

Economic Growth Implication of Poverty Determinants in Nigeria: A Tripartite Analytical Approach

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Abstract

This study focused on the determinants of poverty in Nigeria such as unemployment, inflation, investment and foreign aid was conducted to investigate their implications for Nigerian economic growth. The problem that led to the study was based on the fact that both inflation and unemployment were rising simultaneously in the country therefore, compounding the existing high poverty level in Nigeria. It was the objective of the study to examine the impact of each of these determinants on poverty level and their implications for economic growth in Nigeria and recommend possible solutions. Both descriptive, diagnostic and three variants of Ordinary Least Squares methods were employed to analyze secondary data sourced from the Central Bank of Nigerian Statistical Bulletin (2019) and the World Development Indicators (2018) on the five variables of the study. The study found out that both investment and ODA were negatively related to poverty implying that they reduce poverty level as they increase in value on yearly basis during the period reviewed. On the other hand, inflation was positively related to poverty level signifying that as inflation rate rose poverty level also increased. Finally, unemployment was found to be negatively related to poverty rate, indicating that as unemployment rate was rising poverty rate was declining. This was an aberration as such tradeoff could not exist between poverty and unemployment. Unemployment supposed to worsen poverty level and not to reduce it. It was therefore, recommended that government through the Central Bank should not just rely only on the Phillip's curve prediction but should go a step further to use their monetary policy to determine the "Nonaccelerating Inflation Rate of Unemployment" (NAIRU), which was the lowest unemployment rate that could be sustained without upward pressure on inflation rate. It was an unemployment rate that was consistent with constant inflation rate, reduce poverty and enhance growth.

Keywords: NAIRU, Fully Modified OLS, Dynamic OLS, Canonical Co-integrating Regression

1. Introduction

Poverty, inflation and unemployment were some of the economic problems affecting Nigerian economy for a long time. Many researchers (Ojo, Okoronkwo & Adewumi 2016; Ugwanyi, Ezeaku & Imo 2017; Ewubare & Okpoi 2017; Stephanie 2017; Aliyu & Dansabo, 2017; Alimi 2018) have studied and suggested several solutions on how to abate these problems but to no avail. According to World Poverty Clock (2018), over 86.9 million Nigerians suffered extreme poverty as they felled below the poverty line of \$1.90 per day. World Poverty clock (2019) indicated that by February 2019, over 91 million Nigerians suffered extreme poverty and increase of about 4 million within a year. This was a serious setback in the economy.

Unemployment rate was one of the determinants of poverty and unemployment rate according to Samuelson and Nordhaus (2005) referred to "the percentage of the labour force that was unemployed, and the unemployed were the group of people who were not employed but were

actively looking for job or waiting to return to work, or sending out resumes or having a job interview. The labour force included all employed persons and those unemployed individuals who were seeking for jobs but excluded those without work who were not even looking for jobs”

Four major variables have been identified by Keynes and his followers as the major determinants of poverty which this study intended to analyze. The variables were unemployment, investment, inflation and official development assistance or foreign aid. Foreign aid or official development assistance (ODA) in particular, apart from the fact that it could alleviate poverty, could also reduce unemployment and increase investment directly in the economy all of which could later reduce the impact of inflation indirectly. Therefore, ODA seemed to be one of the most important among these four determinants of poverty. But ODA has been subjected to series of criticisms over the years on its effectiveness to alleviate poverty. The critics of foreign aid have argued that aid had been used to sustain corrupt governments among the aid recipient countries in the recent past. That aid had been diverted away from the original purposes for which it was granted to enrich the elites, the politicians and some government officials in some recipient countries (Lawson, 2016). Some other criticisms levied against foreign aid were that it was a failure. It was harmful, it was detrimental to growth, it was counterproductive, it was granted for political support (Yanguas, 2016) and so on. It was these arguments and counter arguments on the effectiveness of foreign aid in alleviating poverty level in so many countries of the world that actually triggered off the interest of this researcher to conduct this study.

To unravel the mystery, this study would answer the following questions. Has foreign aid received so far in Nigeria effective in reducing poverty level in the country? Has investment contributed positively to poverty reduction in Nigeria? Has unemployment aggravated poverty level in the country? What was the effect of inflation on the poverty level in Nigeria?

Apart from this introductory aspect of the study the other parts include the literature review, the data and method, the data analysis and discussion of findings and the conclusion of the study which were presented in section 2,3,4 and 5 respectively.

