Relationship between Poverty and Unemployment in Niger State

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Abstract

The nature of the relationship between the twin problem of poverty and unemployment has been unclear recently. Although the nature of the relationship has received more extensive scholarly attention worldwide and even in Nigeria, no study raised on the nature of its relationship in the region (state) which might produce an inverse relationship different from the proportionate obtained in previous studies. Hence the study on the relationship between poverty and unemployment in Niger state, Nigeria, using descriptive and a logistics regression model to analyze the 102 cross-sectional data randomly collected from the three geopolitical regions in the state. The result thus shows the existence of a proportionate relationship between poverty and unemployment, following the pattern of previous studies. The study thus recommends the actions of the policymakers in creating vocational skill programs to the aid-curb unemployment problem in the state. Accordingly, the increase in expenditure on education and the minimum wage as well recommended.

Keywords: poverty, unemployment, logit model

Abstrak

Sifat hubungan antara masalah kemiskinan dan pengangguran masih belum jelas. Meskipun sifat hubungan telah mendapatkan perhatian yang luas di seluruh dunia dan bahkan di Nigeria, tidak ada penelitian yang diajukan tentang sifat hubungannya di wilayah (negara bagian) yang mungkin menghasilkan hubungan terbalik yang berbeda dari proporsi yang diperoleh dalam penelitian sebelumnya. Oleh karena itu penelitian ini menguji tentang hubungan antara kemiskinan dan pengangguran di negara bagian Nigeria, Nigeria, menggunakan model regresi deskriptif dan logistik untuk menganalisis 102 data cross-sectional yang dikumpulkan secara acak dari tiga wilayah geo-politik di negara bagian. Hasilnya dengan demikian menunjukkan adanya hubungan proporsional antara kemiskinan dan pengangguran, mengikuti pola penelitian sebelumnya. Studi ini dengan demikian merekomendasikan tindakan para pembuat kebijakan dalam menciptakan program keterampilan kejuruan untuk membantu mengurangi masalah pengangguran di negara bagian. Oleh karenanya, peningkatan pengeluaran untuk pendidikan dan upah minimum juga disarankan.

Kata Kunci: kemiskinan, pengangguran, model logit

Introduction

Over the years, the relationship between poverty and unemployment have been seemingly unclear, since being unemployed usually result to fall in one's living standard due to the absence of income, and it is as well possible for one to be employed and still be poor. Even with the policy of unemployment reduction and poverty alleviation being the core goals in many developing countries, attaining this objective have relatively defeated with the high incidence of both poverty and unemployment (Agenor, 2004).

With Nigerian economy being the biggest in Africa, it still battles with the twin problem of poverty and unemployment, even with the presence of numerous natural resources, human resources in term of the vast population of the country and the economic growth. According to the Harmonized National Living Standard Survey (HNLSS) of 2009/2010, about 60.9% of the country's population live in "absolute poverty," coupled with 14.2% unemployment rate, which is a massive increase from its 6.0% in 2011 (NBS, 2017). Although it generally accepted that unemployment usually disrupts the economic well-being of many households (Ryscayage, 1982), being employed does not guarantee the escape from poverty. Perhaps the seemingly link between these two variables makes it a twin problem since countries recording high unemployment rates especially in the double-digit are bedeviled with high rates of poverty. Though Nigeria is not the only economy faced with this twin problem, as it constitutes the fundamental challenges faced by most developing nations and some developed nations in recent times, the massive disposal of physical and human resources makes the problem very controversial. Even with the increase in governments expenditure, economic growth and the presence of physical resources, the problem of poverty and unemployment have not been any better over the years (Ogbeide & Agu, 2015; Nwosa, 2014), as more than half of the total population live below the poverty line of $1.90 a day, attached with the widespread of unemployment and underemployment in the country.

Though an international concept, poverty, and unemployment are so intertwined that one can easily confuse one for the other, poverty in Nigeria can trace to mismanagement of funds and political instability in the Nigerian economy which have impacted adversely on the population and have worsened income distribution (Egunjobi & Adenike, 2014). It seemingly led to the vast increase in the unemployment rate, low wages and poor working conditions which now constitutes the Nigerian labor market, as such have successfully bred other socio-economic problems such as the increase in crime rate, migration (rural-urban migration), and decline in the standard of living.

