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EFFECT OF POVERTY AND UNEMPLOYMENT ON ECONOMIC INEQUALITY IN NIGERIA: A STATE-LEVEL CROSS-SECTIONAL ANALYSIS

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Abstract

Economic inequality remains one of the central development concerns in Nigeria, yet the way it relates to poverty and unemployment is not well settled. This study examines the effect of poverty and unemployment on economic inequality across the thirty-six states of Nigeria using measured official data rather than estimated or simulated values. The analysis draws on the consumption-based Gini coefficient and the poverty headcount rate from the 2018/19 Nigeria Living Standards Survey and the state unemployment rate from the Q3 2018 Labour Force Statistics of the National Bureau of Statistics. A cross-sectional ordinary least squares model is estimated for the thirty-six states for which official inequality estimates exist and the model is supported by correlation analysis, standardised coefficients and a set of diagnostic and robustness checks. The results show that unemployment has a positive and statistically significant effect on economic inequality, so that states with higher joblessness record higher consumption inequality, while the state poverty rate has no significant effect on inequality. The finding for unemployment is stable across robust standard errors, rank correlation and the removal of an influential observation. The two variables together explain about fourteen per cent of the variation in inequality across the states and unemployment carries almost all of the explanatory weight. The study concludes that measured inequality in Nigeria is shaped more by the structure of employment than by the incidence of poverty and it recommends that redistributive and labour market policy give priority to job creation and to the quality of work.

Keywords:

Economic inequality, poverty, unemployment, Gini coefficient, Nigeria, cross-sectional analysis.

1. Introduction

Economic inequality has returned to the centre of development debate across the world, because the distribution of income and consumption shapes growth, social cohesion and the pace at which rising national wealth reaches ordinary households. The concern is sharpest in large developing economies where averages conceal deep differences between regions and groups. Nigeria, the most populous country in Africa and one of its largest economies, illustrates the problem clearly. National output grew for much of the two decades after 1999, yet the gains were distributed unevenly and the country now contains one of the largest populations of people living in poverty anywhere in the world. Understanding what drives the distribution of welfare

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in Nigeria is therefore not only an academic question but a practical condition for policy that intends to be inclusive.

The stakes of the distributional question are high. A wide spread of welfare weakens the link between national growth and the living standards of ordinary households, since the proceeds of growth are captured by a narrow group when the distribution is uneven. It also strains social cohesion, feeds grievance and can raise the cost of maintaining order, which in turn diverts public resources away from investment. For a country as large and diverse as Nigeria, where differences in welfare overlap with differences of region, religion and ethnicity, an uneven distribution carries political as well as economic weight. These consequences give the measurement and explanation of inequality a value beyond description, because the instruments a government chooses to address it depend on what is understood to drive it.

Two features of the Nigerian economy are commonly named as the forces behind unequal welfare, namely widespread poverty and persistent unemployment. The 2018/19 Nigeria Living Standards Survey found that about four in ten Nigerians lived below the national poverty line and labour force data for the same period showed that joblessness and underemployment affected a large share of the working-age population (National Bureau of Statistics, 2019, 2020). Both conditions are severe, both are unevenly spread across the federation and both are often treated as near synonyms for a wider failure of distribution. The assumption in much public commentary is that where poverty and unemployment are high, inequality must also be high and that the three move together as a single syndrome of deprivation.

The relationship is less obvious than the assumption suggests. Inequality measures the spread of welfare within a population, while poverty measures the share of people below a fixed line and unemployment measures the share of the labour force without work. A place can be uniformly poor and yet quite equal, because the distance between the poorest and the least poor is small when almost everyone is poor. A place can also be richer on average and yet more unequal, because market activity and wage employment open gaps that subsistence agriculture does not. The classical literature on development and distribution, from the inverted-U relationship proposed by Kuznets (1955) to the dual-economy model of Lewis (1954), anticipates exactly this kind of divergence between the level of welfare and its spread. For Nigeria, recent evidence that inequality has been falling even as poverty has been rising, with pronounced differences between regions, makes the question pressing rather than settled (Odozi & Oyelere, 2023).

The problem that motivates this study is therefore the gap between a common assumption and an uncertain reality. If poverty and unemployment drive inequality in the same direction, then anti-poverty and jobs policy will also narrow the distribution and a single policy effort can serve several goals at once. If they do not, then inequality requires its own diagnosis and its own instruments and policies aimed at poverty or unemployment may leave the distribution of welfare unchanged. Resolving this question for Nigeria requires measured evidence on how the three variables actually relate across the country, rather than inference from national averages or from the experience of other economies.

A further difficulty is that national time-series evidence on inequality in Nigeria is thin, because the Gini coefficient is produced only in the years when a national consumption survey is fielded and the surveys are several years apart and are not always comparable in method. Sub-national variation offers a way around this limit. The thirty-six states and the Federal Capital Territory

differ widely in their poverty, employment and inequality profiles and the National Bureau of Statistics reports each of the three variables at the state level for a common period. This variation across states within one country, holding national institutions and the national currency constant, provides a natural setting in which to estimate how poverty and unemployment relate to inequality.

