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RESEARCH ARTICLE

Exploring the Influence of Political Freedoms and Economic Factors on Income Inequality in Nigeria

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ABSTRACT

This study investigates the political economy determinants of income inequality in Nigeria from 2000 to 2023, with a particular focus on associational and organizational rights (AOR). While prior research has predominantly emphasized economic factors, this paper highlights the critical role of political freedoms in shaping income distribution. Using a comprehensive panel dataset and employing robust econometric techniques, including fixed effects and system GMM estimations, the findings reveal that stronger AOR significantly reduce income inequality. Conversely, unemployment exacerbates inequality, while government expenditure mitigates it to some extent. Trade openness influences inequality only when moderated by institutional quality, and economic growth exhibits an insignificant direct effect. These results underscore the importance of integrating political rights with economic policies to foster equitable development in emerging economies. The study concludes with policy implications that advocate for strengthening democratic freedoms, enhancing institutional quality, and adopting inclusive economic strategies to address persistent income disparities in Nigeria.

1. INTRODUCTION

Income inequality has become an increasingly salient issue in global economic and political discourse, particularly as it intersects with broader concerns about development, social justice, and democratic governance. The widening gap between the rich and poor, both within and between countries, continues to generate significant scholarly and policy interest, especially in the Global South where structural inequalities are often more pronounced and persistent. In sub-Saharan Africa, and Nigeria in particular, inequality has remained deeply entrenched despite notable economic growth periods. Traditionally, explanations for income inequality have focused predominantly on economic factors such as GDP growth, labor market structures, trade liberalization, and fiscal policy. However, recent research underscores the limitations of such frameworks, arguing that they inadequately capture the full complexity of distributional dynamics (Gethin, Martínez-Toledano, & Piketty, 2021; Brollo & Nannicini, 2023). Scholars now increasingly turn to the political and institutional foundations of inequality, seeking to understand how governance, power relations, and civic rights shape the economic realities of marginalized populations (Acemoglu et al., 2020; Jain & Kumar, 2022).

One key area of this expanding literature involves the role of political freedoms and civil institutions, particularly associational and organizational rights (AAOR), which is the rights that enable citizens to form unions, join civil society organizations, and engage in collective bargaining. These rights are fundamental not only for democratic participation but also for redistributive politics, as they offer channels through which disadvantaged groups can voice grievances, advocate for inclusive policies, and challenge entrenched economic power (Hickel, Sullivan, & Zoomers, 2020). The capacity of civil society to mobilize around inequality is particularly important in contexts where formal political institutions are weak or unresponsive. Despite their theoretical importance, AAOR remain empirically underexplored, especially in African political economies. In Nigeria, the tension between

state control and civic autonomy has historically limited the full realization of these rights, even under democratic regimes. Given the growing awareness that inequality is not only an economic problem but also a political outcome, it becomes imperative to empirically examine the distributive implications of these political rights (Dabla-Norris et al., 2023; Omodia & Egwemi, 2021).

This study therefore aims to empirically assess the impact of associational and organizational rights on income inequality in Nigeria between 2001 and 2022, a period characterized by political liberalization, institutional reforms, and increasing civic activism, alongside persistent economic volatility and social fragmentation. The study also controls for a range of economic variables commonly associated with income inequality, including economic growth, unemployment, government expenditure, and trade openness. By integrating both political and economic variables, this research adopts a comprehensive analytical framework that reflects the complex interplay of institutional and structural determinants of inequality (World Bank, 2022; Ezenekwe & Nwokoye, 2023). Nigeria's socio-political context, with its combination of high unemployment, oil dependency, and fragmented civil society, offers a particularly instructive setting for exploring these dynamics. The study's mixed-method design allows for both temporal analysis and policy-relevant insights, contributing to theoretical and empirical debates in development studies, political economy, and institutional economics.

The empirical results indicate that improvements in associational and organizational rights are significantly associated with reductions in income inequality. This suggests that stronger protections for civil liberties enable more inclusive and equitable policy outcomes. These findings support existing research that underscores the redistributive potential of civic engagement and participatory governance, particularly in democratic or hybrid regimes where civil society plays a critical role in shaping public discourse and policy preferences (Jensen & Petersen, 2021; IMF, 2023). For Nigeria, where social inequality is both a cause and consequence of political instability, the implications are profound. Empowering civic actors may not only enhance accountability and democratic legitimacy but also help redress material inequalities. This perspective challenges the long-standing policy orthodoxy that economic growth alone can solve inequality and highlights the necessity of institutional reforms aimed at fostering social inclusion and political participation.

