makaringe and Khobai (2018) stated that there is need to adopt more policies that would help to construct investment



programmes which in turn would lead to job creation, accelerate economic growth, and eradicate poverty and unemployment.

Poverty as a concept is no doubt a network of disadvantage because the poor are most often vulnerable to economic, social and political deprivation. It is a state of deprivation limited access to basic needs, including access to employment opportunities because poor households may find extremely difficult to send their children the schools that provide quality learning, or finance programmes that are targeted at skills acquisition. The relationship between unemployment and poverty is very complex in Nigeria. Thus, while the unemployment rate has remained very high due to the rising rate of poverty, the poverty rate has equally remained high due to the high level of unemployment in the country. According to Okafor (2010), youth unemployment in any country is an indication of far more complex problems. Holmes, Anna McCord and Zanker (2013) maintained that there are strong empirical evidences that employment creation generally increases income and reduces poverty in low-income countries at both micro and macro levels. The irony is that while Nigeria is endowed with abundant human and natural resources, the increasing challenge of poverty and unemployment attributed to factors such as the Dutch disease syndrome left much to be desired. Aderounmu, Azuh, Onanuga, Oluwatomisin, Ebenezer and Azuh (2021), compared to some other African countries, Nigeria has the largest proportion of people living in extreme poverty (86.9) million while Tanzania, Kenya, South Africa and Zambia have about 19.9 million, 14.7 million, 13.8 million and 9.5 million people respectively are living in extreme poverty. They argued that at February 2019, there was an addition of over 3 million people that slipped into poverty making over 91 million people in Nigeria live in extreme poverty. What this means is that Nigeria is rich in terms of resources, but in qualitatively terms, the country is poor. This may be the reason why Maku and Alimi (2018) argued that despite the significant growth in real output in Nigeria the recent years, it has failed to create jobs. This therefore implies that to effectively curb the rising challenge of poverty, the monster called unemployment must be checked via effective employment generation policy.

## **2.2 Theoretical Framework**

This study was guided by the social exclusion theory. The social exclusion theory according to Amartya (2004) focuses on the inability of people to enjoy social relationship normally; limit cultural and educational capital, insufficient basic services and denial of power. The theory centrally argues that some citizens in the society are denied the opportunity of participating in normal activities, relationships, resources, rights, goods and services that are available to the larger society in the form of economic, social, cultural or political spheres of human life. The theory stated further that this denial of access to these societal resources can also influence the standard of life of citizens and the contributions of people in the economy of that society. This theory is relevant to this study on unemployment and poverty in Nigeria in the sense that these are macroeconomic problems that exist when a segment of the population that is supposed to enjoy the benefits of the resources the country is endowed with are denied access to those resources by way of making them jobless and poor. These unemployed citizens tend to have limited access to income sources which implies that income may not be evenly distributed thereby affecting their standard of living which is measured in terms of their income per capita. This further breeds poverty among households and individuals in the society.

## **2.3 Empirical Review**

Unemployment and poverty related empirical studies have been conducted both locally and internationally, but with variations in findings. Adeleye, Gershon, Ogundipe, Owolabi, Ogunrinola



and Adediran (2020) carried out a comparative analysis on growth, poverty and inequality in sub-Saharan Africa, Latin America and Caribbean countries using pooled ordinary least square, fixed effects and system generalized method of moment for the period 2000 to 2015. The result of the study shows that inequality in the growth rate increases poverty and economic growth reduces poverty. Also, there was difference across group and region in the growth-poverty-inequality trilemma. The study concluded that income inequality is a great determinant of poverty. The study is relevant to this paper since it captured poverty and inequality. However, while the scholars focused on growth-poverty-inequality trilemma, this study was on unemployment and poverty in Nigeria. Furthermore, the scholars used the GMM estimation technique, while this study used the OLS regression method.

Talukdar (2012) studied effect of inflation on poverty with a panel dataset comprised of 115 developing countries over the period 1981 to 2008. The dataset comprises 10 observations for each country as the data is available at 3-year intervals. The study used income, external debt, educational attainment, and quality of governance besides inflation as independent variables and poverty as the dependent variable. It was discovered that inflation was positively correlated with poverty while income, educational attainment, and quality of governance show negative correlation with poverty in most of the specifications. The study also found that although in most of the cases, inflation shows a positive and statistically significant correlation with poverty, in the case of low-income countries, the relationship between inflation and poverty was negative and statistically insignificant under certain specifications. The study is relevant to the present study since it was on the effect of inflation on poverty. However, while the study used panel regression, this study employed the OLS estimation technique and data spanning 1986 to 2019.