Against this background, this study examines the effect of poverty and unemployment on economic inequality across the states of Nigeria, using measured official data and a cross-sectional econometric design. The study is built around the following specific objectives.

i. To examine the pattern of poverty, unemployment and economic inequality across the states of Nigeria.

ii. To determine the effect of poverty on economic inequality across the states.

iii. To determine the effect of unemployment on economic inequality across the states.

iv. To assess the joint effect of poverty and unemployment on economic inequality across the states.

In line with these objectives, the study is guided by the following research questions.

i. What is the pattern of poverty, unemployment and economic inequality across the states of Nigeria?

ii. What is the effect of poverty on economic inequality across the states?

iii. What is the effect of unemployment on economic inequality across the states?

iv. What is the joint effect of poverty and unemployment on economic inequality across the states?

The study tests the following hypotheses, each stated in the null form and evaluated at the five per cent level of significance.

H1. Poverty has no significant effect on economic inequality across the states of Nigeria.

H2. Unemployment has no significant effect on economic inequality across the states of Nigeria.

H3. Poverty and unemployment have no significant joint effect on economic inequality across the states of Nigeria.

The study matters for three reasons. Empirically, it uses measured state-level data on all three variables from official surveys, so that its estimates rest on recorded values rather than on interpolation or simulation. Analytically, it separates the question of inequality from the questions of poverty and unemployment and tests whether the three move together as policy often assumes. Practically, it offers evidence on which of the two conditions is more closely tied to the spread of welfare, which bears directly on the design of redistributive and labour market policy. The scope of the study is the thirty-six states of Nigeria for which official inequality estimates exist for the 2018/19 reference period and the Federal Capital Territory,

with poverty and inequality measured by the 2018/19 Nigeria Living Standards Survey and unemployment measured by the Q3 2018 Labour Force Statistics.

2. Review of Related Literature

2.1 Conceptual review

Economic inequality refers to the degree to which income or consumption is unevenly distributed among the members of a population. It is distinct from poverty, which refers to the share of people whose income or consumption falls below a defined threshold and from unemployment, which refers to the share of the labour force that is willing and able to work but cannot find it. The three concepts describe different features of the same economy and they need not move together. A population can be poor and equal, rich and unequal, or any other combination, because the mean of a distribution and its spread are separate properties. The most widely used summary measure of inequality is the Gini coefficient, which ranges from zero, where every household has the same welfare, to one, where a single household holds everything and which is often expressed on a scale of zero to one hundred (Atkinson, 1970). The coefficient has the advantage that it captures the whole distribution in a single number and allows comparison across places and times and it has the limit that two distributions with different shapes can produce the same value.

Poverty is measured in this study by the headcount rate, which is the proportion of people living in households whose consumption expenditure per person falls below the national poverty line. The headcount is the most transparent poverty measure, since it counts the poor directly, though it does not record how far below the line the poor fall. Unemployment is measured by the official unemployment rate, which is the proportion of the economically active population that did not work in the reference period and was available for work. In a developing economy with a large informal sector, open unemployment understates the true shortfall of productive work and underemployment captures part of the remainder, but the unemployment rate remains the standard indicator of slack in the labour market.

The relationship among the three concepts is the heart of the matter. Poverty and inequality are linked through the distribution, since for a given mean a more unequal distribution places more people below any fixed line, but the link is not mechanical, because growth in the mean can lower poverty while leaving inequality unchanged and redistribution can lower inequality while leaving the mean and the poverty line fixed (Ravallion, 2001). Unemployment connects to inequality through the labour market, since those without work lose wage income and fall behind those in employment, which widens the distribution and since the structure of employment determines how far wages differ across workers (Mocan, 1999). These conceptual links suggest that unemployment may bear on inequality through a channel that poverty does not share, a possibility that this study tests directly.

A further distinction matters for Nigeria. Inequality can be measured over income or over consumption and in a low-income economy with a large informal sector and irregular earnings, consumption is the more stable and better-recorded measure of household welfare. Households smooth their spending across good and bad periods, so consumption captures living standards more reliably than income, which swings with the harvest, the trading season and the fortunes of informal work. The official Gini coefficient used in this study is based on consumption expenditure, which is the standard practice of the National Bureau of Statistics and of the wider

literature on welfare in developing economies. The choice means that the inequality measured here is the inequality of what households actually consume, which is the dimension most closely tied to well-being.