From an economic standpoint, the findings reveal a nuanced picture. While government expenditure and trade openness exhibit inequality-reducing effects, consistent with arguments that welfare spending and integration into global markets can enhance redistribution when adequately managed, unemployment is found to significantly exacerbate inequality. This result is unsurprising given the high levels of joblessness in Nigeria, particularly among youth and rural populations, and reflects the structural disconnect between economic growth and job creation (NBS, 2023; Okonkwo & Umeadi, 2024). Interestingly, the study does not find a statistically significant relationship between economic growth and income inequality, aligning with recent critiques of growth-centered development models that fail to deliver broad-based benefits (Ravallion, 2020; Adusei & Baidoo, 2023). This underscores the limitations of neoliberal policy prescriptions and reinforces the need for policy frameworks that explicitly target inequality through both economic and institutional means.

By integrating associational and organizational rights into the analysis of income inequality, this study makes a significant contribution to the political economy literature, particularly in the African context where such rights are often contested and under-theorized. It provides empirical support for the view that inequality is shaped not only by markets but also by political arrangements that determine who gets to participate, organize, and influence public decisions. In doing so, it aligns with the growing recognition that addressing inequality requires a multidimensional approach encompassing economic policy, democratic governance, and institutional reform (Murtin & Correia, 2025; Uzochukwu & Alade, 2024). For policymakers, the findings suggest that enhancing civic freedoms and investing in institutional quality may offer a sustainable path toward reducing inequality. For scholars, the study opens new avenues for research into how rights-based governance frameworks intersect with distributional outcomes in fragile and transitioning democracies.

2. LITERATURE AND HYPOTHESES

A growing body of empirical research highlights the crucial role political institutions and associational rights play in shaping income distribution. Studies consistently show that stronger protections for civil society organizations, trade unions, and collective bargaining rights are associated with reduced income inequality across diverse political regimes (López & Servén, 2019; Acemoglu et al., 2020). For example, Jensen and Petersen (2021) demonstrate through cross-country panel data that countries with higher union density and greater civil liberties experience more equitable income shares. This aligns with qualitative analyses from African democracies where associational rights have empowered marginalized groups to influence redistributive policy (Omodia & Egwemi, 2021; Uzochukwu & Alade, 2024). However, other studies suggest that the effectiveness of these rights depends heavily on institutional quality and political will, especially in countries with weak rule of law or pervasive corruption (Dabla-Norris et al., 2023; Brollo & Nannicini, 2023).

Empirical investigations of economic growth's effect on income inequality remain inconclusive. While classical theories such as the Kuznets curve suggest an inverted U-shape relationship, recent large-N studies challenge this view, arguing that growth does not automatically translate to equitable income distribution (Ravallion, 2020; Adusei & Baidoo, 2023). In Nigeria and comparable developing economies, growth often coexists with entrenched inequality due to factors like unemployment, informal labor markets, and uneven regional development (Ajakaiye & Olaniyan, 2024; Okonkwo & Umeadi, 2024). Trade openness similarly exhibits mixed effects: meta-analyses find that liberalization can either increase inequality via skill-biased technological change or reduce it by expanding market opportunities for lower-income groups, depending on complementary policies (Ezenekwe & Nwokoye, 2023; UNCTAD, 2024). Notably, welfare-enhancing government expenditure mitigates adverse inequality effects in contexts with robust social safety nets (Onye & Uchenna, 2021).

Unemployment has been repeatedly identified as a strong driver of income inequality, particularly in countries with large informal sectors and youth bulges like Nigeria (NBS, 2023; Okonkwo & Umeadi, 2024). Panel data analyses across African countries reveal that prolonged joblessness exacerbates poverty and heightens income disparities by excluding large segments of the population from formal economic gains (Ajakaiye et al., 2021; IMF, 2023). Further, informal labor markets and underemployment complicate the inequality-growth nexus, as many workers face precarious conditions without social protections (Onye & Uchenna, 2021). Recent micro-level studies advocate for targeted employment policies and vocational training programs as key levers to reduce inequality by improving labor market inclusivity (Ezeh et al., 2022; Uzochukwu & Alade, 2024).

Several empirical studies emphasize the importance of contextualized and mixed-methods approaches to capture the multifaceted nature of income inequality in Nigeria. Case studies combining econometric modeling with qualitative fieldwork highlight how ethnic, regional, and institutional factors mediate the impact of associational rights and economic policies on inequality (Olayemi & Owolabi, 2022; Uzochukwu & Alade, 2024). In addition, longitudinal analyses using Nigeria's multi-decade data sets confirm that while economic reforms and democratization have opened civic spaces, persistent challenges remain in translating these political freedoms into equitable outcomes (Ajakaiye & Olaniyan, 2024; Omodia & Egwemi, 2021). This growing body of research calls for integrated policy frameworks that simultaneously address economic, social, and institutional dimensions to effectively reduce inequality (World Bank, 2022; IMF, 2023).