Osabohien, Matthew, Gershon, Ogunbiyi and Nwosu (2019) examined agricultural development, in relationship with job creation and poverty alleviation using generalized method of moments for 15 West African countries using panel data for the period 2000 to 2016. The showed that agriculture value-added had a negative impact on poverty in the selected countries. This study is a useful guide to this study since in developing countries like Nigeria, agriculture employs a significant portion of the labour force, and is seen as a means for poverty reduction. However, the authors did not explain empirically the effects of variables like unemployment, inflation and income inequality on poverty in Nigeria.

Yelwa, Okoroafor and Awe (2015) examined the relationship between unemployment, inflation and economic growth in Nigeria. The study utilizes secondary data and Ordinary Least Squares (OLS) method was used to analyse the relationship between unemployment, inflation and economic growth. The results showed that inflation and unemployment had inverse effects on growth in Nigeria. The possible justification for the inverse effect of inflation on price level is that inflation may not be due to aggregate demand pressure but rather due to hiccups in the supply chain of goods both from the domestic and foreign supply outlets. The study found a causal linkage between inflation, unemployment and economic growth in Nigeria. The study recommended that the government should improve or continue to fine-tune macroeconomic policy instruments to achieve a sustainable and enable environment that will enhance increase in domestic output. This study is relevant to the present research because in used unemployment and inflation as explanatory variable, but while economic growth was used as the dependent variable, this study used poverty as its dependent variable.

Aliyu (2012) assessed macroeconomic policy, output and unemployment dynamics in Nigeria. The study used time series data from 1970 to 2010. The variables used in the study include transition or permanent component of the natural logarithm of unemployment and transition or permanent



component of the real GDP. The study employed a linear applying Generalized Method of Moment (GMM). The result of Okun's-type model using the transitory and permanent components of real output indicated that short run relationship between output and unemployment is negative but the long run relationship between output and unemployment is positive. The result of GMM revealed that dynamic relationship between output and unemployment is nonlinear, at unemployment below the threshold level of 5.5% the relationship is positive and becomes negative at higher level of unemployment. This study used GMM estimation method, while the present research will use the OLS technique.

Siyan, Adegiorialo and Adolphus (2016) examined the implication of unemployment and inflation on poverty level in Nigeria from 1980-2014. Vector Auto Regressive (VAR) Model was used to the estimation. The result obtained showed the proportion of the variations in Poverty, inflation and unemployment rate attributed to their respective lag values. Granger causality test was carried out from the VAR model, and the result indicated that there is a bi-causality between inflation and poverty. There was two-way causality between unemployment rate and poverty. There was one-way causality between unemployment rate and inflation rate. It was recommended government give incentives to producers to enable them increase domestic production which will bring down price level. Nigerian government should formulate and implements poverty reduction programme like social security which will reduce inflation and unemployment rate and will lead to economic growth. This study used inflation and unemployment which are variables in this study, but data covering 1980 to 2014 were used, while the present study extended the study period to 2019 considering the dynamic nature of economic variables like unemployment.

Pemberton, Sutton and Fahmy (2013) studied the impact unemployment, poverty and inequality on Gross Domestic Product in developing countries including West African Countries using Population Average estimation technique. They found that regression of the change in poverty on the unanticipated change in GDP produced a small and insignificant coefficient. The study showed that the relationship between the change in unemployment rate and the anticipated change in GDP was significant. The point estimate implies that an anticipated increase in unemployment of one percentage point is associated with a decline in GDP of 0.2 percentage points. This study is also relevant to the study because it incorporated unemployment, poverty and inequality which are the variables of interest. However, while the study focused on developing countries in West Africa, this study will focused on Nigeria.

Aiyedogbon and Ohwofasa (2012) carried out a study on poverty and unemployment situation in Nigeria using time series data spanning 1987 to 2011. Ordinary Least Square method of analysis was used. The result showed that poverty level in Nigeria was influenced by the contribution of unemployment, population as well as services to real GDP while the contribution of the manufacturing sector reduces poverty in the country. This study is relevant to the present research since it links poverty and unemployment, but it failed to capture inflation and income inequality which are key in the analysis of poverty and unemployment.

