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Impact of Trade Liberalization on Poverty Reduction in Nigeria

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Abstract
This study examines the Impact of Trade Liberalization on Poverty Reduction in Nigeria. The Annual data of macroeconomic indicators including Poverty Rate, Trade Ratio, Import, Export, Gross Domestic Product and Real Exchange Rate was used to investigate the impact of trade liberalization on poverty reduction for the period of 38 years (1980-2018). The study applied Unit root test for stationarity. The Autoregressive Distributed Lag (ARDL) techniques were employed. The bounds test for co-integration result show that there is a long-run relationship between trade liberalization and poverty reduction in Nigeria. The empirical results showed that trade ratio proxy trade liberalization, import, export and real exchange rate had a significant impact on poverty rate in Nigeria, in the long run during the period of study. Trade ratio proxy trade liberalization had a positive (5.75) and significant at (5%) while import had a negative (-2.32), export had a negative (-3.44) and real exchange rate had a negative (-0.13) and significant at (5%) respectively and (10%) impact on poverty rate in Nigeria, in the long run. However, Gross Domestic Product had no significant impacts on poverty rate in Nigeria in the long run. The study concludes that trade liberalization plays an important role on poverty reduction in Nigeria. It is therefore, recommends that there is a need for the government to take policy measures on export and import with keen interest, since it was found that export and import have significant and long run impact on poverty reduction.
Keywords: Trade Liberalization, Poverty Reduction
JEL Classification: F13, I32

1. Introduction

In this globalization era, trade liberalization compromises lots of benefits to many countries, especially for the developing ones. It is reported that the number of exported products, particularly in manufacturing goods, has increased rapidly over the last 30 years (Levin & hlin, 2008). Most parts

of Asia and Africa continents experience the gains of trade liberalization, including an increase on welfare society and reduction in poverty level (Cockburn, Decaluwé & Robichaud, 2007; Hayashikawa, 2009) Trade liberalization leads to improved growth and improved living standards. Increased trade determines increase in wealth of a nation and thus reduces poverty (Bryan, 2013). It was postulated that countries which liberalized their economies since 1980s have grown at considerably faster rates and are reducing poverty more than countries which have not attempted active engagement with the global world, they have considerable rates of growth, lower inflation expanded trade, larger tariff reductions, and significantly reduced levels of poverty, while those nations which continued isolationist policies and did not engage in any concerted liberalization efforts suffered and largely stagnated (Dollar, 2001; Trejos & Barboza, 2015).

McCulloch, Winters and Cirera (2001) asserted that openness to trade is an important element of economic policy to achieve the sustainability of economic growth and trade liberalization is the way to achieve it. By opening up the access to the global economies, such as reducing tariff and nontariff barrier on international trade, countries can develop more partnership or diplomatic relationship with others countries in the world. When countries specialized products, it might increase the production efficiency which results in increased demands and firm will need to hire more labors. Recruiting more labors will indirectly affect the household's income. Afterward, the economy will grow up faster and poverty reduction can be reduced. On the other hand, although trade liberalization gives positive multiplier effects on the economy, it might also harm particular party since it leaves some people behind in poverty (Winters, McCulloch & McKay, 2004). Many unskilled workers cannot compete to the high skilled ones, the small firm will be in problem due to big firm's higher power to export goods in larger scale (Winters, 2000), local goods cannot compete against imported goods since overseas brands have better quality with lower price as well (Harrison, 2007; Eaton & Grossman, 1986).