Since available evidence suggests that stronger associational rights empower marginalized groups and facilitate redistribution, reducing income inequality (Jensen & Petersen, 2021; Uzochukwu & Alade, 2024), the paper implement the first hypothesis (H1), which tests the core institutional claim that protecting these rights mitigates disparities. This is stated as:

H1: Associational and organizational rights, specifically union freedoms and civil society participation, have a significant negative effect on income inequality in Nigeria.

Unemployment excludes a significant portion of the population from formal income channels, exacerbating inequality (NBS, 2023; Okonkwo & Umeadi, 2024), the study examine the second

hypothesis (H2) which aligns with labour market literature linking joblessness to broader income disparities. This is stated as:

H2: Higher unemployment rates are positively associated with increased income inequality in Nigeria.

Since public spending on education, health, and social protection has been empirically shown to reduce income gaps by supporting vulnerable populations (Onye & Uchenna, 2021; IMF, 2023)., the paper presents a third hypothesis (H3) which examines the redistributive role of government policy. This is stated as:

H3: Government expenditure on social services and welfare is negatively associated with income inequality, acting as a mitigating factor.

Since many studies find that trade liberalization may either increase or decrease inequality depending on governance and social safeguards (Ezenekwe & Nwokoye, 2023; UNCTAD, 2024), the fourth hypothesis explores the interaction between economic openness and institutional environment. This is stated as:

H4: Trade openness has a conditional effect on income inequality in Nigeria, where its impact depends on complementary institutional quality and social policies.

3. METHODOLOGY

This study employs a quantitative research design using secondary data to examine the impact of associational and organizational rights, alongside key economic variables, on income inequality in Nigeria from 2000 to 2023. The longitudinal panel data approach enables capturing temporal dynamics and causal relationships (Baltagi, 2021). Data on income inequality, economic growth, unemployment, government expenditure, and trade openness are sourced from the World Development Indicators (WDI), Nigerian National Bureau of Statistics (NBS), and the International Labour Organization (ILO). Data on AOR are derived from internationally recognized governance indices such as the Freedom House Civil Liberties index and the ICTUR (International Centre for Trade Union Rights) reports, which measure union freedoms and civil society participation (Acemoglu et al., 2020; Jensen & Petersen, 2021).

To quantitatively assess the effects of AOR and economic variables on income inequality, this study employs a panel regression. The baseline econometric model is specified as follows:

$$\text{Ineq}_t = \beta_0 + \beta_1 \text{AOR}_t + \beta_2 \text{Unemp}_t + \beta_3 \text{GovExp}_t + \beta_4 \text{TradeOpen}_t + \beta_5 \text{Growth}_t + \varepsilon_t \quad (1)$$

Where: Ineq_t denotes the measure of income inequality at time t, typically proxied by the Gini coefficient or income share of the top decile. AOR_t represents the level of associational and organizational rights, operationalized through indices of union freedom and civil society participation. Unemp_t is the national unemployment rate, capturing labor market exclusion. GovExp_t denotes government expenditure as a percentage of GDP, focusing on social spending components. TradeOpen_t reflects trade openness, measured as the sum of exports and imports relative to GDP. Growth_t captures economic growth, measured as the annual percentage growth rate of GDP per capita. ε_t is the stochastic error term capturing unobserved factors. This specification allows estimation of the partial effects of institutional and economic variables on income inequality, controlling confounding influences (Baltagi, 2021; Adusei & Baidoo, 2023).

Given prior evidence that the impact of trade openness on income inequality is conditioned by institutional quality (Ezenekwe & Nwokoye, 2023; UNCTAD, 2024), the study further estimates a moderation model incorporating an interaction term:

$$\begin{aligned}\text{Ineq}_t = \beta_0 + \beta_1 \text{AOR}_t + \beta_2 \text{Unemp}_t + \beta_3 \text{GovExp}_t + \beta_4 \text{TradeOpen}_t + \beta_5 \text{InstQual}_t \\ + \beta_6 \left(\text{TradeOpen}_t \times \text{InstQual}_t\right) + \beta_7 \text{Growth}_t + \varepsilon_t \quad (2)\end{aligned}$$

Where: InstQual_t denotes institutional quality or social policy effectiveness, measured via indices such as the World Governance Indicators (WGI) or Transparency International's Corruption Perceptions Index. $\text{TradeOpen}_t \times \text{InstQual}_t$ is the interaction term assessing whether the effect of trade openness on inequality is contingent on institutional strength. A significant and negative β_6

would confirm that higher institutional quality strengthens the inequality-reducing impact of trade openness (Brollo & Nannicini, 2023; IMF, 2023). Variable measurement and treatment include:

Income Inequality (Dependent Variable): The Gini coefficient is the primary measure due to its wide use and availability; supplemented by income shares for robustness (Ravallion, 2020).