Ogbeide and Agu (2015) analysed causal relationship between poverty and inequality in Nigeria for the period of 1980 to 2010. The study adopted the Granger causality technique. The result of the study showed that there was a direct causality effect between poverty and inequality with no causality between poverty and unemployment in the country. There exist an indirect relationship between them through unemployment and life expectancy leading to inequality and inequality producing poverty. It recommended that employment should be one of the major instruments to be put into consideration in fighting poverty and inequality in Nigeria. The study is useful to the present work because it captured



poverty, unemployment and inequality in income, but it did not explain the relationship between these variables and inflation which is important in analysing the effects of poverty.

Aderounmu *et al.*, (2020) examined the drivers poverty rate in Nigeria and their implications for policy interventions using for the period of 1992 to 2016. Autoregressive Distributed Lag (ARDL) model was used. The findings revealed that unemployment increases poverty by approximately 1.4, 1.5 and 3.3 percent in the short run while inflation reduces poverty by approximately 0.08 percent in the short run. The study concluded that unemployment causes poverty while inflation, public resources devoted to austerity programmes and economic growth reduces poverty in the short run and recommended that government should put in place adequate measures to encourage more business operations in the country. This study is relevant to the current work since it focused on poverty. However, while the authors concentrated on the drivers of poverty in Nigeria, this study focused on the relationship between unemployment and poverty. Although it captured the effect of unemployment and inflation on poverty, it failed to explain the effect of unemployment on poverty.

## **2.4 Research Gaps in Literature**

Although the findings from reviewed literature suggest that unemployment and poverty nexus have been examined by scholars, both nationally and internationally, variations in research findings suggest that the debate on the nature of relationship between these variables is still inconclusive. The major challenge however, its most of these studies focused on either poverty, unemployment or poverty and unemployment alone, without linking them to variables like inflation and income inequality respectively as captured in this study. Although the empirical study of Pemberton *et al.*, (2013), captures unemployment, poverty and income inequality, it scholars concentrated on West African Countries, even when findings from conceptual and empirical studies revealed that the effect of these variables tend to be country specific, not general as the scholars assumed.

Furthermore, looking at the dynamic nature of economic like unemployment, poverty, income distribution and inflation, the period of study is important. Thus, evidence from empirical review revealed that none of the studies cover time series data for 2019, the most recent involved data for 2016. This is also important because Nigeria experienced another economic recession in 2019, which suggests that it might have had negative multiplier effects on measures of unemployment and poverty.

## **3.0 Methodology**

This study used *expost-facto* design because the research concentrated on the analysis of time series data that cannot be manipulated by the researcher. The data for the study were collected from the publications of Central Bank of Nigeria (CBN) and the National Bureau of Statistics for the periods 1986 to 2019. The choice of 1986 was predicated on the fact that most macroeconomic reforms were introduced during the Structural Adjustment Programme of 1986, while the choice of 2019 was based on the fact that the year marked a transition to another democratic rule associated with changes in macroeconomic policies.

### **3.1 Model Specification**

This study examined the effect of unemployment on poverty in Nigeria using time series data covering 1986-2019. The study therefore considered unemployment (UEM), income inequality (INQ) and inflation rate (INF) respective as the explanatory variables, while poverty (PVT) was used as the dependent variable. The explanatory variables, unemployment was proxy by the rate of unemployment in percentages, inflation was measured using the annual rate of inflation, while income



inequality was proxy by the Gini Coefficient. Similarly, poverty used as the dependent variable was measured using the annual rate of poverty in percentages. The functional form of the relationship between these variables therefore is expressed as follows:  $PVT = f(UEM, INQ, INF)$  which means poverty rate is a function of unemployment, income inequality and inflation rate, *ceteris paribus*. The mathematical specification of the model therefore is as follows:

$$\log(PVT)_t = \beta_0 + \beta_1 \log UEM_t + \beta_2 \log INQ_t + \beta_3 INF_t + \mu_t \tag{1}$$

Where:

PVT = Poverty rate at time t

UEM = Unemployment rate at time t

INQ = Income inequality at time t which is represented by the GINI coefficient

INF = Inflation rate at time t

$\beta_0$  = Intercept of the relationship

$\beta_1 - \beta_3$  = Slope parameters for the explanatory variables

The *a priori* expectation is that  $\beta_1, \beta_2, \beta_3 > 0$  which implies that an increase in unemployment (UEM), income inequality (INQ) and inflation rate (INF) respectively will have positive effect on poverty rate in Nigeria.