2. Literature Review

Poverty was the oldest and the most resistant economic problem that has affected developing economies Nigeria inclusive. The concept of poverty has been variously defined. World Bank (2005) described poverty as a situation that reflected a deprivation of wellbeing, a state where people lack access to food, healthcare and other basic necessities of life such as shelter, sanitation, education and political freedom. Furthermore, World Bank (2007) declared that someone's condition could be expressed as being extremely poor provided he or she lived below US\$1.00 per day or moderately poor if he/she lived on less than US \$2.00 per day. Poverty was also reflected in a situation where people live in overcrowded accommodation, degraded environments, slums, ghettos, and shanties (Addae-Korankye, 2014; Baghebo, 2015).

Nigeria Governments in the past have taken several measures to alleviate poverty level in the country. Among such poverty alleviation programmes were Operation Feed the Nation (OFN), Green Revolution, Directorate of Food, Road and Rural Infrastructure (DFRRI), Better Life Programmes (BLP), Family Economic and Advancement Programmes (FEAP), and many more. Yet, Danaan (2018) concluded that poverty remained the major obstacle to socio-economic development of Nigeria despite all these numerous poverty alleviation programmes in addition to foreign aid received from donor countries in the past.

A number of theories of poverty existed both economical and sociological but this study was limited to the three poverty theories most relevant to the existing economic situation in Nigeria. The first of them was the individual theory of poverty (Brandshaw 2006), the second was the structural theory (Makhalane (2009) while the third was the Keynesian theory of poverty. The individual theory of poverty stated that individual was responsible for their own poverty situation

they found themselves. The implication of this theory was that laziness was the major cause of poverty, for the hard working men they would earn income to maintain themselves and avoid poverty but for the idle lazy men they would be impoverished, poverty ridden and could die of starvation as there was no food for lazy man.

The proponent of the structural theory of poverty adduced the poverty situation in any country to defective social, political and economic structure of the country. The implication of the structuralist theory was that if the social sector, economic sector and political sector of the economy were defective, such economy was not different from a ten storey building whose foundation was structurally defective, it would definitely collapse and crumbled to pieces one day. This particular structuralist theory of poverty was very germane to the poverty situation in Nigeria today as these three sectors were structurally defective leading to the extreme poverty in which over 91million Nigerians live today in the face of the large influx of oil revenues and foreign aid to the government purse. Discrimination against class, gender or race were parts of the causes of structural poverty. For instance, discrimination against women in any situation they found themselves could worsen their poverty level.

Finally, the Keynesian theory of poverty stated that unemployment and investment were the two determinants of poverty. This was because unemployed person would not have access to income and so remained poor. Also, investment could generate income to the investor and so beat his poverty level. But some followers of Keynesian theory (Davies and Sanchez-Martinez, 2004) have added inflation and foreign aid as other determinants of poverty level

A number of empirical studies have been conducted on the nexus between poverty alleviation, foreign aid and economic growth around the world but with mixed results. While some studies came out with favourable results that foreign aid tended to reduce poverty level, some other studies contended that foreign aid impacted negatively by worsening poverty level in some instances. For example, Ijaiya and Ijaiya (2004) conducted research on the nexus between foreign aid and poverty reduction in Sub Saharan African countries using panel data and found that the relationship was negative. Nakamura and Macpherson (2005) examined the relationship between foreign aid and real per capita income on poverty reduction in some of the Sub-Saharan African countries using cross-sectional and panel data. They found out that real per capita income impacted positively on poverty reduction by reducing poverty while foreign aid contributed negatively to poverty alleviation by worsening poverty level in some of the countries studied. In the same vein Azam (2016) studied the impact of foreign aid on poverty alleviation in 39 developing countries for the period of 1990 – 2014 using the Fully Modified OLS method of analysis and found that foreign aid expanded poverty rather than alleviate it in those countries.

Olofin (2013) investigated the relationship between poverty reduction and foreign aid in 8 West African countries and discovered that foreign aid reduced poverty level in those countries during the period of study. Furthermore, Ugwanyi, Ezeaku, & Imo (2017) used ARDL on data for 1980-2014 and found that ODA has positive but insignificant impact on poverty reduction in Nigeria. Yew & Lau (2018) obtained data for 95 developing countries to study whether foreign aid contribute to or impede economic growth and found out that at the initial stage foreign aid impacted economic growth negatively but later on positively. Studies that also found negative impact of foreign aid on growth included Mitra & Hossain (2013), Mitra et al (2015), Langlotz (2015).

