



**POLAC ECONOMIC REVIEW (PER)  
DEPARTMENT OF ECONOMICS  
NIGERIA POLICE ACADEMY, WUDIL-KANO**



## TRADE POLICY AND INCOME INEQUALITY IN NIGERIA

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### Abstract

*The study examined the relationship between trade policy and income inequality in Nigeria for the period 1980 to 2023. The study employed the Auto-regressive Distributed Lag (ARDL) regression estimate to achieve the objective of the study. The result of the ARDL estimate showed an insignificant relationship between trade policy and income inequality in Nigeria. This implies that trade policy is not a significant determinant of income inequality in Nigeria and that trade policy has not contributed to reducing inequality in Nigeria. Drawing from this conclusion, the study recommends the need for more reaching foreign policy that would contribute to creating employment opportunities with the aim of closing the inequality gap in Nigeria.*

**Keywords:** Trade Policy, Income Inequality, ARDL, Nigeria.

**JEL Classification:** F13, O24.

### 1. Introduction

The comparative advantage theory by Ricardo (1817) emphasized the economic as well as the welfare gains of trade through productivity and exchange between countries. The economic benefits of trade policy are evident in the economic performance of the developed and newly industrialized countries (such as the United States, Japan, China, etc) which are characterized by impressive growth and economic development (Pacheco-Lopez & Thirlwall, 2006). Furthermore, trade policy may induce the development of labour-intensive activities in developing countries, thereby providing employment and income for the citizens of the host country (Park, 2017). The increase in income and employment opportunities is expected to improve standard of living, and reduce poverty and income inequality in the country (Adams, 2008; Jensen & Rosas, 2007).

However, with the absence of exchange rate adjustment as evident in developing countries and faster growth in aggregate imports of consumables relative to exports, trade policy might adversely affect the domestic industries thereby reducing employment opportunities, and increasing poverty rate and income inequality (Dodd & Cattaneo, 2006). Empirical

literatures on the link between trade policy and income inequality have equally yielded inconclusive evidence. While some studies noted that trade policy reduces the inequality gap through the provision of employment opportunities (Jensen & Rosas, 2007; Reuveny & Li, 2003), other studies claimed that trade policy increases income inequality among different groups (Park, 2017; Ogunyomi, Daisi & Oluwashikemi, 2013).

In spite of the above controversy, the perusal of domestic studies showed the dearth of literature on the impact of trade policy on income inequality in Nigeria. Previous studies have majorly focused on the link between income inequality and economic growth (Nwosa, 2019; Akanbi, 2016; Nurudeen & Ibrahim, 2014) while other studies looked at the relationship between trade policy and economic growth (see Ogbokor, 2017; Alajekwu, Ezsabasili & Nzotta, 2013; Nduka *et al.*, 2013). In order to bridge the existing gap in literature, this study seeks to address the research question “what is the relationship between trade policy and income inequality in Nigeria”?

Addressing this issue is salient because reducing poverty and narrowing income inequality have been a central issue in achieving socio-economic development in Nigeria and actualizing the objectives

of both the Sustainable Development Goals (SDGs) and the Millennium Development Goals (MDGs) (Akinbobola & Saibu, 2004). More so, rising income inequality generates both social and political unrest which would undermine the benefits trade policy and in the long term impairs the long run growth benefits that might have accrued to the country due to trade openness.

This study contains five sections. Section one is the introductory section, section two presents both theoretical and empirical reviews of literatures while section three discussed the research methods. Data analysis and discussion is presented in section four while the conclusion and policy recommendations are discussed in section five

## 2. Literature Review

Theoretical perspectives on the link between trade policy and inequality have remained controversial in the literature due to opposing views of scholars. However, the theoretical perspectives have been discussed by examining the link between trade policy and economic growth on the one hand and the link between economic growth and income inequality on the other hand. The traditional classical trade theories pioneered by Smith (1776) and Ricardo (1817), claimed that trade policy or openness can stimulate economic growth through specialization in countries with relative abundant resources. The theory is premised on two assumptions – full employment and balance of payment equilibrium. If these assumptions are relaxed, then welfare gains of trade openness may be offset by the welfare loss of unemployment as well as trade imbalances (Pacheco-Lopez & Thirlwall, 2006; Dodd & Cattaneo, 2006).

