

Original Article

Entrepreneurship, Inclusive Growth and Poverty Reduction in Nigeria

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Abstract - Poverty is on the increase in Nigeria as 70 percent of the people are in a state of deprivation with regards to incomes, access to basic necessities of life; finance, clothing, housing, and health care and education services. This study analyzed the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria. Time series data on the key variables were extracted from reliable secondary data sources covering 37 years. The methods of data analysis are the ordinary Least Square (OLS) technique, the Augmented Dickey-Fuller (ADF) test, causality, and Johansen co-integration tests. The study finds that there is a causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria. Entrepreneurship, vocational training, and skills acquisition had an inverse and insignificant relationship with poverty in Nigeria, indicating that the more entrepreneurship practice, the less the rate of poverty or the more success in poverty reduction. This study also considers entrepreneurship as an inclusive occupation available to the youth and the aged, the rich and the poor, the educated and the artisans or apprentices. Inclusive growth had a positive and significant relationship with poverty reduction but an inverse relationship with the unemployment rate. The study recommends that the private sector, the government, and all the relevant agencies should make economic growth inclusive through entrepreneurship, small and medium scale enterprises. They should provide ways of making credit available to businesses, especially start-ups. Deliberate efforts should be made by the government at all levels to create employment opportunities through entrepreneurship as a major tool to fight against poverty and inequality in Nigeria and lastly, there is also a need for infrastructural development and social transformation especially in the rural areas where quality education, health care, roads networks, and electricity are inadequate.

Keywords - Inclusive growth, Entrepreneurship, Poverty, Poverty reduction, Private sector, Small and Medium-scale Enterprises, Manufacturing, Infrastructure

I. INTRODUCTION

Nigeria as a nation has realized the vital contributions that entrepreneurship can make to reduce poverty, create wealth, generate employment and enhance the development of infrastructure. The country has numerous business and investment potentials due to the abundant, vibrant and dynamic human and natural resources it possesses. According to Ihuga, Odii, & Njoku, (2013) Nigerians outside their country have made their marks in diverse fields such as science, technology, academics, business, and entertainment. However, entrepreneurship activities and innovative ingenuity in Nigeria have performed below expectation in the following areas: agribusiness and agricultural value-chain, solid minerals, engineering, information and communication technology, manufacturing, tourism and hospitality industry, oil and gas industry, medical and pharmaceutical industry, environmental and waste management, financial and banking industry, insurance, and stock trading, general fabrication work, machines, and tools fabrications. Though the background to entrepreneurship seems to be weak in Nigeria, entrepreneurship is seen as an effective means not only of combating unemployment, poverty, and under-development but also as a powerful driver of inclusive growth.

Entrepreneurship is the process of creating a new venture, products, services, and ideas by pooling resources and efforts together in order to generate more wealth for the transformation of the economy after a diligent consideration of the risks and bottlenecks that are available in the business environment. Global development is entering a phase, where entrepreneurship will increasingly play a more important role, (Aliko, 2016; Naude, 2011).

According to the National Bureau of Statistics (2016), “the top 10 percent of income earners were responsible for about 43 percent of total consumption expenditure.” However, several efforts have been made by the successive government since 1999 in form of policy trust like the National Poverty Eradication Program (NAPEP) during Obasanjo’s regime (1999), the “seven-point agenda” by the then-president Umaru Yar’adua (2007), the “transformation agenda” and the Subsidy



Reinvestment and Empowerment Program (SURE-P) designed by Goodluck Jonathan (2012) and the N-power program by Muhammadu Buhari (2016) to translate growth into development but history is a witness that they failed to deliver the necessary impetus for economic development as the poverty rate is on the increase, the gap between the rich and the poor has been widening and many abled persons still remain unemployed. All the poverty reduction programs sound like giving the poor fish instead of teaching them how to fish (skills acquisition). The unemployment rate rose from 15% in 2008 to 20% in 2011 (Lamido, 2013). The reason is not unlikely from the fact that the country failed to create an enabling environment for larger participation especially by the youth who form more than 60% of the workforce in the economy (Azalahu, Ngozi, John, Morufu, & Joseph, 2013).

There is no level playing field for the majority of the people due to corruption with its attendant effect on the Nigerian state cutting across many spheres such as bad governance, poor service delivery, inadequate infrastructural amenities and poor management of public enterprises, moral decadence, general underdevelopment, monopoly, discretion and lack of accountability (Gummi, Yabo & Utiya, 2015). "The arguments for a growth-centered model for lifting millions of Nigerians out of poverty, making growth inclusive appear indisputable. Entrepreneurship seems to be that model which emphasizes creativity and innovation, total factor productivity, the importance of structural transformation for economic diversification, competition, and efficiency.