2.2 Theoretical framework

The study is guided by two established theories of development and distribution, supported by a third that connects them to the labour market. The first principal lens is the inverted-U hypothesis of Kuznets (1955), which proposes that inequality first rises and then falls as an economy develops. In the early stages of growth, labour moves from a low-income traditional sector to a higher-income modern sector and the gap between the two sectors widens the distribution before the later spread of modern-sector employment narrows it again. The hypothesis implies that the relationship between the level of development and the spread of welfare is not monotonic and that places at different stages of transition can show very different inequality even when they share a currency and a government. For a federation as varied as Nigeria, the hypothesis predicts that the poorest and least commercialised states may record lower measured inequality than richer and more commercialised ones, because they have not yet entered the phase in which modern-sector gaps open.

The second principal lens is the dual-sector model of Lewis (1954), which describes a developing economy as divided between a large traditional sector with surplus labour and a smaller modern sector that draws workers from it. In the traditional sector, additional workers add little to output and incomes are low and compressed, so inequality within that sector is modest. As the modern sector expands, it absorbs labour at a wage above the traditional income and the coexistence of the two sectors produces inequality that depends on the size of the modern sector and the terms on which it hires. The model locates the source of inequality in the structure of employment rather than in the sheer incidence of low income and it implies that unemployment, which reflects a failure of the modern sector to absorb available labour, should be closely tied to the spread of welfare.

The two principal lenses are supported by human capital theory (Becker, 1964), which explains differences in earnings by differences in education, training and skill and which links unemployment to inequality through the unequal distribution of productive capacity. Where work is scarce, those with more human capital retain access to employment and income while those with less are excluded, so that joblessness falls unevenly and widens the distribution. Taken together, the three theories give a clear expectation for this study. They predict that unemployment, which reflects the structure and reach of modern-sector employment, should be more closely associated with inequality than poverty, which reflects the level of welfare rather than its spread. This expectation is examined against the data in the analysis that follows. Figure 1 sets out the analytical framework that links the two explanatory variables to economic inequality through the channels drawn from the three theories.

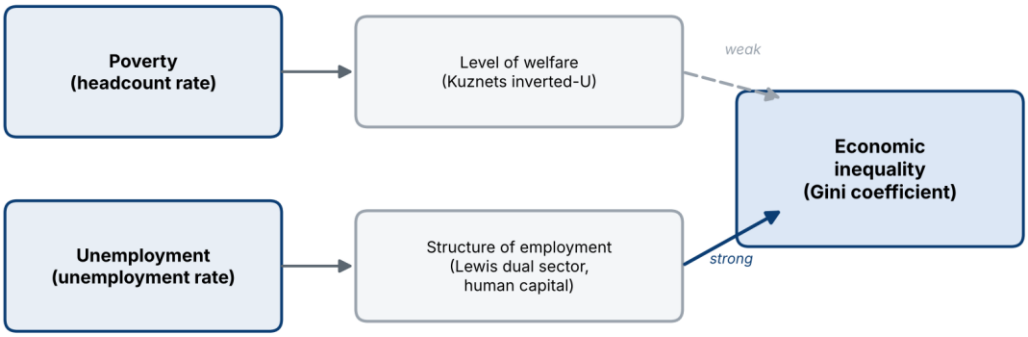

Figure 1. Analytical framework linking poverty and unemployment to economic inequality.

2.3 Empirical review and research gap

Empirical work on poverty, unemployment and inequality in Nigeria has grown, though it has rarely brought the three together in a measured sub-national design. In an early and influential study, Aigbokhan (2000) examined poverty, growth and inequality in Nigeria and found that both poverty and inequality had risen over the period studied and that growth alone had not improved the distribution. The study established that distributional questions deserved separate attention in Nigeria and that national growth figures could mask a worsening spread of welfare. Later work by Anyanwu (2014) analysed the determinants of poverty in Nigeria using household survey data and found that household size, education and location were strongly associated with poverty, which pointed to structural rather than purely income-based sources of deprivation.

The most directly relevant recent study is that of Odozi and Oyelere (2023), who traced the evolution of inequality in Nigeria across successive national surveys and found a pattern of falling inequality alongside rising poverty, with marked differences between regions. Their finding that inequality and poverty moved in opposite directions over time and that the northern and southern zones followed different paths, directly challenges the assumption that poverty and inequality rise together. It also supports the expectation, drawn from Kuznets and Lewis, that the poorest regions may record lower measured inequality. On the labour market side, Orok et al. (2026) investigated the link between unemployment and national development in Nigeria and found that unemployment constrained development outcomes, which is consistent with a view of joblessness as a structural drag rather than a temporary condition. The finding of Anyanwu (2014) that location was among the strongest correlates of poverty is especially relevant here, since it signals that welfare in Nigeria is organised along regional lines and that a national average conceals a federation of very different local economies. The international literature reinforces these strands, since Ravallion (2001) showed that the relationship between growth, poverty and inequality varies widely across countries and cannot be assumed and Mocan (1999) found that unemployment raised income inequality in a long time series, which identifies the labour market as a distinct channel to the distribution. Taken together, the empirical record suggests that the three variables should be examined jointly and at the sub-national level, where the regional structure of the Nigerian economy becomes visible, rather than through national aggregates that average it away.