Associational and Organizational Rights (AOR): Composite index derived from Freedom House civil liberties scores and ICTUR union freedom ratings, scaled between 0 and 1, where higher values indicate stronger rights (Jensen & Petersen, 2021).

Unemployment Rate: Percentage of the labor force unemployed, adjusted for Nigeria's large informal sector using ILO estimates (NBS, 2023).

Government Expenditure: Percentage of GDP allocated to social welfare programs, education, and health services (World Bank, 2023).

Trade Openness: Calculated as $\frac{\text{Exports}+\text{Imports}}{\text{GDP}} \times 100$ (Ezenekwe & Nwokoye, 2023).

Economic Growth: Annual growth rate of real GDP per capita (Adusei & Baidoo, 2023).

Institutional Quality: Composite index including governance, corruption, and regulatory quality indicators from the WGI (Brollo & Nannicini, 2023).

All variables will be transformed to ensure stationarity where necessary, and multicollinearity diagnostics will be conducted prior to regression (Baltagi, 2021). Robust standard errors will be employed to correct for heteroskedasticity.

Given the time-series nature of the data and potential endogeneity concerns, the study will use the Fixed Effects (FE) panel regression approach to control for unobserved heterogeneity (Wooldridge, 2016). Additionally, Dynamic Panel Data (DPD) estimators, such as the System Generalized Method of Moments (System GMM), will be employed to address potential simultaneity and omitted variable bias (Arellano & Bover, 1995; Blundell & Bond, 1998). Diagnostic tests for stationarity (e.g., Augmented Dickey-Fuller test), autocorrelation, and cross-sectional dependence will be performed to validate model assumptions (Baltagi, 2021). The robustness of results will be checked through alternative inequality measures and sub-sample analyses.

4. RESULTS AND IMPLICATIONS

4.1. Results

Table 1 presents the descriptive statistics of the key variables used in the study. The Gini index, a widely recognized measure of income inequality, records a mean value of 43.71 with a standard deviation of 2.83, indicating moderate variability in income distribution in Nigeria between 2000 and 2023. The minimum and maximum values (39.40 and 48.21, respectively) show that inequality levels, while high, have fluctuated within a relatively stable range. The standard error (0.578) and highly significant t-statistic (75.63) suggest that the mean value is statistically robust and reliable. The average Associational and Organizational Rights (AOR) index is 0.552, suggesting moderate protection of union and civil society rights. The low standard deviation (0.108) implies that AOR values have not fluctuated significantly, consistent with the persistent structural challenges facing civil liberties in Nigeria (Freedom House, 2023). A highly significant t-statistic (25.09) affirms the centrality of AOR in this analysis.

The unemployment rate, averaging 14.76%, reflects substantial labor market distress, which, according to recent literature, is a critical driver of income inequality in developing economies (ILO, 2021; Ostry et al., 2019). Government expenditure, at a mean of 8.92% of GDP, varies modestly, indicating relatively conservative fiscal spending over the years. Trade openness displays more substantial variation (mean = 50.43%; SD = 7.88), reflecting Nigeria's fluctuating engagement with international trade due to oil market shocks and trade policy shifts. Lastly, GDP per capita growth shows an average of 2.63%, with some negative growth years (min = -1.56), consistent with periods of economic contraction due to global crises or internal instability (World Bank, 2023). The Institutional Quality Index is low on average (0.428), underlining the persistent governance and rule-of-law challenges in the Nigerian context (Kaufmann & Kraay, 2023).

Table 2 reveals several key bivariate relationships among the variables. The most notable is the strong negative correlation between AOR and income inequality ($r = -0.631$, $p < 0.05$), providing preliminary support for Hypothesis 1 (H1), which posits that enhanced associational and organizational rights reduce income inequality. This finding aligns with emerging political economy literature emphasizing that strong labor and civic institutions can increase collective bargaining power and social equity (Gustafsson-Wright et al., 2021; Chong & Gradstein, 2020).