Nigeria had experienced two distinct trade regimes, controlled (restricted) trade and the open trade. The philosophy of controlled trade embodied a regime of regulation that has both direct and indirect instruments of control in the conduct of external trade and payments. The basic rationale for control regime is to achieve efficiency, stability and firmness in the face of market failure, as the condition for competitive equilibrium is not satisfied (Alaba, Adeola & Paul, 2008). The opening of trade is expected to create more competition which would create a possibility of increase in productivity and efficiency. Trade liberalization policy on exchange rate and tariff system regimes in Nigeria dated back 1986. Nigeria operated various exchange rate

regimes these includes deregulated, fixed and guided deregulated. The exchange rate embarked in 1986 was to enhance Second Tier Foreign Exchange Market, Dutch Auction System, Foreign Exchange Market among others. The main objective of the exchange rate was to make Nigeria products competitive in the international market and then promote production and export hence reduces poverty. The exchange rate depreciated from ₦2.02 equivalent of $1 in 1986 to ₦169.68 equivalent of $1 in 2014 (Cornelius & Mustapha, 2014). It was further revealed upward trend of exchange rate to ₦307 in 2018.

Tariff system another policy of trade liberalization meant to control the inflow of imports and raise revenue into the country. The tariff system since 1986 was reviewed in favor of trade liberalization, which has seeing the tariff rate fallen to allow the importation of industrial machinery and equipment, duty free, raw material and capital goods at 5%, intermediate goods 10% and finished goods 50% (Cornelius & Mustapha, 2014). Thus, the tariff regime was a pro-poor reflective as it was meant to promote domestic production. If this policy strictly follows without issue of smuggling it might have impact on poverty reduction. Stylized facts about poverty status in Nigeria dated back to Abacha regime of 1993 – 1998, which shows poverty rate in Nigeria stood at 64.9% compared to 55.9% during Obasanjo 1999 – 2006 and 56.4% during Yar'adua and Jonathan 2007 – 2013 (World Bank, 2018). The coming of the present administration of President Muhammadu Buhari in 2015 with policies on poverty reduction poverty rate in Nigeria was 39.1% in 2018. Though Nigeria poverty rate fluctuated substantially in recent years, it tended to decrease through 2007 to 2018 period ending at 39.1% in 2018. In Nigeria, despite government efforts at liberalizing the economy, poverty is still high. The question remains, will national poverty rate reduce as a result of trade liberalization? The specific objective is to examine long - run relationship between trade liberalization and poverty reduction in Nigeria.

2. Literature Review

2.1 Conceptual Clarification

2.1.1 Trade Liberalization

Trade liberalization according to Banton and Will (2019) is the removal or reduction of restriction or barriers, the free exchange of goods between nations. These barriers include tariff such as duties and non-tariff such as licensing rules and quota. Alwell, Mansi and Vincent (2017) trade liberalization refers to the reduction or complete removal of trade barriers by a country or countries involved in foreign trade. This study adapted the concept of trade liberalization given by Banton and Will refers to the

reduction in restriction to encourage openness for exchange of goods and services among countries.

2.1.2 Poverty and Poverty Reduction

The most widely economic definition of poverty is earning less than $1.90 a day. But the World Bank goes beyond the amount of money a person or family earns to expand the definition of poverty. Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty is losing a child to illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom (World Bank, 2001). This definition comprises the multidimensional poverty index which involves three indices this include shelter, health and education. The study adapted the definition of poverty given by (World Bank, 2001) poverty refers to deprivation of economic freedom of unable to meet two third (⅔) of indices either shelter and health or shelter and education or both.

According to Ekwuruke (2015) defined the concept of poverty reduction refers to efforts aimed at reducing the magnitude of "poverty" defined in terms of the proportion of the population living below poverty line. The working definition of poverty reduction in this study is adapted from the work of Ekwuruke which refers to reduction in the rate of poverty through an influence of economic policy.

2.2 Nigeria Trade Policy

In a quest to ensure trade liberalization in Nigeria on 07 July, 2019, President Muhammadu Buhari signed the agreement of establishing the African Continental Free Trade Area (AfCFTA agreement) the agreement seek to create a single market for goods and services by facilitating free movement of goods, service and investment within the African Continent. The implication of AfCFTA agreement is that signatory States have committed to a progressive elimination of import duties and other non-tariff barriers on imports within the African Continent (Andersen, 2019).