Three gaps emerge from this body of work. First, Nigerian studies have tended to treat poverty, unemployment and inequality separately or in pairs, rather than estimating the effect of poverty and unemployment on inequality together in one model. Second, much of the evidence relies on national time series, which are constrained by the small number of years in which inequality is measured, rather than on the richer variation available across states. Third, the assumption that poverty and inequality move together has rarely been tested against measured sub-national data in a single framework. The wider international literature offers a frame for these Nigerian findings. Ravallion (2001) argued that the relationship between growth, poverty and inequality differs so much across countries that none of the three can be inferred from the others and that distribution must be studied in its own right rather than read off from average income. The same caution applies within a country as varied as Nigeria, where the experience of one region need not describe another. On the labour market, the finding of Mocan (1999) that unemployment widened income inequality over a long period in a developed economy raises the question of whether the same channel operates in a developing federation, where the modern sector is smaller and the informal sector larger. The present study brings these international insights to bear on measured Nigerian data and asks whether the labour market channel that is visible elsewhere is also visible across the states of Nigeria.

This study addresses the three gaps by estimating the joint effect of poverty and unemployment on economic inequality across the states of Nigeria, using measured official data for a common reference period.

3. Methodology

3.1 Research design

The study adopts a quantitative, cross-sectional and ex post facto research design. The design is quantitative because it measures the variables numerically and estimates their relationship with statistical tools. It is cross-sectional because it observes the states of Nigeria at a single period rather than over time, which allows the wide variation across states to be used in place of the scarce variation over the years. It is ex post facto because the variables are recorded as they occurred in official surveys and are not manipulated by the researcher. The design suits the research questions, since the questions concern the direction and strength of the relationship between poverty, unemployment and inequality across the federation and the state-level data provide a large and comparable set of observations within one national economy.

The choice of a cross-sectional design across states, rather than a time series for the nation, rests on the nature of the inequality data. A reliable Gini coefficient for Nigeria exists only for the years in which a national consumption survey is fielded and these surveys are several years apart and are produced under methods that the National Bureau of Statistics states are not always comparable across rounds. A national time series of inequality would therefore rest on very few measured points and any annual series would depend on interpolation between them. The thirty-six states, by contrast, are measured together in a single survey under one method, so the variation across them is both large and internally consistent. Using this variation holds the national currency, the national institutions and the survey method constant and isolates the differences in poverty, unemployment and inequality that distinguish one state from another. The cross-section is thus the design that the available measured data most strongly support.

3.2 Data and sources

The study uses measured secondary data from the National Bureau of Statistics, the official statistical agency of Nigeria. Economic inequality and poverty are drawn from the 2018/19 Nigeria Living Standards Survey, which is the most recent national consumption survey and the source of the official state-level Gini coefficient and poverty headcount rate (National Bureau of Statistics, 2020). Unemployment is drawn from the Labour Force Statistics for the third quarter of 2018, which reports the unemployment rate for each state and falls within the fieldwork period of the living standards survey (National Bureau of Statistics, 2019). The two sources share a common reference period, which allows the three variables to be matched across states without a timing mismatch.

The unit of analysis is the state. Nigeria has thirty-six states and the Federal Capital Territory. The National Bureau of Statistics produced poverty and inequality estimates for thirty-six of these units and reported that estimates for Borno State could not be produced because security conditions prevented the collection of sufficient data. The analysis therefore covers the thirty-six units for which measured inequality and poverty values exist, which gives a sample of thirty-six observations. Working with the full set of available states, rather than a drawn sample, means that the results describe the federation as recorded rather than an estimate from a subset.

3.3 Variables and measurement

The dependent variable is economic inequality, measured by the state Gini coefficient of consumption expenditure on a scale of zero to one hundred, where higher values indicate a more unequal distribution. The two explanatory variables are poverty, measured by the state poverty headcount rate as the percentage of people below the national poverty line and unemployment, measured by the state unemployment rate as the percentage of the labour force without work and available for it. Table 1 sets out the variables, their measurement and their sources.

Table 1. Variables, measurement and data sources

Variable	Role	Measurement	Source
Economic inequality	Dependent	Gini coefficient of consumption, 0 to 100	NBS 2018/19 Nigeria Living Standards Survey
Poverty	Explanatory	Poverty headcount rate, per cent below the national poverty line	NBS 2018/19 Nigeria Living Standards Survey
Unemployment	Explanatory	Unemployment rate, per cent of the labour force	NBS Q3 2018 Labour Force Statistics

3.4 Model specification

The study specifies a multiple linear regression model in which economic inequality is a function of poverty and unemployment. The model is stated as

$$GINI = \beta 0 + \beta 1\ POV + \beta 2\ UNEMP + \varepsilon$$

where GINI is the state Gini coefficient, POV is the state poverty headcount rate, UNEMP is the state unemployment rate, $\beta 0$ is the intercept, $\beta 1$ and $\beta 2$ are the slope coefficients that measure the effect of poverty and unemployment on inequality and ε is the error term that

captures all other influences on inequality not included in the model. A positive and significant β1 would indicate that higher poverty is associated with higher inequality and a positive and significant β2 would indicate the same for unemployment. The coefficients are estimated by ordinary least squares, which provides the best linear unbiased estimates when its assumptions hold.