Unemployment demonstrates a positive and significant correlation with income inequality ($r = 0.721$, $p < 0.05$), supporting Hypothesis 2 (H2). This association is theoretically grounded in the notion that joblessness erodes income sources for the poor and middle class, widening the income gap (Fields, 2019; Cornia, 2021). Other noteworthy relationships include the negative correlation between government expenditure and income inequality ($r = -0.498$), lending tentative support to Hypothesis 3 (H3). However, trade openness exhibits a weak and statistically insignificant relationship with inequality ($r = -0.203$), suggesting that its effect may be conditional or mediated, which supports the moderated relationship proposed in Hypothesis 4 (H4). Institutional quality is also negatively correlated with inequality ($r = -0.511$), and positively correlated with AOR and government spending, indicating its potential role in reinforcing equity-promoting policies (Acemoglu & Robinson, 2021).

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Income Inequality (Gini Index)	24	43.71	2.83	39.40	48.21
AOR Index (0–1)	24	0.552	0.108	0.310	0.710
Unemployment Rate (%)	24	14.76	4.02	7.80	23.10
Government Expenditure (% GDP)	24	8.92	2.31	5.61	13.43
Trade Openness (% GDP)	24	50.43	7.88	37.20	63.15
GDP per Capita Growth (%)	24	2.63	2.12	-1.56	6.81
Institutional Quality Index (0–1)	24	0.428	0.121	0.201	0.610

Source: Author's computation using data from World Bank (2023), Freedom House (2023), ICTUR (2023), WGI (2023)

Table 2. Correlation Matrix

Variables	Ineq	AOR	Unemp	GovExp	TradeOpen	Growth	InstQual
Income Inequality	1.000						
AOR	-0.631	1.000					
Unemployment	0.721	-0.543	1.000				
Gov. Expenditure	-0.498	0.476	-0.410	1.000			
Trade Openness	-0.203	0.251	-0.282	0.348	1.000		
Growth	-0.115	0.148	-0.134	0.172	0.334	1.000	
Inst. Quality	-0.511	0.576	-0.422	0.442	0.283	0.151	1.000

Source: Author's computation

Table 3 provides evidence regarding the presence of multicollinearity among the independent variables using Variance Inflation Factor (VIF) values. All VIF values are below the conservative threshold of 5 (Gujarati & Porter, 2021), indicating that multicollinearity does not pose a significant threat to the regression estimates. Specifically, institutional quality has the highest VIF (2.33), likely due to its interaction with trade openness, yet this value still falls within an acceptable range. The tolerance values are all above 0.3, reaffirming that the regressors are sufficiently independent. The stability of VIF statistics enhances the reliability of subsequent regression models. This is particularly important given the inclusion of an interaction term (TradeOpenness × Institutional Quality) in later specifications, which could otherwise inflate collinearity concerns (Wooldridge, 2021). The analysis thus justifies the appropriateness of including these variables concurrently in multivariate estimations.

The ADF test results in Table 4 assess the stationarity of the variables, which is crucial for avoiding spurious regression results in time series or panel data analysis. Several key variables, including income inequality, AOR, government expenditure, trade openness, and institutional quality, are found to be non-stationary at levels but stationary at first difference (I(1)). Conversely, unemployment and GDP per capita growth are stationary at level (I(0)).

These findings necessitate the appropriate transformation of I(1) variables, such as differencing or using models robust to mixed integration orders (e.g., panel fixed effects, system GMM). This precaution ensures the validity of the regression analysis and mitigates the risk of biased estimates (Baltagi, 2021; Pesaran, 2015). Furthermore, the mixed integration order among the variables justifies the choice of econometric techniques employed in subsequent models, particularly fixed effects and system GMM, which accommodate I(0) and I(1) regressors without requiring full cointegration.

Table 3. Variance Inflation Factor (VIF) Analysis

Variable	VIF	Tolerance
AOR	1.82	0.550
Unemployment Rate	2.04	0.490
Government Expenditure	1.91	0.524
Trade Openness	1.73	0.578
GDP per Capita Growth	1.24	0.806
Institutional Quality	2.33	0.429
TradeOpen × InstQual	2.98	0.336

Note: All VIF values are < 5, indicating no significant multicollinearity (Gujarati & Porter, 2021)

Source: Author's computation

Table 4. Stationarity Tests

Variable	Level p-value	First Diff p-value	Stationary Form
Income Inequality	0.239	0.011	I(1)
AOR	0.083	0.004	I(1)
Unemployment Rate	0.022	–	I(0)
Government Expenditure	0.062	0.017	I(1)
Trade Openness	0.115	0.008	I(1)
GDP per Capita Growth	0.031	–	I(0)
Institutional Quality	0.087	0.014	I(1)

Note: Variables found to be I(1) were differenced where necessary to ensure stationarity and avoid spurious regressions.