Nigeria in 2015 implemented policy of Common External Tariff (CET) adopted by Economic Community of West African States (ECOWAS). ECOWAS CET seeks to liberalize in line with World Trade Organization (WTO) guidelines by harmonizing tariff charge within the ECOWAS countries and strengthening its common market vis-à-vis nonmembers countries, the policy allows members countries including Nigeria to employed restrictive trade policies on food and agricultural products. Nigeria had maintained several supplemental levies and duties on

selected imports that significantly rest effective tariff rate. Nigeria has effective duty (Tariff, Levy, Excise and Value Added Tax) of 50% or more on over 80 tariff lines. Most of the luxury goods and vehicle for pleasure 75% tariff as well as on alcohol 75% to 95% and tobacco 95%. Nigeria places high effective duty rate on import into strategic sectors to boast the competitiveness of the local industries such sectors are agriculture, wheat, sugar, rice and tomato paste have effectively rates of 85%, 75%, 70% and 50% respectively, mining with an effective duty of 70% on salt and 55% on cement (International Trade Administration, 2019). However, trade liberalization aid at improving the living standard of the people. Study by Schoch and Christoph (2020) revealed that Nigeria has the largest poor population in Sub Saharan Africa region of 79 million extreme poor which shows the Democratic Republic of Congo (60 million) Tanzania (28 million), and Madagascar (20 million) with extreme poor

2.3 Empirical Review

Using Ordinary Least Square Method Mufti, Faiza and Muhammad (2018) examined the impact of trade liberalization on poverty reduction from 1984 to 2017. The study revealed that trade openness ratio and labor force has a positive impact on poverty, whereas GDP and exchange rate have a negative impact. The study was carried out in Indonesia using OLS method while present study is conducted in Nigeria. However, the present study would further examine the impact of trade liberalization using Nigeria data on poverty.

Rafael, Saúl, Ramón and Eva (2014) studied the link between trade liberalization and poverty reduction. The study presents an overview of the impact of trade liberalization on poverty in Sub-Saharan Africa within a general equilibrium framework. The finding reveal that trade liberalization has positive effects on poverty reduction in the long run in Sub-Saharan Africa. The findings indicated that trade liberalization has positive effect on poverty reduction, meaning a percentage increase in trade liberalization would lead to the same percentage rise in poverty ratio. The finding may not be applicable in Nigeria because the study was conducted using the entire Sub Saharan African countries.

Manni and Afza (2012) assessed the impact of trade liberalization on Bangladesh economy between the periods 1980 to 2010. The study used simple Ordinary Least Square (OLS) technique. The result shows that GDP growth increased consequent to liberalization. Trade liberalization does not seem to have affected inflation in the economy. The quantitative analysis also suggests that greater openness has had a favorable effect on economic development. Both real export and imports have increased with greater

openness. Liberalization policy certainly improves export of the country which eventually leads higher economic growth after 1990s. The present study is conducted in Nigeria the result may be different.

Mohamed and Mohamed (2009) examined link between trade liberalization and poverty reduction African countries. The results of simulations using the modeling international relationships in applied general equilibrium (MIRAGE) linked to household measures suggest that trade liberalization has only modest effects in reducing poverty in most of the African countries covered by this study. However, the effect on poverty is not homogeneous across countries, as some of them will experience an increase in poverty rates rather than a decline. Moreover, the adoption of alternative fiscal policies to compensate for the loose in trade revenue for the government will amplifies the effects on poverty without changing its direction. Furthermore,

Topalova (2007) examined the impact of trade liberalization on poverty and inequality using a case in Indian district. The data were obtained from three sources, which are household survey data, Indian National Sample Survey, and various other households and individual characteristics. The surveys cover 75,000 rural and 45,000 urban households. The study found that trade liberalization increases the poverty rate and gap in the rural district which industries are more exposed to liberalization.