The new trade theory pioneered by Krugman (1984) emphasized the benefits of trade policy to the host country through the flow of new knowledge, ideas, investment and economies of scale. These resources are expected to enhance the growth of the domestic economy and consequently translate into increase job employment opportunities and poverty reduction. Also, the new trade theory emphasized the need for protecting domestic industries with spillovers and externalities, and for using import substitution as a step forward for export promotion. The insights of the new

trade theory have more interesting implications with respect to the distributional impact of intra industry trade expansion, being less dramatic than those of inter industry trade (Omoke, 2007; Duncan & Quang, 2003).

Empirically, Aigheyisi and Egbon (2020) studied the role of trade openness in the relationship between foreign direct investment and income inequality in Nigeria. The study covered the period 1981 to 2015, and utilized dynamic ordinary least squares estimation techniques. The findings of the study showed that foreign direct investment significantly influenced income inequality. More so, the study observed that interaction between foreign direct investment and trade openness had negative impact on income inequality in Nigeria. The study concluded that financial sector development and economic growth are vital for the decrease in income inequality.

Nwosa (2020) analysed the relationship among globalisation, economic growth and income inequality in Nigeria for the period 1981–2018. The study used the vector error correction modelling (VECM) and auto-regressive distributed lag (ARDL) techniques. The result of the VECM showed unidirectional causation from inequality and globalisation to economic growth in the long run, while unidirectional causation was observed from inequality to economic growth in the short run. The ARDL estimate showed that globalisation and economic growth were significant determinants of income inequality in Nigeria. Furthermore, the ARDL estimate showed that trade and financial globalisation impacted income inequality differently.

Adewumi, Ogbodo, Aca and Enebe (2018) examined the impact of fiscal policy on income inequality in Nigeria for the period 1981 to 2017. The study used granger causality and impulse response estimation methods. The granger causality estimate showed unidirectional causation from income inequality to economic and social expenditures while unidirectional causality existed from education to income inequality. The impulse response function showed that shock to real GDP and education resulted in an upward trend in income inequality, while shock to social and economic expenditures had insignificant impact on income

inequality. More so, the study observed government tax only influenced income inequality in the first and second period, while the effect of tax towards other periods were insignificant.

Adetunji *et al.* (2012) examined the relationship among export trade, unemployment and poverty reduction in Nigeria. Using descriptive statistics, the study observed that oil exports which drives economic growth, failed to provide the needed employment to reduce poverty while agricultural trade particularly exports are capable of reducing poverty and inequality in Nigeria through the channel of employment and agricultural productivity growth. Akinbobola and Saibu (2004) analyzed the relationship among income inequality, unemployment and poverty in Nigeria using vector auto-regressive estimation technique. The result of the study should that reduction in unemployment rate improves human development and consequently reduce poverty in Nigeria. More so, the study observed that increase in government expenditure reduces unemployment rate and improves human development index. Thus, the study recommended the need for infrastructural based policies capable of reducing unemployment and enhancing living standards in Nigeria.

### 3. Materials Method

#### 3.1 Data and Sources

Data on income inequality (INQ) is measured by the Gini coefficient, TRD is trade policy measured by trade openness, GRT is economic growth which is measured by the growth rate of the real gross domestic product. GSIV is government size measured by the ratio of aggregate government expenditure to real gross domestic product, CPI is consumers price index, UEM is unemployment rate and POV is poverty rate. Data on income inequality is sourced from the World Development Indicators (WDI) bulletin, 2024 edition while data on unemployment and poverty rate were sourced from the National Bureau of Statistics (NBS). Data on economic growth, government size and consumer price index were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2023 edition.