3.5 Estimation and diagnostic procedures

The analysis proceeds in four steps. First, descriptive statistics summarise the level and spread of each variable across the states. Second, Pearson correlation coefficients measure the strength and direction of the pairwise relationships among the three variables. Third, the ordinary least squares model is estimated and the coefficients are tested for significance with t-statistics while the overall model is tested with an F-statistic. Standardised coefficients are computed so that the relative weight of the two explanatory variables can be compared on a common scale. Fourth, a set of diagnostic tests examines whether the assumptions of the model hold. Multicollinearity is assessed with the variance inflation factor, constant error variance is tested with the Breusch-Pagan test, the normality of the residuals is tested with the Shapiro-Wilk and Jarque-Bera tests and the functional form is checked with the Ramsey regression equation specification error test. The robustness of the findings is then examined with heteroskedasticity-consistent standard errors, with the Spearman rank correlation and with a sensitivity analysis that re-estimates the model after removing the most influential observation identified by Cook's distance. Significance is judged mainly at the five per cent level, with the ten per cent level reported where it adds information about a borderline result and the economic meaning of each coefficient is interpreted alongside its statistical significance so that the size of an effect is read together with its reliability. All estimates were produced in Python with the statsmodels and scipy libraries and the dataset and a reproduction syntax for the statistical software SPSS accompany the study so that the analysis can be repeated and checked.

4. Results and Discussion

4.1 Descriptive statistics

Table 2 presents the descriptive statistics for the three variables across the thirty-six states. The average state Gini coefficient is 28.46 on the zero to one hundred scale, with a standard deviation of 3.39, a minimum of 23.49 in Zamfara and a maximum of 40.22 in Plateau. The spread of inequality across states is therefore modest, since most states cluster within a few points of the mean and the distribution is right-skewed with a skewness of 1.26, which reflects the small number of states with notably higher inequality. The poverty headcount rate has a far wider spread, with a mean of 42.35 per cent, a standard deviation of 26.09, a minimum of 4.50 per cent in Lagos and a maximum of 87.73 per cent in Sokoto. The near symmetry of poverty, with a skewness of 0.24 and its low kurtosis reflect the clear division of the federation into a less poor south and a much poorer north. Unemployment has a mean of 23.23 per cent, a standard deviation of 6.80, a minimum of 10.10 per cent in Osun and a maximum of 37.70 per cent in Akwa Ibom and its distribution is close to symmetric.

Table 2. Descriptive statistics of the variables across the states

Variable	Mean	Std. deviation	Minimum	Maximum	Skewness	Excess kurtosis
Gini coefficient	28.46	3.39	23.49	40.22	1.26	2.92
Poverty headcount (%)	42.35	26.09	4.50	87.73	0.24	-1.18
Unemployment rate (%)	23.23	6.80	10.10	37.70	0.09	-0.42

The descriptive figures already hint at the central result. The states with the highest poverty, namely Sokoto, Taraba and Jigawa with headcounts above eighty-seven per cent, record Gini coefficients close to or below the national average, while the state with the highest inequality, Plateau, has a poverty rate near the middle of the range. The level of poverty and the spread of welfare do not appear to rise together across the federation, which is the pattern that the formal analysis examines.

The contrast is sharpest when the regions are compared directly. The states of the north west and north east, which carry the heaviest poverty burdens in the country, report some of the lowest inequality values. Zamfara, with a poverty rate of about seventy-four per cent, has the lowest Gini coefficient in the federation at 23.49 and Katsina, with poverty above fifty-six per cent, records a Gini of 24.57. At the other end, several states with moderate poverty show the widest distributions, so that Plateau, with a poverty rate near the national middle, has the highest inequality at 40.22 and the Federal Capital Territory, which is among the richer units, records a Gini of 32.26. States of the south east and south south, such as Abia and Enugu, combine low inequality with a range of poverty outcomes. The descriptive picture therefore shows a federation in which the poorest places are often the most equal and the most unequal places are not the poorest, which is the central puzzle that the regression is designed to test.