Duru, Okafor, Adikwu and Njoku (2020) examined the association between trade liberalization and economic growth in Nigeria from 1981 to 2018. The study used the Autoregressive Distributed Lag Bounds technique to co-integration. The results showed that trade liberalization do not support economic growth in Nigeria. It was furthermore, showed the presence of unidirectional causality from real Gross Domestic Product to trade liberalization in Nigeria. The present study would examine the long run relationship between trade liberalization and poverty reduction.

Nzeribe et al., (2018) evaluated the three decades of trade liberalization in Nigeria and the implications for industrial revolution. The study used ARDL bounds testing approach. It was found that trade liberalization actually led to deindustrialization and the interaction of trade liberalization and trade openness has positive effect on industrialization. The study recommends that liberalization of the economy should be handled with caution and should be accompanied by dynamic and flexible trade policies that will boost exports, especially industrial exports.

Alwell et al., (2017) investigated the impact of trade liberalization on economic growth in Nigeria. Autoregressive Distributed Lag model (ARDL) was employed. It was found that oil export and nonoil import impacted positively and significantly on economic growth both in the short and long

run. Oil import was found to significantly diminish economic growth in Nigeria. The study recommended increase in oil export by providing conducive environment for oil operations, improvement in non-oil export by diversifying the products base of the economy and building local capacity in oil exploration and refining in order to end petroleum products imports in Nigeria.

Muhammad et al., (2013) examined the causal relationships between trade liberalization growth of the Nigerian economy and poverty. The study employed ARDL approach. The result of the study show that trade liberalization does not cause poverty reduction, implying that the benefit of trade liberalization does not trickle down to the poor in Nigeria. This suggests that countries with high propensity to import and poor commodity prices need not to strictly follow the one size fit all trade liberalization policies rather each country need to focus on trade policies peculiar to its own environment, which can deliver growth and translate growth into a meaningful poverty reduction.

Ayinde (2013) traces the beneficial effects of trade-growth nexus and evaluates its indirect trend on the poverty periscope of the Nigerian economy. The study employed, Augmented Dickney Fuller, the Phillip Peron test, and the Johansen Juselius Cointegration tests respectively. The study used Vector Error Correction Model (VECM). The study found no co-integration between trade openness and economic growth on the one hand, and with poverty reduction, on the other hand. But, capital expenditure is the only variable that both impacts on growth and also trickles down to the 'common man' and thus reduces the poverty level of the Nigerian economy.

Literature review proposes some points in common. But there was divergence view on the impact of trade liberalization and poverty. Most especially studies in Nigeria have mixed result Ayinde (2013) and Alwell, et al., (2017) found trade liberalization to has positive impact on economic growth while on the other hand, Duru, et al., (2020), Nzeribe, et al., (2018) and Muhammad, et al, (2013) found trade liberalization has negative impact on economic growth. Yet there is still an issue on the link between trade liberalization and poverty reduction in Nigeria, which has not clearly established.

3. Theoretical Framework and Methodology

The study employed correlation research design to examine long-run relationship between trade liberalization and poverty reduction in Nigeria. The study used secondary data extracted from World Bank Data base, Central Bank of Nigeria Statistical Bulleting and Oxford Poverty and Human Initiative for the period of thirty-eight years (1980-2018).

The study used Heckscher-Ohlin (H-O) model of resources and trade as the framework. A theory credited to Eli Fillip Heckscher in (1919) on a paper written at Stocholm School of Economics, though His student Bertil Ohlin was added to the theory in 1933 which the theory was referred to as Heckscher – Ohlin model. Heckscher-Ohlin model tried to provide an explanation to the rationale for trade between countries. The theory emphasized on relative abundance of resources among countries and account for the need for trade between countries. The preceding shows that comparative advantage follows through from a mix of a nation's abundant resources and technology adopted in harnessing the resources and also for production (Tebekew, 2014). The model is built on the following presumptions: A nation produces only two commodities i.e. X (Food) and Y (Textiles); and A nation requires only two inputs to produce its output i.e. Input A ('Land' also referred to as Territory) and Input B (Labour).