### 3.2 Model Specification

To achieve the objective of this study, this study specifies a simple model in line with Biswas and Sindzingre, (2006), this is expressed as:

$$INQ = f(TRD) \quad (1)$$

Introducing other control variables which are identified in the literature as important factors of income inequality (see Aigheyisi & Egbon, 2020; Adewumi *et al.*, 2018; Adams, 2008), thus equation (1) becomes:

$$INQ_t = f(TRD_t, GRT_t, GSIV_t, CPI_t, UEM_t, POV_t) \quad (2)$$

Linearizing equation (2) and introducing the constant and the stochastic error term, we have:

$$INQ_t = \varphi_0 TRD_t + \varphi_1 GRT_t + \varphi_2 GSIV_t + \varphi_3 CPI_t + \varphi_4 UEM_t + \varphi_5 POV_t + \varepsilon \quad (3)$$

From equation (3), INQ is income inequality measured by the Gini coefficient, TRD is trade policy measured by trade openness, GRT is economic growth measured by the growth rate of the real gross domestic product, GSIV is government size measured by the ratio of aggregate government expenditure to real gross domestic product, CPI is consumers price index, UEM is unemployment rate and POV is poverty rate. The study employed the Auto-regressive Distributed Lag (ARDL) in estimating equation (3).

### 4. Results and Discussion

#### 4.1 Descriptive Statistics, Unit Root and Co-integration Estimate

From the descriptive statistics on Table 1, it is observed that the average values of the income inequality (INQ), trade openness (TRD), economic growth rate (GRT) and government size (GSIV) are 43.84, 7.85, 3.24 and 2.10 respectively while the average values of consumer price index (CPI), unemployment rate (UEM) and poverty rate (POV) are 19.87, 12.47 and 57.60 respectively. The standard deviation showed that consumer price index (CPI) the most volatile variable (17.79) while the government size (GSIV) is the least volatile variable (1.89). The skewness statistics showed that all the variables are positively skewed with exception to economic growth rate (GRT). The kurtosis statistics showed that trade

openness (TRD), government size (GSIV) and poverty rate (POV) was platykurtic, indicating that the distribution of the variables were flat relative to normal distribution while economic growth rate (GRT) and consumer price index (CPI) are leptokurtic indicating that the distributions are peaked relative to normal distribution. However, the distribution of income inequalities (INQ) and unemployment rate (UEM) are mesokurtic, suggesting that the variables had normal

distribution. The Jarque-Bera statistic rejected the null hypothesis of normal distribution for trade openness (TRD), economic growth (GRT) and consumer price index (CPI) while the null hypothesis of normal distribution for income inequality (INQ), government size (GSIV), unemployment (UEM) and poverty rate (POV) were accepted at the same critical value (that is five per cent).

**Table 1.** Descriptive Analysis

Variables	INQ	TRD	GRT	GSIV	CPI	UEM	POV
Mean	43.836	7.845	3.242	2.103	19.871	12.473	57.597
Std. Dev.	11.000	9.623	6.124	1.891	17.792	9.391	14.968
Skewness	0.058	1.069	-3.248	0.425	1.560	0.966	0.014
Kurtosis	3.152	2.818	16.447	1.824	4.223	3.121	2.035
Jarque-Bera	0.058	7.286	353.118	3.334	17.787	5.938	1.475
Probability	0.971	0.026	0.000	0.189	0.000	0.051	0.478
Observations	44	44	44	44	44	44	44

Source: Authors' computation using e-views 9, 2025.

From the Augmented Dickey-Fuller test conducted (see Table 2), it was observed that income inequality (INQ), trade openness (TRD), government size (GSIV), unemployment rate (UEM) and poverty rate (POV)

were stationary at first difference (that is the variables are I(1) series while economic growth (GRT) and consumer price index (CPI) were stationary at levels, that is, the variables are I(0) series.

**Table 2.** Unit Root Test

Augmented Dickey-Fuller (ADF) Test			
Variables	Level	After Differencing	Status
INQ	0.0514	-5.0066*	I(1)
TRD	0.0910	-5.5209*	I(1)
GRT	-4.9182*	-	I(0)
GSIV	-0.7774	-6.9028*	I(1)
CPI	-3.1851**	-	I(0)
UEM	0.9266	-6.0645*	I(1)
POV	-2.0292	-3.9746*	I(1)

Source: Authors' Computation using E-views 9, 2025.