**Model Estimation**

This study used the Ordinary Least Square (OLS) regression technique. The justification for the use of this estimation technique is predicated on the fact that all the variables were stationary at levels. This technique was also employed in the studies of Ewubare and Opkani (2018), Makaringe and Khobai (2018) and Gwom and Gozuk (2017), but with modification of variables and time series data used in the analysis. The estimated form of the specified model therefore is expressed as follows:

$$\log(PVT)_t = \beta_0 + \beta_1 \log UEM_t + \beta_2 \log INQ_t + \beta_3 INF_t + \mu_t \tag{2}$$

**4.0 Results of Findings:**

**Table 1: Results of Descriptive Statistics**

Variable	PVT	INF	INQ	UEM
Mean	56.35000	19.70882	45.75882	11.65588
Median	55.10000	12.95000	45.10000	12.50000
Maximum	66.90000	72.80000	56.00000	23.10000
Minimum	46.30000	5.400000	39.20000	1.900000
Std. Dev.	5.542576	17.17804	4.816079	6.811985



Skewness	0.278769	0.635678	0.512646	-0.064528
Kurtosis	3.220416	3.264391	3.212837	2.578441
Jarque-Bera	3.301348	3.08529	3.367036	2.886439
Probability	0.521694	0.000072	0.306200	0.236166
Sum	1915.900	670.1000	1555.800	396.3000
Sum Sq. Dev.	1013.765	9737.807	765.4224	1531.304
Observations	34	34	34	34

The findings from Table 1 revealed that unemployment (UEM) had a mean coefficient of 11.66, income inequality (INQ) had a mean of 45.76, inflation rate (INF) had a mean of 19.71 and poverty rate (PVT) had a mean estimate of 5.35 respectively. This suggests that the mean poverty rate was higher within the study period and that inequality in income which was also high contributed more to this macroeconomic problem than unemployment. The results further showed that inflation had higher level of dispersion from its mean value because it had a coefficient of 17.18 as against, 6.81, 4.82 and 5.54 for unemployment (UEM), income inequality (INQ) and poverty (PVT) respectively. More so, the coefficients of the skewness and kurtosis were within the normal range of 0 and 3 respectively which implies that the distribution was normal.

**Table 2: Results of Augmented Dickey-Fuller (ADF) Unit Root Test**

Variable	ADF Coefficient	Critical t-values at 5% level	p-value	Order of Integration	Decision
PVT	-5.764692	-2.957110	.0000	1(0)	Stationary
UEM	-5.401763	-2.957110	.0001	1(0)	Stationary
INQ	-3.896002	-2.957110	.0069	1(0)	Stationary
INF	-3.180767	-2.971853	.0320	1(0)	Stationary

**Source:** Researcher Computation using *Eviews10*

The results of the unit root test in Table 2 revealed that all the variables, PVT, UEM, INQ and INQ were found to be stationary at level, 1(0). The p-values were significant ( $p < 0.05$ ), which suggests that unit root exists, as such, there was no need for the cointegration test as shocks in the model or deviation from the equilibrium in the long-run will quickly adjust itself back to the short-run equilibrium. Thus, there was need for the estimation of the long-run model using the conventional OLS technique.

**Table 3: Results of Multiple Ordinary Least Square Regression Analysis**



Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.85411	4.575533	2.372208	0.0243
Log(UEM)	0.131455	0.094495	1.391131	0.0144
Log(INQ)	0.962952	0.108614	1.865816	0.0000
INF	-0.015067	0.037316	-1.135788	0.8929
R-squared	0.777413	Mean dependent var		56.35000
Adjusted R-squared	0.755154	S.D. dependent var		5.542576
S.E. of regression	2.742570	Akaike info criterion		4.965799
Sum squared resid	225.6507	Schwarz criterion		5.145371
Log likelihood	-80.41858	Hannan-Quinn criter.		5.027038
F-statistic	34.92629	Durbin-Watson stat		1.992940
Prob(F-statistic)	0.000000			