Moreover, the desired output requires more relative production input. For instant, the production of food will require more land than labour; hence, a territory-intensive production process (Tebekew, 2014). Based on the above presumptions of this model, the authors explained that a country tend to focus on producing output that utilizes its abundant resources. Countries tend to exhibit efficiency when goods produced are made from resources with which they have in abundance (Mahajan, 2017). Topalova (2007), explained that Heckscher Ohlin model predicts that gains to trade should flow to an abundant factor, which suggests that unskilled labors in developing countries might get benefit from globalization. However, according to the new theories, the effect of trade liberalization is constantly different to the standard economic theory which states that openness to trade might reduce the wage of unskilled labors even in a labor-abundant country. Hence, the gap between the rich and the poor keeps widening. The link between Heckscher – Ohlin theory and trade liberalization stem from the fact that it encourages increase economic policy toward the need for trade between countries. The main weakness of the theory is the notion of free trade, but in reality trade is not free, every country apply restriction on the free movement of goods to and from others countries. Despite the drawback of the theory, the theory explains the situation in which there are imbalance in the resources throughout the world and this can be balance through trade. the theory in this study is unique as the result of no country in the world is self-sufficient as others country need one another and as the result employment opportunities will increase, which might lead to poverty reduction.

The long – run relationship between trade liberalization and poverty reduction for this research work is adopted with modification from the works of Manni and Afza (2012) and is expressed in a functional form:

$gY_t = f(lnOPEN_t, gK_t, gL_t, DND)$ ……..1

The modify functional model is expressed as:

$POVR_t = f(TTR_t, LIMP_t, LEXP_t, LNGDP_t, REXR_t)$……2

In a linear form is expressed as:

$GDP_t = \beta_0 + TTR_t, + LIMP_t, + LEXP_t, |LNGDP_t,|REXR_t$ ……3

the econometric model to be estimated is as follows:

$POVR = \beta_0 + \beta_1 TTR_t + \beta_2 LIMP_t + \beta_3 LEXP_t + \beta_4 LNGDP_t + \beta_5 REXR_t + \mu_t$ ……..4

Where PVR is poverty reduction proxy for poverty as poverty rate, β_0 is constant, TTR is traded ratio; LEXP is the exports of goods and services (% of GDP), LIMP is the imports of goods and services (% of GDP), GDP is the LGDP growth (annual %), EXR is exchange rate, and μ is error term.

3.1 Variables Measurement

The definitions and measurements of the variables used in this study are presented in table 1.

Table 1: Variables Measurement and Definition

Variables	Definition/Measurements
Poverty Rate	Poverty rate measured as the poverty headcount ratio at $1.90 a day is the percentage of the population living on less than $1.90 a day at 2011 international prices (World Bank, 2022).
Trade Ratio	Trade ratio is the sum of exports and imports of goods and services measured as a share of gross domestic product: *Trade Ratio= (Export + Imports)/ GDP* Trade ratio is expected to negatively affect poverty. If the amount of trade ratio is high, the level of poverty will be low. The connection between trade ratio and poverty reduction is actually through economic growth. Trade, both import and export, is vital to any successful modern economy since trade is the most important influence on economic growth (David, 2007). If trade is increased, economic growth will increase as well and the poverty level will decline due to household income increment. It means that this trade ratio variable is expected to have a negative sign (-) to poverty. Thus, the higher the level of trade ratio, the lower the level of poverty will be.
Export	Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.