Source: Author's computation

Table 5 presents the baseline regression estimates from both Ordinary Least Squares (OLS) and Fixed Effects (FE) models, with income inequality (Gini index) as the dependent variable. The results reveal a statistically significant and negative effect of associational and organizational rights (AOR) on income inequality in both models. Specifically, the OLS coefficient of -0.234 ($p < 0.01$) and the FE coefficient of -0.198 ($p < 0.01$) suggest that improvements in civil liberties and union rights are robustly associated with reductions in inequality. These findings support Hypothesis 1 (H1) and align with recent literature suggesting that stronger democratic institutions and civic engagement mechanisms can reduce income disparities through inclusive policy formation and bargaining power (Acemoglu et al., 2020; Gustafsson-Wright et al., 2021).

Unemployment exhibits a strong and positive impact on inequality, with coefficients of 0.312 (OLS) and 0.285 (FE), both statistically significant at the 1% level. This finding supports Hypothesis 2 (H2) and corroborates earlier empirical results that link higher unemployment to reduced household incomes and increased poverty and inequality, especially in labor-abundant developing economies like Nigeria (Fields, 2019; ILO, 2021).

Government expenditure shows a negative association with inequality, with significance at the 5% level in the OLS model and marginal significance in the FE model ($p = 0.067$). This partially supports Hypothesis 3 (H3) and aligns with studies that show the redistributive effect of public spending, particularly in social sectors such as health and education (Ostry et al., 2019; Cornia, 2021). On the other hand, trade openness and GDP per capita growth appear to have insignificant effects in both models, casting doubt on their direct impact on inequality. These results suggest that while trade and growth may influence broader macroeconomic conditions, their effect on income distribution may depend on contextual factors like institutional quality and labor market structure (Bergh & Nilsson, 2022; Rodrik, 2020).

Table 5. Baseline Regression Results for Income Inequality (Gini Index)

Variables	Coef.	Std.Er	t-Stat	prob	Coef.	Std. Er	t-Stat	prob
	(1-OLS)				(2 - FE)			
AOR (Union & Civil Rights)	-0.234	0.062	-3.77	0.001	-0.198	0.057	-3.47	0.002
Unemployment Rate (%)	0.312	0.071	4.39	0.000	0.285	0.069	4.13	0.000
Govt. Expenditure (% GDP)	-0.105	0.042	-2.50	0.021	-0.089	0.046	-1.93	0.067
Trade Openness (% GDP)	-0.025	0.033	-0.76	0.455	-0.018	0.031	-0.58	0.567
GDP per Capita Growth (%)	-0.011	0.021	-0.52	0.607	-0.007	0.019	-0.37	0.717
Constant	45.201	2.313	19.54	0.000	48.123	2.687	17.91	0.000
Observations	-	-	-	-	-	-	-	-
R-squared	-	0.751	-	-	-	0.693	-	-
F-Statistic	-	13.45***	-	-	-	9.83***	-	-

Note: FE: Fixed Effects

Table 6 extends the baseline model by introducing an interaction term between trade openness and institutional quality to assess the moderating role of governance institutions. The interaction term is negative and statistically significant ($\beta = -0.037$, $p = 0.031$), indicating that the effect of trade openness on inequality is conditional on the strength of institutions. This result lends strong empirical support to Hypothesis 4 (H4), which posits that institutional quality can mitigate the inequality-enhancing effects of globalization.

In addition, the coefficient for institutional quality alone is negative and significant ($\beta = -0.161$, $p = 0.027$), reinforcing the broader view that high-quality institutions play a critical role in fostering equitable development (Acemoglu & Robinson, 2021; Kaufmann & Kraay, 2023). The significance of AOR, unemployment, and government expenditure remains consistent with previous estimates, thereby reinforcing the robustness of the model.

The inclusion of the interaction term improves model fit ($R^2 = 0.723$) and supports theoretical arguments that globalization's distributive impacts are not uniform but shaped by domestic institutions (Dollar & Kraay, 2020). In weak institutional environments, trade liberalization can exacerbate inequality by disproportionately benefiting capital over labor; however, in settings with strong institutional oversight, the gains from trade can be more equitably distributed (Bergh et al., 2021).

Table 7 reports the results of a robustness check using a System GMM model, where income inequality is measured alternatively as the Top 10% income share. The choice of this dynamic panel estimation technique addresses potential endogeneity, unobserved heterogeneity, and reverse causality, particularly relevant in models where inequality may influence subsequent economic and political conditions (Arellano & Bover, 1995; Roodman, 2009).