**Source:** Researcher Computation using *Eviews10*

The results of OLS model estimation in Table 3 revealed that unemployment (UEM) had a coefficient of 0.131455 and a probability value (p-value) of 0.0144, income inequality (INQ) had an estimate of 0.962952 and p-value of 0.0000, while inflation rate (INF) had a value of -0.005067 and p-value of 0.8929. The implication of these estimates is that unemployment rate had a significant positive effect on poverty in Nigeria. Thus, an increase in the rate of unemployment will also leads to an increase in the poverty rate. The findings also showed that income inequality (INQ) had a significant positive relationship with poverty rate ( $p < 0.05$ ) in Nigeria. This also signifies that an increase in the inequality in income will leads to an increase in poverty in Nigeria. However, it was found that inflation had an insignificant ( $p > 0.05$ ) negative relationship with the poverty rate. This contradicted the *apriori* expectation or economic theory. Talukdar (2012) study found that inflation had a positive and statistically significant correlation with poverty. Furthermore, Durbin Watson (DW) value of 1.992940 which is approximately 2 shows that there was no serial or autocorrelation in the model that could results to spurious regression.

**Table 4: Results of Engle-Ganger Causality Test**

Null Hypothesis:	Obs	F-Statistic	Prob.
UEM does not Granger Cause PVT	32	0.24763	0.7824
PVT does not Granger Cause UEM		1.16707	0.3265



INQ does not Granger Cause PVT	32	12.6560	0.0001
PVT does not Granger Cause INQ		1.25574	0.3010
INF does not Granger Cause PVT	32	1.46204	0.2495
PVT does not Granger Cause INF		1.98708	0.1566
INQ does not Granger Cause UEM	32	0.57757	0.5680
UEM does not Granger Cause INQ		2.35377	0.1142
INF does not Granger Cause UEM	32	6.13269	0.0064
UEM does not Granger Cause INF		4.29205	0.0241
INF does not Granger Cause INQ	32	4.66602	0.0182
INQ does not Granger Cause INF		0.99256	0.3837

The findings from the granger causality test in Table 4 revealed that a unidirectional relationship exist between income inequality and poverty or INQ granger cause PVT, and a unidirectional relationship also exist between inflation (INF) and inequality in income (INQ). However, a bidirectional relationship was found between inflation (INF) and Unemployment (UEM) which means that while an increase in inflation leads to an increase in unemployment, an increase in the rate of unemployment also can leads to an increase in inflation rate. Siyan, Adegioralo and Adolphus (2016) in their study also, found that a bi-causality between inflation and poverty. The implication of this is that the Philip-curve’s assumption of a trade-off between these variables was not found in Nigeria within the study period.

**Table 5: Results of Model Diagnostic Tests**

Test Statistic	Test	Coefficient	Decision
Breusch-Godfrey L M Test	Serial Correlation	0.5300	No serial Correlation
Breusch-Pagan-Godfrey Test	Heteroscedasticity	0.7708	Homoscedastic
Ramsey RESET Test	Linearity	0.1697	Linear
Adjusted R Square Test	Goodness-of-fit	0.755154	Good-fit

**Source:** Researcher Computation using *Eviews10*

Table 5 revealed that the model was free from serial or auto correlation since  $p > 0.05$ . This implies that there was no covariance between the error terms, and thus the possibility of a spurious regression is ruled out. It was also found that the variance was not heteroscedastic. In order word, it was



homoscedastic, which means it is constant in line with the econometric properties of linear regression. Furthermore, the results showed that the model was correctly specified in its linear form because the Ramsey RESET coefficient had  $p > 0.05$ . The adjusted R square coefficient of 0.755155 indicated that the model was a good fit. This implies that 75.52% of the changes in poverty in Nigeria within the study period were attributed to changes in unemployment, income inequality and inflation rate used as explanatory variables.