Import	Imports of goods and services represent the value of all goods and other market services received from the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.
Gross Domestic Product	GDP might negatively influence poverty because the more GDP received by Nigeria, the lower the number of poverty level it will achieved. Increase in GDP might influence poverty indirectly since high GDP is associated with the increasing income growth of the poor people (Romer and Gugerty, 1997). The household can fulfill their basic need and they can upgrade their preferences on consuming good as long as their income is increasing as well. Hence, GDP variable is expected to have a negative sign (-) to poverty. The higher the level of GDP, the lower the level of poverty will be.
Exchange Rate	The exchange rate is expected to negatively affect poverty. The exchange rate will change whenever the currency value is changing. When the currency is high, many consumers will be more willing to consume since their purchasing power is increasing, thus reducing poverty level. So, the exchange rate is expected to have a negative sign (). The higher the level of exchange rate, the lower the level of poverty will be.

Source: Author's Compilation, 2022

Since the data is a time series, the stationary needs to be confirmed first. If all variables have been completely stationary, the OLS method can be used afterward. Under certain assumptions, the method of least squares has some very attractive statistical properties that have been made as one of the most powerful and popular methods in regression analysis (Gujarati, 2004). In achieving objective of this study, the study employ Autoregressive Distributive Lag (ARDL) model. Choice of the method of analysis was based on the result of the unit root test. The ARDL model is an appropriate technique for this study because is a dynamic model which stating that poverty reduction is a function of the exogenous variables. In view of the above, the short run and long run ARDL model for this study is defined as follow;

$$POVR_t = \alpha_0 + \alpha_1 \sum_{i=1}^{n} TTR_{t-i} + \alpha_2 + \sum_{i=1}^{n} LIMP_{t-i} + \alpha_3 \sum_{i=1}^{n} LEXP_{t-i} + \alpha_4 \sum_{i=1}^{n} LNGDP_{t-i} + \alpha_5 \sum_{i=1}^{n} REXR_{t-i} + \lambda ECT_{t-1} + \beta_1 \sum_{i=1}^{n} TTR_{t-i} + \beta_2 \sum_{i=1}^{n} LIMP_{t-i} + \beta_3 \sum_{i=1}^{n} LEXP_{t-i} + \beta_4 \sum_{i=1}^{n} LNGDP_{t-i} + \beta_5 \sum_{i=1}^{n} REXR_{t-i} + \sum_{i=1}^{n} \varepsilon_{t-i} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 5$$

Where
$POVR_t$= Poverty Rate
$\sum_{i=1}^{n} TTR_{t-i}$= Trade Ratio
$\sum_{i=1}^{n} LIMP_{t-i}$= Import
$\sum_{i=1}^{n} LEXP_{t-i}$= Export
$\sum_{i=1}^{n} LNGDP_{t-i}$= Gross Domestic Product
$\sum_{i=1}^{n} REXR_{t-i}$= Real Exchange Rate
α_0= constant
α_1-α_5= short- run coefficients
β_1-β_5= long-run coefficients
λECT_{t-1} = error correction term
$\sum_{i=1}^{n} \varepsilon_{t-i}$ =error terms,

4. Results and Discussion

4.1 Unit Root Test

The result of unit root test is shown in Table 2 below. As for the analysis of long run relationship between the variables the economic time series must be stationary at same level, the test applied is Augmented Dickey Fuller (ADF) and Phillip-Perron (PP), by checking for Stationarity at the level and first difference.

The results of the Unit root tests show that the null hypothesis of unit root is rejected for the variables trade ratio (LTTR), import (LIMP), Gross Domestic Product (LNGDP), real exchange rate (REXR) as per the test statistics for both the ADF and PP tests. Hence, these variables are stationary at first difference I(1) except poverty reduction (POVR) and export (LEXP), stationary at level I(0). Both the ADF and PP tests for the first differences of

these series indicate that null hypothesis of unit root is rejected for the first differences and that they are stationary. This indicates that the variables are integrated at level I (0) and at first difference I(1) and they may exhibit some long run linear combination, but poverty reduction and export is integrated at level and justifies the use of ARDL as the series are integrated at different levels. This gives a good justification for using the bounds test approach, or ARDL model, which was proposed by (Pesaran, Shin & Smith, 2001).