It is an inclusive growth strategy in which many will be self-employed and every member of the society will partake in wealth creation and distribution and contribute significantly to the gross domestic product(GDP).

Entrepreneurship development seems to be the most powerful model that Nigeria can adopt to achieve the desired economic growth that is inclusive and that can reduce poverty, generate employment and reduce income inequality among a significant number of the populace especially the teeming youths.

Entrepreneurship development contributes to poverty reduction when it creates employment through the start-up of new businesses or the expansion of existing ones and they increase social wealth by creating new markets, new industries, new technology, new institutional reforms, new jobs, and net increases in real productivity, increases income which culminates in higher standards of living for the population. Then it is logical to state that if the number of entrepreneurs of any given country increases, the poverty indicators will decrease (Ali, and Ali, 2013). In order to break the vicious circle of poverty, an entrepreneurial spirit has to be developed

leading to the provision of self-employment, and self-reliance.

II. STATEMENT OF THE PROBLEM

Poverty is the problem variable in this study. In Nigeria, widespread poverty is a reality. It is a reality that depicts the lack of food, clothing, shelter, education, and other basic necessities. The absolute poor lack the most basic necessities of life to a degree that it can be wondered how they manage to survive. There are several effects and deficiencies associated with poverty, one of the main effects of poverty is poor health status, as is reflected in Nigeria's high infant mortality and low life expectancy. Others include unemployment, high crime rate, and general insecurity. Poor people in Nigeria face several health issues as they lack basic health services and infrastructure. Associated also with health challenges is the problem of malnutrition. Most children do not have access to adequate nutrition characterized by food insecurity. Their health has become a low priority and as they have little or no choices, they live with whatever they are provided with. These are a demarcation from the demand for inclusive and sustainable growth. Paradoxically, poverty, inequality, and wealth in Nigeria contradict the abundant wealth of both human and natural resources. In other words, there is poverty in the midst of plenty and inequality in the face of economic growth. Nigeria can be said to be too rich in natural resources to be poor and too poor in human development indices to be rich. Also, Nigeria has had complex and unstable politics. Frequent changes in governments have led to sharp changes in poverty reduction policies, which have impacted adversely on the population and have worsened income distribution. There are policy distortions and inefficiencies in resource allocation resulting in overdependence on imported finished goods and underutilization of existing domestic capacities. There is a need to emphasize local content initiatives through entrepreneurship for poverty reduction, which informed this study.

Nigeria is bestowed with rich human and natural resources, such that, it is particularly disturbing and ironic that Nigeria is still rated as one of the poorest countries of the world, placed at 152 positions out of 188 countries on HDI ranking. Despite the opportunity offered by its significant oil revenues over the years, Nigeria has not put in place the factors necessary for creating an inclusive growth process. Participation in the labor force is quite low, with a large informal sector and much of the population working hard but unable to pull their families out of poverty. Universities and other tertiary institutions in Nigeria produce an average of 2000,000 graduates each year while another 1000,000 school leavers or college graduates are turned out each year, without the hope of any job.

The frustration of these jobless graduates could be cushioned by entrepreneurship. This is why this study is initiated.

A. Research Questions

The following research questions shall guide this study:

- i. Does entrepreneurship have any significant relationship with poverty reduction in Nigeria?
- ii. Is there any causal relationship between entrepreneurship and Inclusive growth in Nigeria?
- iii. To what extent does inclusive growth impact poverty reduction in Nigeria?

B. Objectives of the Study

The main objective of the study is to investigate the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria.

Other specific objectives are:

- i. To examine any significant relationship between entrepreneurship and poverty reduction in Nigeria
- ii. To establish whether there is any causal relationship between entrepreneurship and Inclusive Growth in Nigeria
- iii. To evaluate the impact of Inclusive growth on poverty reduction in Nigeria

C. Research Hypotheses

For the purpose of this study, the researcher develops the following hypotheses:

1. **H₀**: Entrepreneurship has no significant impact on poverty reduction in Nigeria.

H₁: Entrepreneurship has a significant impact on poverty reduction in Nigeria.

2. **H₀**: there is no significant relationship between entrepreneurship and inclusive growth in Nigeria.

H₁: there is a significant relationship between entrepreneurship and inclusive growth in Nigeria.

3. **H₀**: there is no significant relationship between inclusive growth and poverty reduction in Nigeria.

H₁: there is a significant relationship between inclusive growth and poverty reduction in Nigeria.