Note: \* and \*\* denote 1% and 5% critical values respectively.

The mix in the stationarity estimate suggests that the co-integration test be conducted using the Auto-Regressive Distributed Lag (ARDL) Bound Co-integration test proposed by Pesaran, Shin and Smith (2001). ARDL co-integration test provides the avenue of testing the co-integration among variables with different stationarity status. The ARDL provide two asymptotic critical values (lower and upper) bounds for testing the existence of co-integration when the regressors are

purely I(0) or I(1). A lower value assumes the regressors are purely I(0) while an upper value assumes the regressors are purely I(1). If the F-statistic falls outside the critical values, then a conclusive statement can be made regarding the nature of co-integration among the variables in the ARDL model, without a priori information on the order of integration of the independent variables. For instance, if the F-statistic is higher than the upper critical value, then the null

hypothesis of no co-integration is rejected, suggesting the existence of co-integration among the variables. Conversely, if the F-statistic is lower than the lower critical value, then the null hypothesis of no co-

integration cannot be rejected, suggesting the absence of co-integration among the variables. However, if the F-statistic falls between the upper and lower critical values, then the result is inconclusive.

**Table 3.** ARDL Bound Co-integration Test

Estimated Model	F-Statistics	
	2.3363	
Critical Values	Lower Bound	Upper Bound
1%	3.15	4.43
5%	2.45	3.61

**Source:** Authors' computation using e-views 9, 2025.

It is observed from Table 3 that the value of the F-statistics for the estimate is 2.34 which is lower than the lower bound critical value at 5%, suggesting the

absence of co-integration among the variables in the model, thus the study presents the short run ARDL regression estimate.

**Table 4.** Regression on Trade Policy and Income Inequality in Nigeria

Variables	Coefficients	Std. Error	t-Statistics	Prob.
<b>D(TRD)</b>	-0.2907	0.2611	-1.1136	0.2775
<b>D(GRT)</b>	-0.2075	0.2253	-0.9208	0.3672
<b>D(GSIV)</b>	2.2291	2.5501	0.8741	0.3915
<b>D(GSIV(-1))</b>	2.9049	1.7870	1.6256	0.1183
<b>D(CPI)</b>	-0.0198	0.0454	-0.4374	0.6661
<b>D(UEM)</b>	0.8954	0.3421	2.6174	0.0157
<b>D(POV)</b>	0.3438	0.1365	2.5180	0.0196
<b>Coint-Eq(-1)*</b>	-0.3518	0.1523	-2.3104	0.0306
<b>R-squared:</b>	0.7997	<b>Adjusted R-Squared:</b>	0.6813	
<b>F-Statistics (Prob.)</b>	6.755(p<0.05)	<b>Durbin-Watson Stat.</b>	2.17	

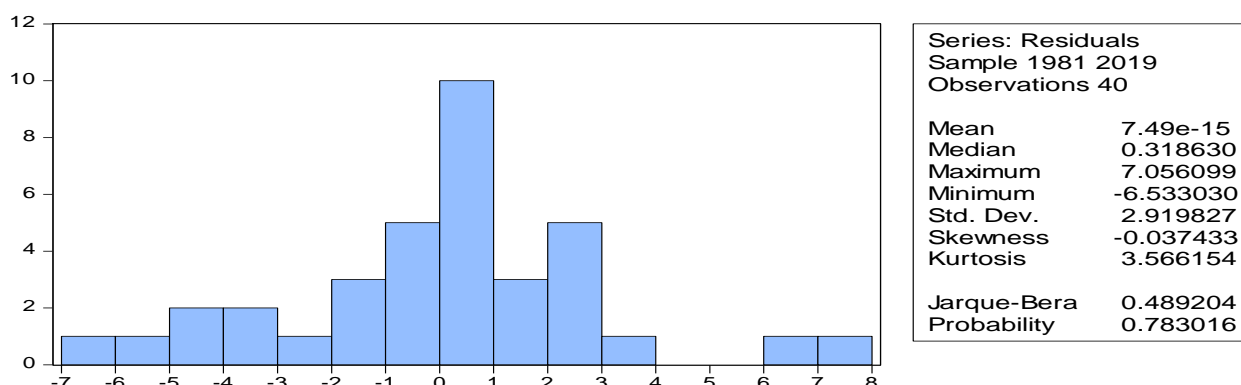
**Source:** Authors' computation using e-views 9, 2025.