Ojo, Okonkwo, & Adewumi (2016) studied the impact of foreign aid on poverty alleviation programmes in Lagos State, Nigeria by using exploratory method on both primary and secondary data and found evidence of misappropriation of funds. Azam, Haseeb & Samsudin (2016) studied the impact of foreign remittances and foreign aid on poverty alleviation taking samples from 39 countries for the period 1990 – 2014 using panel Fully Modified OLS and found that both remittances and foreign aid contributed positively to poverty alleviation. Ugwuegbe, Okafor &

Akarogbe (2016) studied the effects of external borrowing and foreign aid on Nigerian economic growth using OLS and found evidence of positive relationship between them.

In another study of the relationship between economic growth and poverty reduction Gangas (2017) found that it was increase in growth that was prone to poverty reduction and not the initial level of economic growth. Alimi (2018) analyzed samples from 26 Sub-Saharan African countries for the period 1990-2015 using pooled mean group (PMG) estimator on dynamic panel ARDL. Both ODA and Investment have negative impact on poverty reduction in upper income countries but positive impact in low- and middle-income countries. Ewubare & Okpoi (2018) used ARDL method to analyze the impact of international remittances and ODA on poverty reduction in Nigeria and discovered that both variables reduced poverty incidence in the long run.

On the other hand, foreign aid was assistance provided by one country or organization to another country in need of help especially in the areas of social, economic, political, military and emergency situation including poverty alleviation purposes. The direction of flow is usually from the developed to the developing or underdeveloped countries of especially Africa, Asia and Latin-America. Foreign aid or official development assistance was the international transfer of capital, goods, or services from a donor country or international organization for the benefits of the recipient country or its population. The common form of foreign aid was the official development assistance (ODA) which was normally donated primarily for the purpose of economic development and poverty eradication

Some writers have argued that some foreign aids were granted to recipient countries by donor countries purely on political basis (Yanguas, 2016) that is, to receive the support of such recipient countries in the nearest future in case of political decision making at international level. Olofin (2013) asserted that despite the increasing flow of aid to poor countries both poverty and unemployment had remained on the increase. On the hand the pro-aid writers (Ijaiya & Ijaiya, 2004; Nakamura & Macpherson, 2005) have argued in favour of aid that foreign aid was beneficial to the poor recipient countries in the areas of poverty alleviation, economic growth and income inequality. Again, McGillivray (2006) contended that foreign aid had several developmental goals to achieve among which poverty reduction was significant

3. Data and Methods

This study was actually based on the individual and structural theories of poverty for explanation of how poverty emanated in the society. These two theories were hereby supported by the Keynesian theory of poverty for the purpose of providing relevant determinants of poverty in general. The Keynesian theory of poverty stated that the main determinant of poverty was unemployment. This was because unemployment could impoverish individual since unemployed people have no access to income through which they could live a better life. This theory could be specified as: $\text{poverty} = f(\text{unemployment})$. This meant that unemployment could worsen the poverty level of individuals and hence the economy as a whole. Unemployment was therefore, positively related to poverty in the sense that if unemployment was rising poverty too will be increasing as they move together in the same direction. Conversely, if unemployment was falling poverty would be reducing. Unemployed people did not earn income from any source to maintain their life, they would not have access to good food, portable water, decent accommodation, good clothing, shelter, transport, sanitation, quality education for their children, and other good qualities of life.

Therefore, unemployment was a disease that could create more diseases that could lead to early death of so many unemployed and impoverished people in the country. It was on this basis that Keynes quickly added another important determinant of poverty but which could reduce the level

of poverty in the economy. This determinant was economic growth cast in terms of investment in education, health, industry, agriculture, and infrastructure and so on. Investment in all aspect of the economy would help a great deal to generate employment for many unemployed and hence reduce poverty level in the economy. This meant that investment was negatively related to poverty level in the sense that as investment expenditure was rising poverty would be reducing. The theoretical formulation now becomes $Pov_t = f(\text{unemployment, investment})$. Some followers of Keynesian theory of poverty (Davies and Sanchez-Martinez, 2004) have added two other determinants of poverty to the initial Keynesian poverty theory.