D. Significance of Study

This study will be of valuable help to various stakeholders in Nigeria's fight against poverty. It will be of benefit to the governments at all levels in formulating policies that aim at promoting entrepreneurship activities in Nigeria. Besides, the

study can help the government in terms of re-evaluating their inputs to policymaking towards entrepreneurship, inclusive growth, and poverty reduction for the overall good of the nation. Graduates, the unemployed, upcoming entrepreneurs, and the academia, as well as the general public, stand to benefit from this study.

III. LITERATURE REVIEW

According to Nweze and Ojowu (2002), poverty can be subdivided into three namely: absolute poverty, relative poverty, and subjective poverty. Absolute poverty is a situation where an individual is constrained with limited financial resources and is unable to meet his/her basic needs of life. Such as food, clothes, shelter, and health. According to World Bank (1996) individuals, families or groups are considered to be in absolute poverty when they lack the resources, particularly real income to obtain their basic needs, needed to enjoy some fixed minimum standard of living by a given society. Ajakaiye and Adeyeye (2000) conceptualize poverty as a function of education, health, child mortality, and other demographic variables.

Poverty reduction is a deliberate policy intervention, a process of halving or completely eliminating absolute economic deprivation in a state, region, or continent, which the individuals can now independently have access to the basic human needs such as food, clothing, shelter, education, health, and infrastructure. Poverty reduction policy, or poverty alleviation strategy, is a set of measures, economic, political, and humanitarian, intended to permanently lift people out of poverty. In aggregation, they are those strategies, policies, and programs that raise or are intended to improve the lives of the absolute poor. Put differently, they are ways of enabling the poor to create wealth for themselves as a means of ending poverty or becoming self-reliant, for example, policies on entrepreneurship education, infrastructure, and employment and income policies. Income policies include policies to reduce income inequality, diversify sources of income, increase per capita income, and improve in real wages/minimum wage while employment policies include all strategies and programs, economic and political, directed towards formal education, skills acquisition, vocational training, self-employment and the provision of infrastructure, ease of doing business, political and economic stability, and security.

Ravallion and Chen (2003), in their work "Measuring Pro-Poor Growth", emphasized the need to achieve a growth rate that reduces poverty. The measure of the rate of pro-poor growth proposed by these scholars equals the ordinary rate of growth times a "distributional correction" given by the ratio of the actual change in poverty over time to the change that would have been observed under distribution neutrality. If growth is pro-poor, then the

rate of pro-poor growth exceeds the ordinary rate of growth. If the distributional shifts go against the poor, then it is lower than the ordinary rate of growth. In essence, pro-poor growth tallies with the objectives of inclusive growth in poverty alleviation and reducing inequality. Economic growth is not an issue, but how this growth can reduce poverty and inequality is the problem in Nigeria.

Empirical evidence shows that poverty is higher when growth is biased towards labour-intensive sectors (Narayan, 2013). It is easier for poor people to benefit from growth if growth occurs where they are located (Christiaensen & Demery, 2007); the East Asian development experience suggests that targeting SMEs can reduce poverty and inequality, making growth inclusive. Ali, (2013) in his research entitled "Entrepreneurship Development and Poverty Reduction: Empirical Survey from Somalia", using correlation analysis of 80 SMEs found that there was a weak positive correlation between entrepreneurship development with poverty reduction. Adofu (2013) in his research entitled "Alleviating Poverty through the use of Entrepreneurship Skill Acquisition in Kogi State, Nigeria" found that 65% of respondents lacked entrepreneurial skills, especially the youth, which is closely related to the high level of poverty in the study area. Raheem, (2001) carried out a study on "Poverty, Unemployment, and Growth in Nigeria: The Role of Entrepreneurship". He found that entrepreneurial activity can absorb the unemployed labor force. The study also found that the optimal positive role of entrepreneurship cannot be realized because of problems associated with a lack of credit facilities and low support from various stakeholders. Beck, DemirgucKunt, and Levine (2005) examined through a cross-country analysis the link between SMEs, economic growth, and poverty alleviation and found a significant relationship between SME size and economic development, but not with poverty headcount. Yanya, (2013) leveraged equations from Beck with entrepreneurship and found in Thailand a significant relationship between the new firm establishment and decreases in income inequality and the number of people in poverty.