4.2 Correlation analysis

Table 3 presents the Pearson correlation matrix. Economic inequality has a very weak and statistically insignificant correlation with poverty, with a coefficient of 0.066 and a probability of 0.702. Economic inequality has a moderate and statistically significant correlation with unemployment, with a coefficient of 0.376 and a probability of 0.024. Poverty and unemployment are weakly and insignificantly correlated with each other, with a coefficient of 0.160 and a probability of 0.350, which indicates that the two explanatory variables carry largely separate information and are unlikely to disturb the regression through multicollinearity.

Table 3. Pearson correlation matrix

	Gini	Poverty	Unemployment
Gini	1.000		
Poverty	0.066	1.000	
Unemployment	0.376	0.160	1.000

The correlation results give a first answer to the research questions. Inequaality is tied to unemployment but not to poverty and the two explanatory variables are close to independent

of each other. The regression now tests whether these relationships hold when poverty and unemployment are considered together.

4.3 Regression results and tests of hypotheses

Table 4 presents the ordinary least squares estimates. The estimated model is

GINI = 24.080 + 0.001 POV + 0.187 UNEMP

The coefficient on poverty is 0.001, with a t-statistic of 0.036 and a probability of 0.971, which is far from significant at any conventional level. The coefficient on unemployment is 0.187, with a t-statistic of 2.296 and a probability of 0.028, which is significant at the five per cent level. The coefficient on unemployment indicates that a rise of one percentage point in the state unemployment rate is associated with a rise of about 0.19 points in the state Gini coefficient, holding poverty constant. The intercept of 24.080 is the expected Gini coefficient when both poverty and unemployment are zero and it has no direct interpretation since neither variable takes a value near zero in the data. The standardised coefficients confirm the relative weight of the two variables, since the standardised coefficient on unemployment is 0.375 while that on poverty is 0.006, so almost all of the explained variation in inequality is carried by unemployment.

Table 4. Ordinary least squares estimates with economic inequality as the dependent variable

Variable	Coefficient	Std. error	t-statistic	p-value
Constant	24.080	2.032	11.850	0.000
Poverty	0.001	0.021	0.036	0.971
Unemployment	0.187	0.081	2.296	0.028

The model returns an R-squared of 0.142 and an adjusted R-squared of 0.090, so that poverty and unemployment together explain about fourteen per cent of the variation in inequality across the states and almost all of this comes from unemployment. The F-statistic is 2.721 with a probability of 0.081, so the joint contribution of the two variables is significant at the ten per cent level but not at the five per cent level. The modest fit is expected, since inequality within a state is shaped by many structural factors beyond the two examined here and the purpose of the model is to isolate the effect of poverty and unemployment rather than to account for the whole of inequality. Figure 2 and Figure 3 display the two relationships, with the fitted line showing the clear upward slope of inequality against unemployment and the flat slope of inequality against poverty.

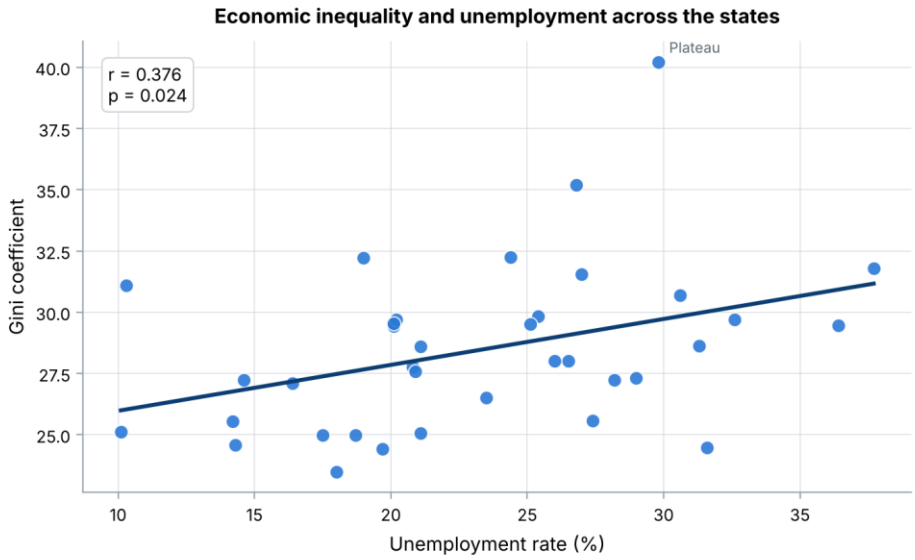

Figure 2. Economic inequality against unemployment across the states, with fitted regression line.