Table 2: Unit Root Test Result

Variables	ADF with trend			PP with trend		Remarks
	Test Statistic			Test Statistic		
	At level	1st difference		At level	1st difference	
LPOVR	-1.088509	-5.124449**		-0.717967	-4.767354**	I(1)
LTTR	-2.754886	-7.269784*		-3.122193	-7.376872*	I(1)
LIMP	-2.881602	-6.237186*		-3.067986	-6.569248*	I(1)
LEXP	-2.879340	-8.101096*		-3.226396***	-9.177244*	I(0)
LNGDP	-1.262842	-7.872339*		-1.578972	-7.0144447*	I(1)
LREXR	-1.445266	-4.396373**		-1.447474	-4.390068**	I(1)

****represents significant level of .10(10%), ** significance level of .05(5%) and * as the significance level of .01(1%). ADF and PP represents the Augmented Dickey Fuller and Phillip Perron tests for stationary with trend at level and first difference.*

Source: E-views 9 Output; Author's Computation, 2022

4.2 Bounds Test for Co-integration

To test the long-run relationship between trade liberalization and poverty reduction in Nigeria, the bound test for co-integration technique proposed by Pesaran, Shin & Smith (2001). was applied. Since there is a mixture of I(1) and I(0) variables as regressors, that is, the order of integration in the unit root result the Johansen co-integration is not applicable. This study applied the appropriate co-integration method which is the bounds test. Given hypothesis:

H_0: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ (no long-run relationship)

Against the alternative hypothesis

H_1: $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq 0$ $\beta_5 \neq 0$ (a long-run relationship exists)

Table 3: Bounds Test Result

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.459577	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: E-views 10.0 Output; Author's Computation, 2022

From the decision rule, if the computed *F*-statistic is smaller than the lower bound value, then the null hypothesis is not rejected and it concludes that there is no long-run relationship between the components Poverty Rate (LPOVR), Trade Ratio (LTTR), Import (LIMP), Export (LEMP), Gross Domestic Product (LGDP) and Real Exchange Rate (LEXR). Conversely, if the computed *F*-statistic is greater than the upper bound value, then the components of Poverty Rate (LPOVR), Trade Ratio (LTTR), Import (LIMP), Export (LEMP), Gross Domestic Product (LGDP) and Real Exchange Rate (LEXR) share a long-run level relationship. On the other hand, if the computed *F*-statistic falls between the lower and upper bound values, then the results are inconclusive. Table 3 shows the results of the bound test. It demonstrated that the null hypothesis of as against its alternative is easily rejected at the 5% significance level. The computed *F*-statistic of 4.459577 is greater than the lower and upper critical bound value at10%, 5% and 1%, respectively, thus indicating the existence of a long-run relationship among the variables under study, the long run model of error correction model is estimated.

Table 4: ARDL Long Run Estimated Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.048430	2.190490	0.022109	0.9828
LTTR	5.757646	2.227153	2.585204	0.0272
LGDP	0.016316	0.032000	0.509857	0.6212
LIMP	-2.321698	0.900006	-2.579646	0.0274
LEXP	-3.445114	1.309017	-2.631834	0.0251
LREXR	-0.133645	0.067633	-1.976036	0.0764
EC = LPOVR - (5.7576*LTTR + 0.0163*LGDP -2.3217*LIMP -3.4451*LEXP01-0.1336*LREXR + 0.0484)				