A. Challenges to Entrepreneurship Development in Nigeria

Osalor (2008) states that disinterest in the formal economy reflects the status of Nigeria's policies and tax regime, which have long been deemed detrimental to the growth of viable enterprises. Even more disturbing is the fact that this continues to be the case despite the energetic reforms process initiated after the return to democracy. It is more than evident that little by little actions are lopsided to meeting the challenges that Nigeria has set itself up to. The following are the most important obstacles facing rapid entrepreneurial development:

- i. Absence of a pro-active regulatory environment that encourages innovative enterprise development at the grassroots level
- ii. Significant infrastructural deficits (especially with regards to roads and electricity) and systemic irregularities inimical to small businesses.
- iii. The presence of administrative and trade barriers curtail capacity building and inhibit access to technical support.
- iv. Absence of regulatory mechanisms for effective oversight of enterprise development initiatives, especially those in the MSME space.
- v. Poor access to vocational and skills-development training for rural and urban youths involved in the informal economy.
- vi. Rampant political and bureaucratic corruption, together with the absence of social consensus on important macroeconomic policy issues. More than 73% of Nigerians featuring in the Gallup survey conceded access to finance was the single-most-important hurdle in the way to set up successful enterprises. More important is the fact that about 60% of respondents claimed that current policies, despite the government's focus on enterprise development, do not make it easy to start a business in Nigeria. (Osalor, 2008)

B. Social Costs of Poverty

Table 1. Social Costs of Poverty

SOCIAL COSTS OF POVERTY		
1	Poverty undermines national security	<ul style="list-style-type: none"> i. It is certainly a contributory Cause of prevalence and continuing escalation of violent crime against both property and life. ii. The poor and deprived segment of society, no doubt, constitutes a ready pool from which young criminals are recruited continuously
2	Poverty hampers both human development and the formation of social capital	<ul style="list-style-type: none"> i. It reproduces illiteracy and ignorance (e.g. through the ‘street-children’ phenomenon It impairs health and the ability to work (the prevalence of counter-productive health-seeking behavior, which is poverty-driven) ii. It demoralizes the poor and creates serious motivational and productivity problems for the economy at large and for the political system iii. Poverty poses a serious threat to the nation’s social solidarity and political stability
3	Poverty leads to inequality and social stratification, the emergence of a deviant culture of poverty, and the tendency of the poor to congregate.	<ul style="list-style-type: none"> i. Thus, through various means, poverty tends to reduce social solidarity; increase social conflict, especially along the poor/non-poor demarcation; generate a social crisis and threaten the social order. ii. The disruptive potential of poverty is also enhanced by the exposure of the poor to callous manipulation by professional politicians.
4	Poverty hampers economic growth	<ul style="list-style-type: none"> i. The increased cost of protecting life, investment, and other property tends to raise the cost of doing business in Nigeria, reduce profitability and discourage investment. ii. It retards human development and leads to a low level of social capital iii. The income-poverty of the masses is one of the fundamental causes of the low/inadequate aggregate demand, which has grounded most manufacturing enterprises in Nigeria.
5	Poverty causes degradation of the environment and threat to life	<ul style="list-style-type: none"> i. Slums and the degradation of the urban environment ii. Deforestation and the rural environment iii. The link between poverty and prevailing ignorance regarding environmental issues
6	Other costs	<ul style="list-style-type: none"> i. Escalation of prostitution and its effects on the health status of society. ii. Worsening of the HIV/AIDS problem and other major health problems of the population. iii. Religious fanaticism and intolerance iv. The costs of dependency (to the non-poor) v. The weakening of family life, especially by conflicts and tensions arising mainly from income-poverty

IV. METHODOLOGY

This study adopts a quantitative research design with some selected variables. The dependent variable is Poverty Index (PI), while the explanatory variables include loan to the private sector (LPS), Manufacturing output (MANQ), Income inequality Index (YI) which is proxied by the Gini coefficient. The Gini index is the coefficient for income inequality; it measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. It is suitable for this study because in Nigeria only a few population work and earns sufficient income. It is a proxy for inclusive growth and lastly Unemployment Rate (UEMPR). Annual time series data were sourced for the period (1990-2017). The secondary data is obtained primarily from the National Bureau

of Statistics (NBS), CBN statistical bulletin, CBN Annual Reports, and Statement of Accounts (various issues). Econometrics technique (OLS) was used for the estimation of the parameters of the model with the aid of the Econometric-reviews (E-views 9) software. In addition, some basic econometrics diagnostic tests such as the Augmented Dicker Fuller (ADF) unit root test, co-integration tests, and error

Correction Mechanism (ECM) were carried out before running the Ordinary Least Square(OLS)

Analysis. These diagnostic tests were carried out in order to avoid spurious regression results.

A. Model Specification

The main aim of the study is to examine the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria

for the period 1990-2018. In order to investigate the relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria, the following model is specified for data analysis:

$$PI_t = f(LPS_t, MANQ_t, GINI_t, UEMPR_t) - \dots (1)$$

In econometrics form, equation (1) can be written as :

$$PI_t = \beta_0 - \beta_1 LPS_t - \beta_2 MANQ_t + \beta_3 GINI_t + \beta_4 UEMPR_t + U_t \dots (2)$$

With apriori expectation of $\beta_1 < 0, \beta_2 < 0, \beta_3 > 0, \beta_4 > 0$

Where:

$\beta_1 - \beta_4$ = Parameter estimates for the explanatory variables.