The ARDL estimate on the link between trade policy and income inequality is presented in Table 4 above. It is observed from the table that trade openness (D(TRD)), economic growth rate (D(GRT)), government size (D(GSIV)), first lagged value of government size (D(GSIV(-1))) and consumer price index (D(CPI)) were insignificant in influencing income inequality in Nigeria. Although trade openness had a negative impact on income inequality but the effect is insignificant. The insignificant impact of trade policy on income inequality can be attributed to the fact over the years and despite the various trade agreement entered by the Nigerian government, there have not been any appreciable increase in non-oil export, which is a major contributor to employment generation. Furthermore, the unfriendly and harsh business atmosphere of the country has prevented potential

foreign investors from investing in the Nigerian economy which would have provided employment opportunity for the rising unemployed. The study further reviewed that unemployment rate (D(UEM)) and poverty rate (D(POV)) had significant and positive impact on income inequality. The positive impact of unemployment rate and poverty rate on income inequality is in line with a-priori expectation, because increase in unemployment and poverty rate worsens the inequality gap in a country.

In addition to the above diagnostic tests (such as normality and Breusch-Godfrey Serial Correlation tests) were carried out to ascertain the validity of the regression estimates. The result of the normality test on Figure 1 shows that the probability value of the Jarque-Bera statistic is greater than 5%, indicating that the

residuals from the estimates are normally distributed. The Breusch-Godfrey Serial Correlation tests) also shows (see Tables 5) the absence of serial correlation in the estimates, this is because the probability value is greater than 0.05. The results of the diagnostic tests show the appropriateness of the regression estimates.



**Figure 1. Normality Test**

**Source:** Authors' computation using E-views 9, 2025.

**Table 5. Breusch-Godfrey Serial Correlation LM Test**

F-Statistics	0.6977	Prob. F(1,31)	0.5094
Obs*R-squared	2.3480	Prob. Chi-Square(1)	0.3091

**Source:** Authors' computation using E-views 9, 2025.

## 4.2 Discussion of Findings

The results from above showed the insignificant influence of trade policy on income inequality which is attributable the various implemented trade policies particularly since the adoption of the structural adjustment programme (SAP), which have not enhanced growth, per capita income and unemployment substantially. The inefficiency of the trade policy in contributing to the growth of the economy resulted in the insignificant contribution of trade policy to income inequality in Nigeria. More so, the failure of the previous and current trade policy measures in resulting to the substantial decrease in the price of imported commodities, had worsened the inequality gap probably through rising inflation rate in Nigeria. More so, economic growth failed in contributing to narrowing the income inequality gap because of the failure of the past and present government in efficiently distributing the economic resources of the country to the benefits of the poor. This would have contributed in narrowing the income inequality gap. The positive and significant influence of rising unemployment and poverty rates to

worsening income inequality is a testament to the fact the alarming level of unemployment and poverty in the country are main factors contributing to the high gap between the rich and the poor in the country.

## 5. Conclusion and Recommendations

This study examined the link between trade policy and income inequality in Nigeria. The study covered the period 1980 to 2023, and employed both the ARDL regression estimate. The result of the ARDL estimate showed an insignificant relationship between trade policy and income inequality in Nigeria, implying that trade policy is not a significant determinant of income inequality in Nigeria and that trade policy has not contributed to reducing inequality in Nigeria. Drawing from this conclusion, the study recommends the need for more reaching foreign policy that would contribute to creating employment opportunities in Nigerian. Such increase in employment opportunities and subsequent increase in the income of the poor would contribute to bridging the income inequality gap in the country.

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