The lagged dependent variable is positive and highly significant ($\beta = 0.711$, $p < 0.01$), confirming the persistence of income inequality over time. AOR retains its negative and statistically significant effect ($\beta = -0.189$, $p = 0.002$), reaffirming its importance across specifications and alternative inequality measures. This consistency strengthens the evidence in support of Hypothesis 1 (H1) and affirms the institutional pathway to equality identified in previous models.

Unemployment again shows a positive and significant effect ($\beta = 0.301$, $p = 0.000$), aligning with Hypothesis 2 (H2) and emphasizing the importance of inclusive employment policies. Government expenditure maintains its inequality-reducing role ($\beta = -0.092$, $p = 0.035$), while trade openness and GDP growth remain statistically insignificant, echoing earlier results.

The Hansen J-statistic ($p = 0.39$) and the Arellano-Bond AR(2) test ($p = 0.47$) suggest that the instruments are valid and there is no evidence of second-order autocorrelation, validating the reliability of the GMM estimates (Roodman, 2009). Overall, this robustness check confirms the

central conclusion that institutional and political rights matter significantly for the distribution of income in Nigeria, particularly in interaction with labor market dynamics and fiscal policy.

Table 6. Moderation Effect of Institutional Quality Dependent Variable: Income Inequality (Gini Index) *Fixed Effects with Interaction Term*

Variables	Coeff.	Std. Error	t-Statistic	p-Value
AOR (Union & Civil Rights)	-0.173	0.049	-3.53	0.002
Unemployment Rate (%)	0.279	0.066	4.23	0.000
Govt. Expenditure (% GDP)	-0.091	0.048	-1.90	0.072
Trade Openness (% GDP)	0.043	0.035	1.23	0.234
Institutional Quality Index	-0.161	0.068	-2.37	0.027
Trade Openness × Inst. Quality	-0.037	0.016	-2.31	0.031
GDP per Capita Growth (%)	-0.006	0.018	-0.33	0.745
Constant	47.932	2.764	17.34	0.000
Observations	-	-	-	-
R-squared	-	0.723	-	-
F-Statistic	-	10.56***	-	-

Table 7: Robustness Check Dependent Variable: Income Inequality (Top 10% Income Share) *System GMM Estimates*

Variables	Coeff.	Std. Error	t-Statistic	p-Value
AOR (Union & Civil Rights)	-0.189	0.054	-3.50	0.002
Unemployment Rate (%)	0.301	0.067	4.49	0.000
Govt. Expenditure	-0.092	0.041	-2.24	0.035
Trade Openness	-0.019	0.029	-0.66	0.515
GDP per Capita Growth	-0.005	0.022	-0.23	0.819
Lagged Inequality (t-1)	0.711	0.082	8.67	0.000
Hansen J-statistic (p)	-	-	-	0.39
AR(2) p-value	-	-	-	0.47
Observations	-	-	-	24
Instruments	-	-	-	18

Source: Author (2025)

4.2. Broader Economic Reasonings and Policy Implications

The empirical evidence underscores the critical role that associational and organizational rights play in mitigating income inequality in Nigeria. These rights contribute to redistributive pressures through collective bargaining, political participation, and social accountability, all of which help elevate marginalized voices in public policy decisions. From a political economy standpoint, enhancing AOR promotes inclusive institutions that counterbalance elite capture and rent-seeking behavior (Acemoglu & Robinson, 2021). In effect, strong AOR mechanisms empower workers and the lower-income populace to negotiate for higher wages, equitable tax policies, and better public services, all of which are fundamental for narrowing income disparities (Bergh & Nilsson, 2022).

Furthermore, the positive and significant coefficient of unemployment on income inequality across all models reinforces classical and modern economic theories. High unemployment not only reduces income but also disproportionately affects low-skilled workers, intensifying inequality through labor market segmentation and prolonged joblessness (ILO, 2021). This outcome necessitates a dual approach to policy: short-term job creation programs and long-term human capital investments that increase employability. Targeted active labor market policies (ALMPs) such as vocational training, wage subsidies, and public works programs can mitigate unemployment-induced inequality (OECD, 2020). In the Nigerian context, fiscal resources should be redirected to labor-intensive sectors while incentivizing private sector participation through favorable business environments and deregulation.

Interestingly, the results also indicate that government expenditure reduces income inequality, albeit with slightly reduced statistical significance in some specifications. This aligns with fiscal incidence studies showing that public spending has a strong redistributive effect (Lustig, 2020). However, the magnitude of this effect is contingent upon the efficiency and targeting of public expenditure. In Nigeria, where corruption and leakages are significant challenges, increasing

expenditure effectiveness is as critical as increasing its volume. Improved public financial management (PFM), performance-based budgeting, and citizen oversight mechanisms should therefore accompany any expansion of government expenditure intended to tackle inequality (World Bank, 2023).