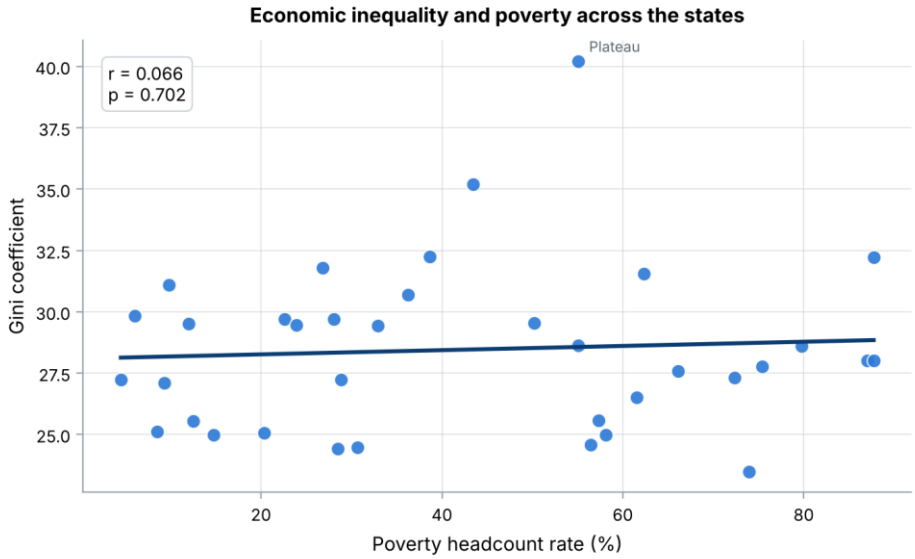

Figure 3. Economic inequality against poverty across the states, with fitted regression line.

The results allow the three hypotheses to be evaluated. The first null hypothesis (H1), that poverty has no significant effect on economic inequality, is not rejected, since the coefficient on poverty is insignificant with a probability of 0.971. The second null hypothesis (H2), that unemployment has no significant effect on economic inequality, is rejected, since the coefficient on unemployment is significant with a probability of 0.028. The third null hypothesis (H3), that poverty and unemployment have no significant joint effect on economic inequality, is rejected at the ten per cent level and retained at the five per cent level, since the F-statistic carries a probability of 0.081 and the joint effect that exists is driven by unemployment alone.

4.4 Diagnostic and robustness checks

The diagnostic tests support the reliability of the estimates. The variance inflation factor is 1.03 for both explanatory variables, which is far below the common threshold of ten and confirms

that multicollinearity is not a concern. The Breusch-Pagan test returns a probability of 0.668, so the assumption of constant error variance holds and the standard errors are reliable. The Ramsey specification test returns a probability of 0.935, which indicates that the linear functional form is appropriate. The Shapiro-Wilk test returns a probability of 0.019 and the Jarque-Bera test a probability of 0.001, so the residuals depart from normality, a departure traced to Plateau, whose high inequality makes it an influential point under Cook's distance.

Three robustness checks confirm that the central findings are not an artefact of this departure. First, heteroskedasticity-consistent standard errors leave the conclusions unchanged, since unemployment remains significant with a probability of 0.033 and poverty remains insignificant with a probability of 0.966. Second, the Spearman rank correlation, which does not assume normality, reproduces the pattern, since the rank correlation between inequality and unemployment is 0.404 with a probability of 0.014 while that between inequality and poverty is 0.029 with a probability of 0.865. Third, re-estimating the model after removing Plateau, the most influential state, restores the normality of the residuals with a Shapiro-Wilk probability of 0.628 and leaves the result intact, since unemployment remains significant with a probability of 0.042 and poverty remains insignificant. Across every specification the same picture holds, namely that unemployment raises inequality while poverty does not.

4.5 Discussion of findings

The analysis gives a clear and consistent answer to the research questions and the answer runs against the common assumption that poverty, unemployment and inequality form a single syndrome. The first finding, from the descriptive and correlation results, is that the three variables follow different patterns across the federation. Poverty divides Nigeria sharply into a less poor south and a much poorer north, inequality varies within a narrow band around a modest mean and unemployment is spread more evenly and is tied to inequality rather than to poverty. The pattern matches the account of Odozi and Oyelere (2023), who documented falling inequality alongside rising poverty and strong regional differences and it supports the view that the level of welfare and the spread of welfare are separate properties of a state's economy.

The second and central finding is that unemployment raises inequality while poverty does not. The result for unemployment is consistent with the dual-sector logic of Lewis (1954), in which the structure of employment governs the distribution of welfare. Where a larger share of the labour force is excluded from work, income concentrates among those who hold modern-sector jobs and the distance between them and the jobless widens the distribution. The result is reinforced by human capital theory (Becker, 1964), since joblessness falls most heavily on those with least education and skill, so that unemployment and the unequal distribution of productive capacity work together to spread welfare apart. The finding also echoes the international evidence of Mocan (1999), who found that unemployment raised income inequality over a long series and it identifies the labour market as the channel through which distribution is most directly shaped in the Nigerian case.