They included inflation and public resources devoted to austerity programmes to alleviate poverty in the country. Resources devoted to austerity programme was proxy by official development assistance (ODA) received from foreign donor countries. Theoretically $Pov_t = f(\text{unemployment, investment, inflation, official development assistance})$. Inflation entered in to the model because high rate of inflation would reduce the purchasing power of the people as too much money would be chasing too few goods and therefore, reduce the welfare of the people. Again, inflation coupled with unemployment would catalyze the rate of poverty in the country.

3.1 Model Specification

This study was based on the three relevant theories of poverty that were relevant to the poverty situation in Nigeria. The first was the individual theory of poverty which maintained that whether a person or group of people was rich or poor depended on how much efforts (educational achievements, availability of jobs, willingness to work and so on) he put in to beat his poverty level. The second was the structural theory of poverty which stated that if the social, political and economic sectors of a country were defective, poverty would thrive well in such country. The very fact that over 91m people were living below poverty line in Nigeria was enough to prove that the social, political and economic sectors of the country were structurally defective. Finally, the Keynesian theory of poverty which stated that unemployment and investment were the main determinants of poverty, was used to back up the two other theories.

$$POV_t = \alpha_0 + \alpha_1 UNEMP_t + \alpha_2 INV_t + \varepsilon_{1t} \dots \dots \dots (1)$$

A priori expectation $\alpha_1 > 0$, $\alpha_2 < 0$

Following the line of Keynesian argument, this study noted that apart from unemployment and investment, other factors that could affect poverty level in Nigeria included inflation and foreign aid. Model 1 was therefore, re-specified as shown below:

$$POV_t = \beta_0 + \beta_1 UNEMP_t + \beta_2 \ln INV_t + \beta_3 INFRT + \beta_4 \ln ODA_t + \varepsilon_{2t} \quad (2)$$

A priori expectation; $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 > 0$, $\beta_4 < 0$.

Where: POV_t was Poverty rate (measured as depth of food deficit, kilocalories per person per day), $UNEMP_t$ was unemployment rate (measured as % of total labour force), INV_t was investment (measured as FDI net inflows % of GDP), $INFRT$ was inflation rate (measured as consumer prices annual %) and finally, ODA_t was official development assistance (measured as % of GNI).

The data used in this study were secondary data sourced from the Central Bank of Nigeria Statistical Bulletin (2019) and World Development Indicators (2018) for the period 1992 – 2019. The techniques of analysis employed in this study included (i) Diagnostic tests like the Augmented Dickey-Fuller unit root test for stationarity and the Johansen co-integration test for long run relationship among the variables. (ii) The Fully-Modified Ordinary Least Squares (FMOLS), the Dynamic OLS (DOLS) and the Canonical co-integrating regression (CCR) methods were used to obtain the coefficients of the variables

4. Data Analysis and Discussion of Findings

Table 1 Unit Root Test Results

Variables	ADF @ Level	ADF @ 1 st Difference	Critical Value @1%	Level of Integration	Remarks
POVTY	-10.96480		-3.699871	I (0)	Stationary
UNEMP	-4.752151		-3.711457	I (0)	Stationary
INVT	-1.239938	-5.028817	-3.699871	I (1)	Stationary
INFR	-1.990567	-5.836648	-3.699871	I (1)	Stationary
ODA	-3.575622	-5.738914	-3.711457	I (1)	Stationary

Source: Author's Computation, 2021

Table 1 revealed that Augmented Dickey-Fuller results of the unit root test for stationarity of the variables at level and at first difference. It showed that both poverty and unemployment variables were stationary at their level forms as their Augmented Dickey-Fuller values of -10.96480 and -4.752151 exceeded their critical values of -3.699871 and -3.711457 respectively. Therefore, they were integrated of order zero or I (0). On the other hand, investment, inflation rate and ODA were not stationary at their level form but at their first difference. They were integrated of order one I (1). Overall, all the variables were integrated or stationary or passed the unit root test.

Table 2: Johansen Co-integration Test Results

Hypothesized no of CE(s)	TRACE TEST				MAX-EIGEN VALUE TEST		
	Trace Statistic	Eigenvalue	0.05 critical value	Probability	Max-Eigen Statistic	0.05 critical value	Probabilities
None*	133.3103	0.776627	69.81889	0.0000	8.97176	3.87687	0.0113
At most 1*	74.33851	0.621038	47.85613	0.0000	25.22831	27.58434	0.0972
At most 2*	49.11020	0.593906	29.79707	0.0001	23.43046	21.13162	0.0233
At most 3*	25.67974	0.535463	15.49471	0.0011	19.93455	14.26460	0.0057
At most 4*	5.745187	0.198258	3.841466	0.0165	5.745167	3.841466	0.0165

Source: Author's Computation, 2021

The Johansen co-integration test results for long run relationship were presented in the tables in the appendix. While the trace test indicated 5 co-integrating equations, the max-eigen value test indicated only one co-integrating equation. This was the usual practice with Johansen co-integration test, inconsistency in the trace and max-eigen value results. But overall long run relationship existed among the variables of the study. With the favourable results of the diagnostic tests, the study proceeded to run the regression of the model using the Fully Modified OLS (FMOLS), the DOLS and the CCR as followed.