In equation (2) above, β_0 is a constant while $\beta_1, \beta_2, \beta_3,$ and β_4 are the parameters of the explanatory variables to be estimated in conformity with the second and third hypotheses which states that there is no significant relationship between entrepreneurship and inclusive growth in Nigeria and there is no significant relationship between entrepreneurship and poverty reduction in Nigeria. $\beta_1, \beta_2 < 0,$ while $\beta_3, \beta_4 > 0.$

The study incorporated variables as Poverty Index (PI), Loan to the Private Sector (LPS), manufacturing output (MANQ), and Income inequality Index (YI) which is proxied by Gini coefficient index and Unemployment rate (UNEMPR). The apriori expectations are explained thus:

- i. Income inequality: This is an indicator of how material resources are distributed across the entire society. It is measured by the Gini coefficient which is 0, when everybody has equal income, and 1 when one individual has all the income. It has a positive relationship with the dependent variable-poverty index

- PI_t = Poverty Index in period t
- LPS_t = Loan to the private sector in period t
- $MANQ_t$ = Manufacturing output in period t
- $GINI_t$ = Coefficient for income inequality in period t
- $UEMPR_t$ = Unemployment Rate in period t
- U_t = error term that captured the other variables not included in equation (2)

Independent Variables

- ii. National Poverty Index was obtained from the National poverty headcount. Here, poverty represents the condition in which income is too meager to meet the fundamental or basic needs of food, housing, clothing, health care, and at least access to basic education. It is the dependent variable.
- iii. Unemployment Rate refers to the ratio of labor force willing, able, and vigorously looking for work but could not find work for at least 20 hours during the reference period. It also has a positive relationship with the poverty index.
- iv. Loan to the private sector. This is a sum of the credits supply made available to enterprises at affordable interest rates. It is expected that the more the loans to the private sector, the less the poverty index, an inverse relationship.
- v. Manufacturing output. This represents the contribution of manufacturing enterprises to the gross domestic product. It is expected to have an inverse or negative relationship with the poverty index.

B. Results

Table 5.2.1 Result of Stationarity Test

Variable	ADF Test Statistic value	p-Value	5% Critical Value	Order of Cointegration	Remark
PI	-5.281473	0.0002	-2.981038	1(1)	Stationary
LPS	-8.543841	0.0000	-2.981038	1(1)	Stationary
GINI	-3.237819	0.0295	-2.986225	1(1)	Stationary
MANQ	-5.082885	0.0004	-2.981038	1(1)	Stationary
UNEM PR	-4.887781	0.0006	-2.981038	1(1)	Stationary

Source: Author's Computation using Eviews8

Table 5.2.1 is the ADF unit root test results for the series used in this study. The apriori expectation when using the ADF test is that a variable is stationary when the value of the ADF test statistic is greater than the critical value at 5%. The results of the unit root test for stationarity using ADF in

table 4.3 shows that the entire variable (Manufacturing Output, Gini Unemployment Rate, Poverty Index and Loans to Private Sector) were stationary at first difference with ADF values are higher than their critical values at 5% significance,

hence the need to test for the existence of long-run cointegration among the variables. The study

employed the Johansen and Juselius (1990) cointegration test for the existence of long-run cointegration among the variables.

b) Cointegration Test

A Co-integration test is necessary to establish whether there exists a long-run equilibrium relationship among variables used in the model. The test was applied to both models because all of the variables under consideration exhibited unit root at the first difference (Tables 5.3 and 5.4). This

procedure was advocated by Greene (2003) and Gujarati (2004) where a regress and its regressors

were integrated of order 1(1). The co-integration test results are shown in table 5.2.2 and 5.2.3

Table 5.2.2 Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.651582	73.58626	69.81889	0.0242
At most 1	0.410345	35.62959	47.85613	0.4152
At most 2	0.268380	16.61376	29.79707	0.6684
At most 3	0.129288	5.363969	15.49471	0.7690
At most 4	0.010499	0.379974	3.841466	0.5376

Table 5.2.3 Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.651582	37.95667	33.87687	0.0154
At most 1	0.410345	19.01583	27.58434	0.4133
At most 2	0.268380	11.24979	21.13162	0.6224
At most 3	0.129288	4.983996	14.26460	0.7439
At most 4	0.010499	0.379974	3.841466	0.5376

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

Table 5.2.2 shows the result of the Johansen and Julius cointegration test. The null hypothesis of trace and max-eigenvalue is that there is no cointegration among the variables under examination. The result from table 5.2.3 shows a long-run association among the elements used with one trace statistic value higher than its critical value at a 5% level of significance.