The absence of a poverty effect is equally informative and is best understood through the inverted-U hypothesis of Kuznets (1955). The poorest states of the federation, concentrated in the north, record low measured inequality precisely because they remain largely agrarian and pre-commercial, so that welfare is low but compressed and the gap between the poorest and the least poor is small. The richer and more commercialised states show higher inequality not because they are poorer but because market activity and wage employment open gaps that subsistence livelihoods do not. In this reading, poverty and inequality are decoupled because

they belong to different stages of the same transition and a fall in poverty need not narrow the distribution unless it is accompanied by broad access to productive employment. The World Bank (2022) reached a similar conclusion in its assessment of poverty in Nigeria, where it found that regional disparities and the structure of the labour market, rather than the poverty rate alone, governed the distribution of welfare.

The findings carry a wider significance for how inequality is understood as a development problem. Inequality is not simply a more severe form of poverty and policies that lower the poverty rate will not automatically narrow the distribution. As Sen (1999) argued, development is best judged by the real opportunities open to people and the evidence here suggests that the opportunity to work is the opportunity most closely tied to a fair distribution of welfare in Nigeria. A state can reduce the number of its people below the poverty line and still leave the spread of welfare untouched if the gains bypass the labour market and a state can hold a moderate poverty rate and yet record high inequality if work is scarce and concentrated.

The regional detail of the data makes the mechanism concrete. In the far northern states, where agriculture dominates and wage employment is thin, households share a common and low standard of living, so that measured inequality is modest even though poverty is severe. These are the places that the Lewis model would describe as still largely within the traditional sector, where additional labour earns little and incomes are compressed. In the more commercialised states of the south and in the Federal Capital Territory, a larger modern sector coexists with a substantial population outside it and the gap between those who hold salaried or enterprise work and those who do not opens the distribution. Unemployment is the statistic that captures this failure of absorption, which is why it tracks inequality across the states while the poverty rate, which records only how many fall below a line, does not. The finding does not imply that poverty is unimportant, since poverty remains the gravest welfare problem in the country, but it shows that poverty and inequality are driven by different forces and must be read as separate signals.

The results should be read with the design in view. The analysis rests on a single cross-section of thirty-six states, so it estimates the pattern that held across the federation in the reference period rather than a process unfolding over time and the modest share of variation explained reflects the many structural forces that shape inequality beyond the two studied here. These features define the reach of the evidence rather than weaken it, since the central relationship between unemployment and inequality is strong enough to survive every robustness check applied and the decoupling of poverty from inequality is equally firm. What the analysis establishes, on measured official data, is the direction and relative weight of the two forces and that is the knowledge a government needs when it chooses between instruments.

5. Conclusion and Recommendations

5.1 Conclusion

This study examined the effect of poverty and unemployment on economic inequality across the thirty-six states of Nigeria, using measured official data for a common reference period and a cross-sectional regression design. The study found that unemployment has a positive and statistically significant effect on economic inequality, so that states with higher joblessness record higher consumption inequality and that the state poverty rate has no significant effect on inequality. The finding for unemployment is stable across robust standard errors, rank

correlation and the removal of the most influential state and the two variables together account for about fourteen per cent of the variation in inequality, almost all of it carried by unemployment. The study concludes that measured inequality in Nigeria is shaped more by the structure of employment than by the incidence of poverty and that poverty and inequality are distinct problems that call for distinct instruments. The common assumption that poverty, unemployment and inequality rise and fall together is not supported by the data, since the poorest states are often among the more equal and the spread of welfare follows the labour market rather than the poverty line.

5.2 Recommendations

The findings lead to a set of recommendations; each tied to a result of the analysis and directed at the mechanism through which it operates. Because unemployment is the variable most closely associated with inequality, policy that seeks a fairer distribution of welfare should give first priority to the creation of productive work. Federal and state governments should expand labour-intensive public investment, support the small and medium enterprises that generate most employment and remove the barriers that keep young people and women out of the labour force, so that the modern sector absorbs a larger share of available labour and the distance between those in work and those without it narrows.

Because the effect of unemployment on inequality works through the structure of employment, the quality and reach of work matter as much as its quantity. Government should widen access to the education and vocational training that raise human capital, since a labour force with more evenly distributed skills is one in which the gains from employment are more evenly shared. Programmes of this kind should be concentrated in the states where unemployment and inequality are highest, so that resources follow need rather than being spread thinly across the federation.

Because poverty and inequality are decoupled, anti-poverty policy and anti-inequality policy should be designed as separate efforts with separate measures of success. Cash transfers and other poverty programmes remain essential for lifting people above the poverty line, but they should not be expected, on their own, to narrow the distribution of welfare and their design should be judged against poverty outcomes while distributional outcomes are pursued through the labour market. Treating the two as a single goal risks disappointing both.

Finally, because sound policy depends on measured evidence, the National Bureau of Statistics should be supported to produce state-level estimates of poverty, unemployment and inequality on a regular and comparable basis, including for states such as Borno where insecurity has prevented collection. A consistent sub-national series would allow the relationships estimated here to be tracked over time and would give governments at both tiers a firmer basis for the design of redistributive and labour market policy.

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