Table 3: OLS Regression Results

VARIABLES	FMOLS	DOLS	CCR
lnINVEST	-0.657465	-0.725939	-0.682917
(t)	(-5.959194)	(-13.45337)	(-5.774072)
lnODAt	-0.102487	-0.140326	-0.109126
(t)	(-2.081405)	(-3.625655)	(-2.150118)
lnUNEMPRT	-11.81549	-16.99813	-12.79883
(t)	(-5.585993)	(-4.955358)	(2.634017)
lnINFRt	0.367447	0.219228	0.360629
(t)	(6.994345)	(3.451871)	(7.365474)
R ²	0.687783	0.981940	0.672685
Adj.R ²	0.631017	0.945821	0.613173

Source: Author's Computation, 2021.

This table showed the regression results obtained for the same model but using three variants (Fully Modified Ordinary Least Squares, Dynamic Ordinary Least Squares and Canonical Co-integrating Regression) of Ordinary Least Squares methods. The variables and their corresponding t-statistics were listed in the first column while the coefficient of each variable for the three methods such as the FMOLS, DOLS and CCR were listed under them.

The three methods demonstrated the same pattern in the sense that investment, official development assistance and unemployment were all negatively related to poverty level while only inflation was positively related to poverty. But only investment, ODA and inflation complied with their *a priori* expectations while unemployment did not comply. Starting with investment, the three methods showed that investment was negatively related to poverty level such that 1% increase in investment led to 65.8%, 72.6% and 68.3% reduction in poverty using FMOLS, DOLS and CCR respectively during the period reviewed and investment was statistically significant to poverty reduction.

ODA was also negatively related to poverty level such that 1 % increase in the volume of ODA received reduced poverty level by about 10.3%, 14.03% and 10.9% using FMOLS, DOLS and CCR respectively and they were all statistically significant. Inflation was expected to be positively related to poverty and it complied as 1% increase in inflation rate brought about 36.8%, 21.9% and 36.1% increase in poverty for the three methods respectively, thereby worsening the poverty situation in the country.

The only determinant of poverty that behaved abnormally in this study was unemployment. Unemployment was expected to be positively related to poverty just like inflation, such that one percent increase in unemployment could increase poverty by certain percentage. But the results now showed that 1% increase in unemployment reduced poverty by 1181.6%, 1699.8% and 1279.9% using the three methods respectively. This was an aberration as there was no theory that predicted such a tradeoff between poverty and unemployment. Unemployment supposed to worsen poverty situation and not to improve it.

5. Conclusion and Recommendations

The objectives of this study were to determine the nexus between poverty and its determinants like unemployment, investment, inflation and foreign aid within the period of study (1992 and 2019). The major findings using the three variants of OLS were that investment reduced poverty level as expected, foreign aid also reduced poverty level as expected, inflation increased poverty level as expected too but unemployment turned out to reduce poverty as against its expectation.

which was to worsen poverty level.

This study concluded that investment and ODA improved poverty situation in Nigeria while inflation worsened it. As for unemployment the result was due to the nature of the data on unemployment used from the source which showed an upward trend and a downward trend in poverty over the period reviewed, whereas the two of them supposed to go in the same direction together.

Based on these results it was recommended that both public and private sectors including private individuals should continue to invest more in various sectors of the economy in order to continue to improve or alleviate poverty situation further. Also, Government should continue to receive more foreign aid or ODA especially aid that targets poverty alleviation specifically. Inflation and unemployment were two basic problems that worsened poverty level in the country. Government should embrace and adopt the “nonaccelerating inflation rate of unemployment” (NAIRU) which is the lowest unemployment rate that could be sustained without upward pressure on inflation. It was an unemployment rate that was consistent with constant inflation rate. All these would help to alleviate poverty rate and also help the economy to grow.

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