Pairwise Granger Causality Test

The Granger technique is adopted in the study to determine the direction of causation between

variables as specified in the study. Generally, the Pairwise Granger test helps to determine the direction of causality between the variables in the specified model. According to Gujarati and Porter (2009), the rule of the Granger Causality test states that the p-value must be less than 0.05 in order to reject the null hypothesis. Rejecting the null hypothesis means that one of the variable actually granger cause the other while accepting the null confirms that there is no causality between the variables at a 5% level of significance.

Table 5.2.4 Pairwise Granger Causality Test Results

Null Hypothesis:	F-Statistic	Prob.	Decision
LPS does not Granger Cause GINI	0.30609	0.7386	Accept
GINI does not Granger Cause LPS	0.23944	0.7886	Accept
MANQ does not Granger Cause GINI	0.43965	0.6483	Accept
GINI does not Granger Cause MANQ	0.00573	0.9943	Accept
PI does not Granger Cause GINI	2.40420	0.1075	Accept
GINI does not Granger Cause PI	15.8560	2.E-05	Accept
UNEMPR does not Granger Cause GINI	2.43858	0.1044	Accept
GINI does not Granger Cause UNEMPR	0.51416	0.6032	Accept
MANQ does not Granger Cause LPS	0.22513	0.7998	Accept
LPS does not Granger Cause MANQ	1.83747	0.1767	Accept
PI does not Granger Cause LPS	0.05731	0.9444	Accept

LPS does not Granger Cause PI	0.24360	0.7853	Accept
UNEMPR does not Granger Cause LPS	0.35045	0.7072	Accept
LPS does not Granger Cause UNEMPR	3.49820	0.0431	Reject
PI does not Granger Cause MANQ	0.13140	0.8774	Accept
MANQ does not Granger Cause PI	0.88495	0.4232	Accept
UNEMPR does not Granger Cause MANQ	3.05402	0.0621	Accept
MANQ does not Granger Cause UNEMPR	0.73427	0.4883	Accept
UNEMPR does not Granger Cause PI	0.24376	0.7852	Accept
PI does not Granger Cause UNEMPR	0.76019	0.4764	Accept

Table 5.2.4 depicts the test result for causal association among the elements employing Granger Pairwise causality test. The result from Table 5.2.4 showed that the p-value of loans to the private sector is 0.7386 which means that it is greater than 0.05. We, therefore, accept the null hypothesis and reject the alternative hypothesis. This, therefore, implies that loans to the private sector do not Granger Cause inequality within the period of study, while inequality does not Granger Cause loans to the private sector which indicates that inequality has a probability value of 0.7886 greater than 0.05. The table further shows that manufacturing output does not Granger cause income inequality with a probability value of 0.6483

as well as income inequality which does not Granger cause manufacturing output with 0.9943. The table further revealed that there is a causal relationship between LPS and GINI, MANQ and GINI, PI and GINI, UNEMPR and GINI, MANQ and LPS, PI and LPS, UNEMPR and LPS, and PI and MANQ in the Nigerian economy within the study period, with UNEMPR and LPS being significant at the 5% level and all the rest are insignificant, with probability values greater than 5% level of significance.

Ordinary Least Square (OLS) Test

The results of the estimated model using the OLS method are presented in Table 5.6

Table 5.2.5 The Results of the Estimated Model using (OLS) Method for Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.750047	4.922692	0.761788	0.4516
GINI	1.109175	0.102592	10.81153	0.0000
LPS	-0.061106	0.096854	-0.630904	0.5324
MANQ	-0.000203	0.000419	-0.484967	0.6309
UNEMPR	0.229981	0.126730	1.814731	0.0787
R-squared	0.830184	Mean dependent var	53.63789	
Adjusted R-squared	0.809601	S.D. dependent var	6.988171	
S.E. of regression	3.049272	Akaike info criterion	5.189762	
Sum squared resid	306.8360	Schwarz criterion	5.405234	
Log-likelihood	-93.60548	Hannan-Quinn criter.	5.266426	
F-statistic	40.33211	Durbin-Watson stat	0.950372	
Prob(F-statistic)	0.000000			