In a bid to ascertain the nature of the link between poverty and unemployment, numerous scholars has carried out serious research to establish the nature of their relationship, both theoretically and empirically. Specifically, in Nigeria, most scholars have empirically explained the nature of their nexus, such as the study of Omojolaibi & Omojolaibi (2014). They examine the relationship between economic growth, poverty, and unemployment in Nigeria, which thus revealed the presence of a robust proportionate relationship between poverty and unemployment with the use ECM technique in estimating the time series data from 1970 to 2010 used in the study. Similarly, Osinubi (2005) studied the nexus between economic growth poverty and unemployment in Nigeria with the use of a 31 year data ranging from 1970 to

2000, which thus revealed the existence of a strong positive relationship between poverty and unemployment. In the same manner, Egunjobi & Adenike (2014) studied the nexus between economic growth poverty and unemployment in Nigeria with the use of a 31-year data ranging from 1970 to 2000, which thus revealed the existence of a robust positive relationship between poverty and unemployment. In the same manner, Aiyedogbon & Ohwofasa (2012) discovered the existence of a robust positive relationship between poverty and unemployment in their study on poverty and youth unemployment in Nigeria 1987 to 2011, with the use of Ordinary Least Square (OLS) estimation technique. Again, Siyan et al. (2016) empirically studied the implication of unemployment on the poverty level in Nigeria for 1980 to 2104 with the use of VEC for short-run analysis, Johansen co-integration technique and Granger causality with thus revealed the existence of long-run positive relationship between poverty and unemployment and bi-directional Granger causality between poverty and unemployment.

Akwara et al. (2013) examine the relationship between unemployment, poverty, and insecurity in Nigeria. The study thus discovered that unemployment causes poverty, while poverty causes insecurity. In contrast to the above findings, Ogbeide & Agu (2015) investigates the causal relationship between poverty and inequality in Nigeria with the use of Granger causality and time series data from 1980 to 2010, which thus revealed the absence of Granger causality running from unemployment to poverty, instead the existence of one-way causality from poverty to unemployment.

In this manner, all these studies (see Omojolaibi & Omojolaibi, 2014; Osinubi, 2005; Egunjobi & Adenike (2014); Aiyedogbon & Ohwofasa (2012); (Siyan et al., 2016); Ogbeide & Agu, 2015) were carried out to capture the entire country (Nigeria), no single study was carried out to examine the nature of the relationship in districts, municipals, or state. With the poverty incidence of Niger state at 63.90% (NBS, 2012) and the high incidence of unemployment especially among the youths in the state, it is worth noting the nature of a relationship that they exhibit in the state, whether they (unemployment and poverty) move together or poses a negative relationship. Accordingly, the use of per capita income to measure the level of prosperity of individuals due to the absence of reasonable data on poverty in the country which constitute most of the studies (see Ogbeide & Agu, 2015; Osinubi, 2005; Egunjobi & Adenike (2014); and Omojolaibi & Omojolaibi, 2014) might not be accurate as a measure of poverty and likely produce an erroneous and misleading estimation result. Hence the use of dollar per day poverty line in this study, as the household daily expenditure data will be collected directed from households in the state which will thus enable accurate and careful separation of the poor from the non-poor, so as to obtained a correct estimation result regarding the probability of poverty incidence among poor households.

Method

From literature, unemployment is perceived to be a causal factor of poverty; hence we develop the functional relationship between poverty and unemployment as thus:

POV = f (UNEMP) (1)

Where POV denotes poverty status; UENMP is unemployment status. For this study, we employ the Poverty line of Dollar per day poverty to measure the poverty status, thus

differentiating the poor from non-poor households. Thus, households that expend above $1.90 a day are non-poor, while households below the poverty line of $1.90 are assumed poor. The poverty status thus specified as:

$$Poverty\ Status = \begin{cases} 0 - if\ the\ household\ is\ non\text{-}poor\ (expend \geq \$1.90\ a\ day) \\ 1 - if\ the\ household\ is\ poor\ (expend <\$1.90\ a\ day) \end{cases}$$

Apart from unemployment, factors such as educational status (the probability of being educated) and income level, from literature have been shown to likely influence the movement of poverty; hence we incorporate this factor into equation (1):

$$POV = f\ (UNEMP, EDU, INCLEV) \tag{2}$$

Where EDU denotes educational level; and INCLEV is the income level of households; others as previously specified. For an empirical analysis of the nexus, we employ the Logistics regression model due to the binary nature of the response variable poverty status, taking the value one if the daily expenditure is less than $1.90 and zero if otherwise. Hence the Logit model is specified as thus:

$$P_r\left(POV = \tfrac{1}{0}\right) = \lambda_0 + \lambda_1 UNEMP_i + \lambda_2 EDU_i + \lambda_3 INVLEV_i + \mu_i \tag{3}$$

Where $P_r\left(POV = \tfrac{1}{0}\right)$ denotes the probability of a household being poor relative to not poor; λ_0 is the intercept; $\lambda_1 - \lambda_3$ are the coefficient of the explanatory variables in the model; and μ_i is the error term.

