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Effect of trade liberalization on per capita income in Nigeria

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Abstract

This study investigated the effect of trade liberalization on per capita income in Nigeria from 1972 to 2020. Contributions of trade liberalization to gross domestic product have been robust as evidenced in the literature. Yet this appears not to have any corresponding impact on the people as poverty, unemployment, low income, inequitable income distribution remain prevalent. This calls for further investigation. This study adopted secondary sources for data collection. The sources of data were from the Central Bank of Nigeria (CBN) Statistical Bulletin of various issues. The econometric tools used in this study include the unit root test, Johansen co integration test and the Granger causality test. This study revealed that trade liberalization has negative effect on per capita income in Nigeria within the period under review. This implies that the average income of the citizen is not explained by trade liberalization Nigeria. In general the findings of study further established that despite the rising contribution of trade liberalization to the gross domestic product in Nigeria, the citizens have not felt the impact as hunger, unemployment and poverty is prevalent in the country. The recommendations include that the government should implement external trade policies that will foster and engender trade liberalization such as improving on the easy- of- doing- business procedures. Also there is need to put in place income policies that will stimulate income redistribution among the citizens.

Keyword: Per capita income, liberalization, foreign direct investment, trade policy adjustments

JEL Classification: F 14, F 43, O11, F10.

Introduction

The Structural Adjustment Programme (SAP) in Nigeria introduced in July 1986 as asserted by the Central Bank of Nigeria (CBN) (2004) was designed to fit in with the International Monetary Fund IMF standard- the World Bank structural adjustment policies and packages with the aim of "efficiently changing and adjusting the mode of consumption and production in the economy and also to eradicate hick-ups in prices and reduce heavy dependence on the mono product base of oil as major export". The main goal according to Central Bank of Nigeria CBN (1995) was to "revamp the economy. Generally, in less developed countries (LDCs) and the Emerging Market Economies (EMEs), SAP is a set of comprehensive economic reform measures put in place to bring about internal and external balances with minimal cost including but not limited to trade liberalization. In fact among such reforms include liberation of trade barriers among nations". This brings to bare the concept of trade liberalization. Trade liberalization implies the removal or reduction to barriers on the free exchange of goods and services between or among nations. According to Organization for Economic Cooperation and Development OECD (2004;16) "all countries that have had sustained growth and prosperity opened up their market to trade and investment". By liberalizing trade and capitalizing on areas of comparative advantage countries benefit economically. It encourages free trade.

Various theories have advanced the importance of relaxation of trade barriers towards stimulating technology transfers thereby fostering development. Particularly is the Stolper- Samuelson theory that was specific on the benefits of liberalizing trade on the economies of the developing nations. The theory opined that the transference of technology is pertinent in shaping the distributive effects of trade openness by benefiting the economies of the developing nations. The theory opines that liberalization of trade by developing nations will stimulate and increase income of its nationals.

From the foregoing, benefits derivable from liberalizing trade are enormous. They include sustained growth and prosperity. Growth and prosperity here may not be limited to the economy only, but in this paper, emphasis is limited to economic growth and economic prosperity to the economy. It is argued that if the economy experiences sustained growth and prosperity, the individuals in the economy also should benefit. For an economy to have sustained growth overtime, it tends towards economic development, since development entails sustained growth over a period of time. For economic prosperity in a country, it implies economic boom, favorable trade balances, stability of macroeconomic variables etc. Therefore, the per capita income of citizens of such economy should no doubt be in prosperity.

Trade liberalization also referred to as "trade policy adjustments" thus is anchored on liberalization and or relaxation of the barriers inherent in external trade and payments system. Adekanye (1993) opines that the essence of liberalizing trade is to rationalize the utilization of the scarce resources especially the foreign exchange in order to stimulate allocation efficiency; promote industrial diversification; and promote economic product-base diversification and stimulate domestic production by broadening the economy's supply chain and also expanding non oil exports. This is expected to drive the economy towards multiproduct oriented base. Arguably when trade is liberalized, the gross domestic product (GDP) is stimulated and expectantly the per capita income of the citizenry will in the same vein be boosted.