Source: Author's Computation using Eviews8

The results of the Ordinary Least Square (OLS) estimates in table 5.2.5 showed that the variables are in conformity with the *a priori* expectation. Considering the *a priori* expectation as stated in this study, it is expected that there should be a positive relationship between income inequality (GINI) and Poverty Index. So also unemployment rate (UNEMPR) has a positive relationship with the poverty index. In line with the *a priori* expectation, income inequality as proxied by GINI and

unemployment rate (UNEMPR) has a positive relationship of 1.109175 and 0.229981 respectively with the GINI index being significant at the 5% level of significance while UNEMPR is insignificant at the 5% level of significance. This implies that a unit increase in unemployment will lead to a 22 unit increase in the poverty rate. The positive sign of income inequality proxied by the GINI index implies that a unit increase in GINI will lead to a 110 unit increase in the poverty index. The result is also in line with our *a priori* expectation that loans to the private sector (LPS) and manufacturing output (MANQ) have a negative relationship -0.061106 and

0.000203 respectively with the poverty index, even though both are insignificant at the 5% level of significance. The negative signs of LPS and MANQ indicate that a unit increase in LPS and MANQ will lead to a 6 and 0002 unit reduction in poverty respectively. From the OLS results, therefore, the multiple regression equation becomes:

$$PI_t = 3.750047 - 0.061106LPS_t - 0.000203MANQ_t + 11.109175GINI_t + 0.229981UEMPR_t$$

Based on the equation, the coefficient of the constant or intercept is 3.750047, implying that if the explanatory variables are held constant, PI would be 3.750047 units. This shows that if the value of the explanatory variables; LPS, GINI, MANQ and UNEMPR, remains unchanged, the value of PI would be 3.750047 units.

In terms of the goodness of fit of the model, the test result showed that the R-squared (R^2) value is 0.8302 or 83 percent, implying that about 83 percent of the variation in the level of poverty in Nigeria is explained by the explanatory variable in the model. The adjusted R^2 value of 0.8096 or 80 percent indicates that even when the model is adjusted; it still has a good fit. Hence, the model is said to be correctly specified.

V. SUMMARY OF FINDINGS

This study examined the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria, using annual time series data for the period 1980-2017. The main objective of the study was to examine the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria. To achieve this objective and other specific objectives, the study employed the use of the multiple regression model – ordinary least square (OLS) method of data analysis. The following constitute the findings of the study;

- i. The study revealed that entrepreneurship (LPS) had an inverse insignificant relationship with poverty reduction (PI) in Nigeria within the period of study. This means that entrepreneurship is a vital tool for poverty reduction in Nigeria. Thus, the empirical result establishes the relationship between small businesses, and the incidence of poverty and this was in agreement with the apriori expectation of a negative sign. The findings also confirmed that manufacturing output (MANQ) had a negative insignificant relationship with poverty reduction (PI) in Nigeria. It was revealed that there was a positive significant relationship between entrepreneurship (LPS) and inclusive growth (GINI) in Nigeria which was represented by the coefficient of income inequality. This was in consonance with the apriori expectation of a positive sign

while the unemployment rate impacts positively on poverty reduction in Nigeria for the period under study.

- ii. The study also finds that a unidirectional causal relationship existed between entrepreneurship and inclusive growth in Nigeria. The result showed that there was a bidirectional causal relationship that existed between inclusive (GINI) growth and poverty reduction (LPS) in Nigeria within the period of study. In other words, effective policies that are aimed at reducing poverty have a positive multiplier effect on inclusive growth and vice versa.
- iii. The study finds that there was a unidirectional relationship between entrepreneurship and the unemployment rate in Nigeria within the period under study. There was no causal relationship between manufacturing output (MANQ) and poverty reduction (LPS) in Nigeria.
- iv. The model passed such econometric post-diagnostic tests as Multicollinearity, Breush-Godfrey, and Arch LM tests which indicated the absence of collinearity, serial correlation, and heteroskedasticity respectively. The study also found that the model exhibits the goodness of fit of model.

VI. CONCLUSION

Adopting the Ordinary Least Square, Unit root, Co-integration, and Granger causality test to analyze the data from CBN Statistical bulletin and World Bank, the study specifically determined the causal relationship between entrepreneurship, inclusive growth, and poverty reduction in Nigeria. The OLS result indicated that inequality was positively related to the poverty index and significant. The unemployment rate was negatively related to the poverty index but not significant and manufacturing output was also negatively related to poverty but insignificant at the 5% level. Furthermore, it was established from the result that as inequality increased, the poverty rate correspondingly increased, inferring closed links among these variables. The study also concluded that loans to the private sector can stimulate investment which will, in turn, lead to an increase in gross national income. This will happen if the only government remains committed to its role of providing the necessary macroeconomic environment, infrastructures, and proper policy implementation.