A cross-sectional data will use for this study, collected primarily with the use of a structured questionnaire, and the study location in Niger state, Nigeria. The state situated in the north-central geopolitical zone of Nigeria. Due to the large population size, a sample size of 172 will use, and the stratified sampling technique will be used to collect the data. The state partitioned into strata based on the three senatorial districts (Zone A, B, and C) then 34 individuals/households will be randomly selected in each zona to answer the questionnaire questions.

Result and Discussion

The descriptive statistics in Table 1 represents the distribution and presentation of the household characteristics of the 102 samples used. Under the column for poverty status, about 65.69% of the total respondents fall below the poverty line of 1.90 dollars per day, thus indicating the high incidence of poverty among the respondents sampled or more generally, the state. This result follows the 63.90% incidence of poverty reported by the National Bureau of Statistics (NBS) for the state. Only 35 respondents out of the total respondents fall above the poverty line. Although a universally accepted measure for poverty, spending above $1.90 a day does not necessarily denote the absence of poverty or the incidence of poverty when one fails to spend above the poverty line.

Accordingly, 60.78% of the total respondents are unemployed, which as well upheld the perceived assumption of the high incidence of unemployment in the state. Niger state falls among the less performing economy in the state, with the absence of significant infrastructure, investments, factories, companies, business establishments and the low provision and creation

of jobs by the state government. The rest of the respondents that are employed are likely to be underemployed, and this is because most of the respondents that are employed still fall below the poverty line, thus indicating the presence of poverty even being employed. In the same vein, under the educational status column, most of the respondents are uneducated, as they constitute 61.77% of the total respondents, as compared to the 38.24% that educated. Subsequently, under the income level distribution column, the majority of respondents fall under income level of $50 – $50.56 with little respondents under income distribution of $166.69 – above thus showing the high-income disparity among the respondents and more generally in the state.

Table 1. Descriptive Statistics

Variable	Observation = 102	Mean ± SD	Min	Max
Poverty Status				
Poor	67	0.66 ± 0.48	0	1
Non-Poor	35			
Unemployment Status				
Unemployed	62	0.61 ± 0.49	0	1
Employed	49			
Educational status				
Educated	39	0.62 ± 0.49	0	1
Uneducated	63			
Income Level				
$50 – $55.56	52			
$55.56 – $111.11	27	1.78 ± 0.95	1	4
$111.11 – $166.69	16			
$166.69 – above	7			

Source: Author(s) Computation Using Stata-13.0

Therefore, we empirically estimate the variables in the model specified in the previous section to determine the size and significance of the beta parameters to ascertain the nature of their relationship. The result of the Logistics model in Table 2 follows equation (3), as such unemployment, income level and educational status of household explains the movement of poverty as shown by its R^2 value of 0.21, which is a measure of deviations in the response variable (poverty) which is being captured by the explanatory variables incorporated in the model. This result denotes that about 21%, of deviations in poverty, is being captured by unemployment, educational status and income level of the household. Similarly, the proxy for f-statistics, the Log Likelihood ration which measures the joint significance of the explanatory variables in the model in explaining the response variable. As such, the value of the Log likelihood, as well as its probability value, entails the joint statistical significance of all the explanatory variables in explaining the response variable in the model. In the same vein, the diagnostic tests in Table 3 as well show the goodness and correctness of the model in Table 2. The Akaike Information Criterion (AIC) and Bayesian Information Criterion (SIC) guide the model selection as they present the lowest value for the model. Accordingly, the Link Test shows that the model is good for empirical predictions, and the insignificance of the hatsqr shows this.