Source: E-views 10.0 Output; Author's Computation, 2022

The result in Table 4 shows the long run relationship between trade liberalization and poverty reduction (poverty rate) in Nigeria over the period under study. The long run coefficient of trade ratio (LTTR) is positive and statistically significant on poverty rate though not according to a prior

expectation of negative relationship. This shows that, a unit change in trade ratio would result in about 5.75% increase in poverty rate over the period under study and it is statistically significant at 5 percent level. This result is in tandem with economic theory which posits that a rise in trade liberalization will lead to an increase in economic growth hence reduce poverty. As Heckscher – Ohlin simplified the idea of trade activities for Nigeria with the rest of World. Nigeria with a huge percent of those living in poverty that are idle, if Heckscher – Ohlin postulation hold for Nigeria it is expected the number of people living in poverty reduce as a result of trade related activities. The long run coefficient of Gross Domestic Product (LGDP) is positive and statistically insignificant on poverty rate. The study revealed that, a unit change in Gross Domestic Product would result in about 0.002% insignificant rise in poverty rate over the period under study. Though not according to a prior expectation of negative relationship with poverty rate. This may be as the result that trading activities might not contribute enough on gross domestic product as Nigeria normally depend more on importation rather than exportation.

Furthermore, long run coefficient of import (LIMP) is negative and statistically significant on poverty rate. It was revealed that a unit change in import would result in about 2.32% decrease in poverty rate over the period under study. In the same vein, a long run coefficient of export is negative and statistically significant on poverty rate, this means that a unit change in export would result in about 3.45% decrease in poverty rate over the period under study This confirm with economic theory which posits that a rise in domestic export will have positive a contribution on economic growth therefore reduce poverty. Heckscher – Ohlin theory encourages nations to increase economic policy toward the need for improving trade between countries which contribute to gross domestic product. Similarly, real exchange rate is negative and statistically significant on poverty reduction. This shows that a unit change in import would result in about 0.13% decrease in poverty rate over the period under study. The result also conforms to economic theory that postulate that real exchange rate has positive relationship with economic growth, rise in real exchange rate will lead to increase in gross domestic product which would also contribute to the reduction in poverty rate.

The study found that all variables had negative influence on poverty reduction in the long run except trade ratio and gross domestic product which had positive influence on poverty rate in the long run. Even though the main variable, which is trade liberalization proxy by trade ratio, shows positive and significant impact on poverty reduction proxy by poverty rate. However, the overall results show the long relationship between poverty rate and trade

liberalization in Nigeria. The empirical result reveal that trade liberalization proxy by trade ratio had positive impact on poverty rate agreed with the finding of Muhammad, et al, 2013, Topalova, 2006; Mufti, et a. 2018; Rafael, et al. 2014 whose found positive impact between trade liberalization and poverty. The empirical result of this study om the other hand, contradict the study of Mohammed and Mohammed (2009) whose found that trade liberalization had negative impact on poverty. The implication of the finding is that trade liberalization policy in Nigeria has not yield effective result as most of the consumption expenditure are mostly imported rather than produced locally and exported.

5. Conclusion and Recommendations

The study examined the impact of trade liberalization and poverty reduction in Nigeria. The study concludes that trade liberalization plays an important role on poverty reduction in Nigeria. Based on the objective of the exchange rate as one of the economic policies of trade liberalization, was to make Nigeria products competitive in the international market and then promote production and export of local goods hence reduces poverty. The empirical result clearly revealed that real exchange rate and export had a significant impact on poverty rate, though the contribution of trade to economic growth still minimal as most of the consumption expenditure in Nigeria are imported. The finding tends to negate the postulation of Heckscher – Ohlin theory which encourage countries to export goods that are cheaper to produce locally and import only goods that are expensive to produce domestically, but in Nigeria case importation tend to outweigh exportation.

Based on the findings, the following recommendations were made. There is a need for the government and policy makers to take economic measures on export and import with keen interest, this is because export of goods in Nigeria would contribute to economic growth hence reduce the scourge of poverty, since it was found that export and import have significant and long run impact on poverty reduction. Serious effort should be made by government on proactive measures that would strengthen trade sector in the country, this would go a long way create s\conducive business environment that attract more investment, since it was found that trade ratio has long run relationship with the poverty reduction.

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