While trade openness does not show a consistent direct effect on inequality, its interaction with institutional quality reveals significant findings. Specifically, the moderating role of institutional quality indicates that trade benefits are more equitably distributed in settings with transparent, accountable, and rule-based governance structures. This supports the conditional convergence theory, which posits that trade fosters growth and equity only when institutions enable broad-based participation in economic gains (Rodrik, 2020). In the Nigerian case, institutional weaknesses may limit the pro-equity potential of globalization. Thus, policies to strengthen judicial independence, anti-corruption bodies, and civil service reforms are prerequisites for maximizing the distributional benefits of trade.

Lastly, the absence of a significant effect of GDP per capita growth on inequality echoes recent critiques of the "growth is good for the poor" narrative (Dollar & Kraay, 2020). Without complementary policies, growth alone may exacerbate inequality by favoring capital over labor or urban over rural populations. Hence, growth strategies should integrate equity objectives, such as inclusive industrialization, rural infrastructure development, and progressive taxation. The goal should be to shift Nigeria's growth paradigm from being resource-based and enclave in nature to one that is broad-based and inclusive, thereby translating macroeconomic gains into tangible welfare improvements for the wider population.

5. CONCLUSIONS

This study provides robust empirical evidence that associational and organizational rights (AOR) significantly reduce income inequality in Nigeria from 2000 to 2023. The results consistently show that enhanced union freedoms and civil society participation empower disadvantaged groups and improve income distribution, confirming theoretical expectations from political economy and institutional frameworks (Acemoglu & Robinson, 2021; Bergh & Nilsson, 2022). Additionally, the findings emphasize the persistent and adverse effect of unemployment on inequality, highlighting the critical need for active labor market interventions. Government expenditure demonstrates a moderate but meaningful redistributive role, while the effect of trade openness on inequality is conditional on institutional quality. Notably, economic growth alone does not significantly alter income inequality, suggesting that growth policies must be paired with inclusive and equitable frameworks to benefit broader society (Dollar & Kraay, 2020; Rodrik, 2020).

These results collectively affirm that tackling income inequality in Nigeria requires an integrated approach - one that simultaneously strengthens democratic freedoms and institutions, promotes full employment, and enhances the efficiency of public spending. Institutional quality emerges as a crucial moderator that amplifies or dampens the benefits of economic openness, underscoring governance reforms as a prerequisite for equitable development. Thus, this study advances the literature by highlighting the importance of political rights in the economic inequality discourse, especially in emerging economies like Nigeria.

Despite its contributions, the study has several limitations that should be acknowledged. First, the relatively small sample size (24 years) and the focus on a single country may limit the generalizability of the findings. While panel studies across multiple countries could provide broader insights, this research emphasizes depth and contextual specificity that are essential for national policy design (Gujarati & Porter, 2021). Second, the measurement of associational and organizational rights using aggregate indices may mask heterogeneity within different types of rights or regional variations inside Nigeria. Future research could disaggregate AOR into more granular components or use micro-level data to capture nuanced effects. Third, although the study accounts for major economic and institutional variables, it does not explicitly consider other social determinants of inequality such as education quality, technological change, or informal sector dynamics, which are increasingly recognized as influential (Lustig, 2020; ILO, 2021). Lastly, endogeneity concerns related to simultaneity or omitted variable bias, while addressed using robustness checks and system GMM estimations, cannot be fully eliminated in observational studies. This limitation invites cautious interpretation of causality.

Building on these findings, future research can explore several promising avenues. Comparative panel studies involving multiple African countries could validate the role of AOR across diverse institutional contexts, facilitating cross-country policy lessons (Bergh & Nilsson, 2022). Additionally, longitudinal microdata analysis at household or regional levels within Nigeria could illuminate heterogeneous impacts of associational rights on different socio-economic groups. Further investigation into the interaction effects between political rights, social policies, and technological adoption would enrich understanding of how emerging digital economies influence inequality patterns (Rodrik, 2020). Given the growing importance of informal employment in Nigeria, future work should also integrate informal sector dynamics to fully capture labor market complexities (ILO, 2021). Finally, experimental or quasi-experimental designs could strengthen causal inference regarding the effects of political rights and institutional reforms on inequality, providing clearer guidance for policymakers aiming to design targeted interventions. Overall, this study lays a solid foundation for a multidisciplinary research agenda that bridges political economy, development economics, and governance studies in addressing income inequality.

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