Table 2: Logistics Regression Result

Dependent Variable: POV

Variable	Coefficient	z-statistics	Prob. (z-stat)	dy/dx (Marginal Effect)
CONSTANT	1.49065	2.13	0.033	-
UNEMP	1.054624	2.13	0.033	0.2341928
EDU	0.695197	1.39	0.165	0.1542693
INCLEV	-1.010257	-3.74	0.000	-0.2194594

Pseudo R^2 = 0.2046, Log Likelihood Ratio X^2 = 26.84, Prob. X^2 = 0.0000

Source: Author(s) Computation Using Stata-13.0

As shown in Table 2, the value of the constant term depicts when the factors (unemployment, educational status, and income level) are assumed constant, the incidence of poverty will still be visible, thus insinuating that the factors incorporated into the model are not the only factors responsible for incidence of poverty in households.

Table 3. Diagnostic Tests

Tests	Result
Model Specification Test (_hat)	1.116293 (0.000)
Model Specification Test (_hatsqr)	-0.1728921 (0.356)
Model Selection Criterion (AIC)	112.3533
Model Selection Criterion (SIC)	122.8532

Source: Author(s) Computation Using Stata-13.0

Accordingly, the parameter measuring unemployment shows a positive relationship between the incidence of poverty in households and unemployment, thus corroborating with the empirical assertions of Omojolaibi & Omojolaibi (2014); Osinubi (2005); Ayala et al. (2011); Egunjobi & Adenike (2014); Aiyedogbon & Ohwofasa (2012); Sa'idu et al. (2013); Enofe et al. (2016); Mehmood & Sadiq (2010); Ogbeide & Agu (2015) and the causality result of (Siyan et al., 2016). From the result obtained, a unit change in the probability of a household being unemployed will likely result to the log of the odds to increase by 1.06, as well lead to the increase in poverty incidence by 23% going by the marginal effect of unemployment. When people are unemployed, the adverse effect is a decline in living standard and inability to meet the daily needs of the household, which thus implies poverty. Accordingly, when people are gainfully employed and earn a reasonable wage, they tend to offset their daily needs as a result exits the poverty trap. Therefore shows the presence of a positive relationship between the pairs.

Consequently, educational status also poses an increasing effect on poverty. This fact is likely due to the high incidence of illiteracy among the sample. Education is expected to cause poverty to decline as revealed by the empirical findings of Egunjobi & Adenike (2014) and Mehmood & Sadiq (2010). Because education improves the potentials of people, although

education does not make someone became super rich. Education and unemployment pose a proportionate relationship due to the limited number of jobs available for the growing educated population. From the result in Table 2, changes in educational status by a unit will likely cause the log of the odds to increase by 0.695, and likely cause poverty to increase by 15% going by the marginal effect — accordingly, income level act as a decreasing function of poverty. Averagely, changes in poverty will likely cause the log of the odds to decline 1.01. In the same vein, going by the marginal effect, changes in income level will likely cause poverty to decline by 22%. This result is both empirically and theoretically sound since poverty is related to the inability to offset monetary needs on one.

Overall, from the result obtain, while unemployment the main variable poses a positive relationship with poverty and thus follows previous studies (see Ogbeide & Agu, 2015; Osinubi, 2005; Egunjobi & Adenike, 2014; Omojolaibi & Omojolaibi, 2014; Oduwole, 2015), changes in income level cause poverty to decline which is in contrast to the increasing effect which education have on poverty. It is thus crystal clear that increase in the income level of households in term of increase in the national minimum wage tends to aid the decline in poverty, as well as an increase in job opportunities available for the people.

Conclusion

Poverty and unemployment are twin problems of economies, as they had over time act against the growth and development of the economy. It is, however, unclear which causes the other, hence the study on the link between poverty and unemployment in Nigeria with particular reference to Niger State which is a state in the country. The paper thus employs the descriptive statistics and Logistics regression model to analyze the characteristics of the respondents and the influence of unemployment on poverty using 102 cross-sectional data randomly collected from the three geopolitical regions in the state. The result obtained thus shows the existence of a proportionate relationship between poverty and unemployment, denoting the presence of possible causality between the pairs. As such while educational status acts an increasing function of poverty in the state, income level act as a decreasing function of poverty.

Thus the following recommendations are made. First, the policymakers in the state should make provision for unique skill acquisition for youth in the state since most of the residents are unskilled labor, hence making provision for skill acquisition and the provision of a soft loan will go a long way in curbing poverty to the very minimum. Similarly, expenditure in education should be increased to increase the percentage of educated residents in the state. Most people are unable to attend school due to the expenses incurred in attaining education; hence subsidizing the fees will go a long way in enhancing school participation and literacy. Finally, the minimum wage should increase due to the increase in goods and services in the country that has made the current minimum wage sufficient in maintaining a balanced standard of living.

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