Based on the analysis carried out, this study concludes that promoting entrepreneurship can lead to inclusive growth and poverty reduction in Nigeria. However, the realization of this objective is hampered by corruption, erratic power supply, and

inadequate credit to private sectors. Entrepreneurship should be the key to the economic growth process in Nigeria. Entrepreneurship development will help in reducing poverty and improving the socio-economic status of both individuals as well as society.

VII. RECOMMENDATIONS

- i. Government and all the relevant agencies should provide ways of making credit available to the citizenry and also pursue policies of financial inclusion to accommodate the poor and the vulnerable either through deposit money banks or special development banks to reduce inequality in the country. Government should set mechanisms in action in order to make sure that loans are utilized for the purpose for which they are acquired. This is to prevent borrowed funds from being mismanaged. Therefore, to accelerate inclusive growth, it is necessary for the Nigerian government to strengthen its financial sector through policies and reforms with regards to domestic credit to the private sector and broad money supply in order to reposition the economy for inclusive growth.
- ii. Policy measures by the government towards the combat of poverty and inequality should not neglect the usefulness of employment generation as they are all interwoven economic problems facing the country. Deliberate efforts should be made by the government at all levels to create employment opportunities as a major tool to fight against poverty and inequality in Nigeria.
- iii. There is also a need for infrastructural development and socio-economic transformation especially in the rural areas where quality education, health care, roads networks, and electricity are inadequate. These will help encourage larger economic participation by rural dwellers that are absolutely poor to achieve inclusive growth objectives. For growth to be inclusive there is a need to develop economic infrastructure so that all sections of the society will have access to safe drinking water, electricity, housing, toilet, transport, and financial inclusion.
- iv. There is also the need for economic diversification to break the chains of its mono-cultural dependence on crude oil in Nigeria. There is a need for the government to create an enabling environment and more opportunities for the poor to actively participate and engage in various sectors of the economy and also diversify and secure their income.

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APPENDIX

Table showing manufacturing output (Billion Naira), Loans to Private sector (LPS, %), Poverty index (PI, %), Unemployment Rate (UNEMPR, %) and GINI index (%)

YEAR	MANQ (N' B)	LPS (% of GDP)	PI (%)	UNEMPR (%)	GINI (%)
1980	1,512.42	14.4653	40.2	6.4	36.2
1981	1,558.70	15.6246	41.88	5.2	36.7
1982	1,764.89	17.9182	41.96	4.3	37.2
1983	1,167.89	17.0042	43.08	6.4	37.2
1984	1,018.91	16.1559	44.08	6.2	38.2
1985	1,416.79	15.4259	44.6	6.1	38.7
1986	1,373.66	20.0349	45.3	5.3	39.2
1987	1,398.10	14.4364	46.3	7	39.7
1988	1,618.25	12.9412	47.3	5.1	40.2
1989	1,665.09	9.24389	48.3	4.5	40.7
1990	1,670.73	8.70966	50.3	3.5	41.2
1991	1,829.34	9.39786	51.1	3.1	41.7
1992	1,758.61	13.4319	57.1	3.5	45
1993	1,706.70	12.3174	54.76	3.4	46.9
1994	1,670.72	15.0348	55.9	3.2	47.02
1995	1,592.49	10.0462	57.1	1.9	47.73
1996	1,599.94	9.01352	63.5	2.8	51.9
1997	1,609.83	10.688	60.6	3.4	52.1
1998	1,412.44	12.9998	61.9	3.5	53.5
1999	1,459.02	13.5208	63.1	17.6	55
2000	1,505.66	12.3503	64.4	18.1	56
2001	1,666.49	16.5726	65.7	13.7	53.2
2002	1,813.81	13.0442	66.9	12.2	45.05
2003	1,918.09	13.8157	53.5	14.8	40.01
2004	2,143.45	13.1373	53.3	11.8	40.06
2005	2,350.99	13.2359	53.02	11.9	40.72
2006	2,574.29	13.1833	53.12	12.3	41.74
2007	2,823.53	25.2488	52.99	12.7	41.83
2008	3,079.04	33.7511	53.6	14.7	42.9
2009	3,323.41	38.3866	53.5	19.7	43
2010	3,578.64	15.4216	54.43	21.1	43.9
2011	4,216.19	12.4763	54.9	15.8	44.5
2012	4,783.66	11.7971	55.01	16.2	45.1
2013	5,826.36	12.5934	55.21	17.7	45.7
2014	6,684.22	14.5088	55.9	17.1	46.3
2015	6,586.62	14.2093	55.8	17.6	46.9
2016	6,302.23	15.6796	57.2	18.53	47.5
2017	6,302.23	14.2079	61.2	18.5	48.1

Sources: World Bank Group (www.worldbank.com), CBN Statistical Bulletin (2017) and www.cbn.gov.ng