#### **4.0 Discussion and Findings**

The findings from descriptive analysis revealed that unemployment (UEM) had a mean coefficient of 11.66, income inequality (INQ) had a mean of 45.76, inflation rate (INF) had a mean of 19.71 and poverty rate (PVT) had a mean estimate of 5.35. This suggests that the mean poverty rate was higher within the study period and that inequality in income which was also high contributed more to this macroeconomic problem than unemployment. Buttressing this relationship, Ejikeme (2014) study found that unemployment and poverty have direct links to security challenges in Nigeria. The results further indicated that inflation had the higher level of dispersion from its mean value because the revealed a coefficient of 17.18 as against, 6.81 for unemployment (UEM), 4.82 for income inequality (INQ) and 5.54 for poverty (PVT) respectively. The findings from the analysis of hypothesis one on the effect of unemployment on poverty revealed an estimated coefficient of 0.131 and a t-statistic coefficient of 1.391. The results showed that p-value was 0.014. Therefore, since  $p < 0.05$ , it implies that the parameter estimates falls within the rejection region and hence the null hypothesis was rejected. The conclusion drawn was that unemployment has significant positive effect on poverty in Nigeria. This agreed with the findings of Ewubare and Opkani (2018) who found in their study that poverty and unemployment have positive significant relationship with inequality. It was established that as poverty and unemployment rate increased. It was found that a unit increase in the rate of unemployment will leads to 13.1 % increase in poverty in Nigeria.

The findings from the analysis of the relationship between income inequality (INQ) and poverty (PVT) revealed a coefficient of 0.963 and t-statistic value of 1.866. The results further showed that p-value is 0.0000 which implies that  $p < 0.05$ . The findings mean that the estimated coefficient falls within the rejection region and the null hypothesis was therefore rejected. The study concluded that there is a significant positive relationship between income inequality and poverty in Nigeria. That is, an increase in income inequality will leads to an increase in the rate of poverty in the country. The findings also indicated that a unit increase in income inequality led to 96.3% increase in poverty rate in Nigeria within the study period. Farayibi and Owuru (2016) rightly asserted that poverty in Nigeria is partly a feature of high inequality which manifests in highly unequal income distribution, differing access to basic infrastructure, education, training and job opportunities. While Mansi, Hysa, Panait and Voica (2020) pointed out that income inequality and unemployment have played a major part in contributing to poor wellbeing in the world. Similarly, the findings revealed that inflation had a coefficient of -0.015 and a t-statistic value of -1.136. The results also indicated a p-value of 0.893 which means  $p > 0.05$ . Hence, the null hypothesis was accepted because the parameter estimates falls within the acceptance region. Ahmed and Mortaza (2011) in their study on inflation rate and development found that there exists a statistically significant long-run negative relationship between inflation, poverty rate. However, Umoru and Anyiwe (2013) study on the dynamics of inflation and unemployment over a period of twenty-seven years and found that the relationship between inflation and unemployment is positive and there exist stagflation in the economy. The conclusion is that inflation had insignificant negative effect on poverty in Nigeria. However, Fatukasi (2011) asserted



that inflation is an important macroeconomic variable that requires full knowledge at any point in time for its menace to be properly tackled in the country.

## **5.0 Conclusion**

Unemployment and poverty are among the major macroeconomic challenges facing Nigeria amidst vast resources. The findings revealed that the coefficient of unemployment was positive and statistically significant, while inflation had a negative and an insignificant coefficient. This implies that unemployment had a significant positive effect on poverty. The results also revealed that income inequality had a positive and a statistically significant effect on poverty. The granger causality test results revealed a unidirectional causality between income inequality and poverty, with income inequality serving as the source of the causality. This implies that it is income inequality that causes poverty in Nigeria. Also, the results showed bidirectional causality between inflation and unemployment. This means that inflation causes unemployment, and unemployment also is responsible for the increasing challenge of inflation in Nigeria. The implication of this finding is that there was no trade-off between unemployment and inflation in Nigeria within the study period. Furthermore, the findings revealed the existence of a one-way causation flowing from inflation to income inequality. This finding suggests that inflation is the major cause of income inequality in Nigeria. The study concluded that unemployment was not a major factor responsible for poverty in Nigeria between 1986 to 2019, rather inequality in income was the main determinant of poverty in the country.

## **6.0 Recommendations**

Based on the findings of this research and the conclusion drawn, the following have been recommended among others:

- i. Fiscal policy measures that will significantly help in reducing income inequality should be implemented so as to curb the increasing rates of poverty in Nigeria
- ii. Government should adopt appropriate price stability policies so as to reduce the rate of inflation that tends to affect the rate of poverty in the country.
- iii. Government should design and implement macroeconomic policies and programmes that will help in creating jobs for the teaming youth so as to reduce the raising challenge of unemployment which is central in addressing inflation that could leads to inequality in income in considering the effects of income inequality of poverty in Nigeria.

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