According to Anyanwu (1993), in order to achieve the objectives of trade liberalization, some measures of deregulation were adopted including the abolition of import and export licensing and exchange control on current transactions amongst others.

Personal income is the per capita income of the individuals. It is the income per head of each individual person in the country. It is gotten when the gross domestic product

is divided by the total population of the country. It is the share of a single individual from the total national output.

The GDP of the country has depicted robust figures in the recent past. For instance the figures obtained from the CBN Statistical bulletins and the National Bureau of Statistics (NBS) of various issues show that in 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016 and 2017, GDP stood at N20657317.7 million, N24296329.3 million, N24712669.9 million, N26337850.67 million, N28943500.6 million, N29929375.76 million, N31605420.8 million, N35082017.08 million and N42098420.5 million respectively It is also noted that the population of the country has been increasing over the years. Available statistics from the National Bureau of Statistics NBS (2017) show that between the year 2000 and 2017 Nigeria population is estimated to be 118.95 million, 122.23million, 125.98 million, 129.05 million, 132.6 million, 136.25 million, 140 million, 143.75 million, 147.83 million, 151.87 million, 156.05 million, 160.3 million, 164 million, 169 million, 174 million, 178 million, 188 million, and 188 million respectively.

Trade liberalization is depicted as foreign direct investment (FDI) divided by the GDP. This has also shown appreciable and significant improvement over years. Trade liberalization opens up channels for attracting foreign investments to the country. This invariably contributes to the GDP. This is expected to improve the income of average citizens. When the phenomenon is on the contrary, questions are thus raised. The answers and explanations to such worries and concerns are intended to be examined in this study. The contributions of the trade liberalization to the per capita income has appeared to be negligible in view of the above figures as poverty, hunger and so on has characterized the populace over the years. This calls for further investigations why this has been so. These cankerworms of income inequality and hardship have continuously ravaged the country despite trade liberalization policy embarked upon in the country over years

This study undertakes to establish the extent trade liberalization has affected the actual and real income of the average Nigerian within the period under review. This has become imperative as poverty, unemployment, low income, inequitable income distribution among others, persisted despite the fabulous contributions of trade liberalization to the GDP

It is a radical departure from the prevalent earlier studies that centered on the effect of trade liberalization on the gross domestic product. This is a broad approach as most of the findings depict robust and significant effect. Surprisingly, the robust effect of the trade liberalization on the GDP has not manifested and reflected on the actual personal income of the average citizen as hunger, poverty, impoverishment, low per capita income, and so on, bite harder on the populace. Therefore this study is set to examine the effect of trade liberalization on per capita income in Nigeria.

The paper is divided into five sections. Following the introduction in section 1 is literature review in section II. While section III delves into the research methods, section IV is the result and analysis and is concluded in section V with the summary, conclusion and recommendation.

Literature Review

Conceptual Review

The importance of trade to an economy cannot be over emphasized. It represents a fulcrum of growth and development to nations whether developed, developing and undeveloped through allocation efficiency of resources and technology transfer. Also trade has become a linking factor bringing the countries of the world together. To experience these benefits of trade to their economies, various governments of some countries has encouraged trade to and fro their countries over the years. To ensure this, efforts has been made to remove barriers to trade to allow free and uninterrupted

flow of goods and services across country borders. This is trade liberalization. Suffice to state that this does not suggest that the gains accruable from trade are equitably distributed.

Trade liberalization involves reducing, tariffs, reducing and eliminating quotas and reducing non tariff barriers. Non- tariff barriers are factors that make trade difficult and expensive. For instance, having specific regulations on making goods can give an unfair advantage to domestic producers. Also harmonizing environmental and safety legislation makes international trade relations easier. Notably, trade liberalization allows for specialization in producing goods and services by countries where they have comparative advantage – producing at a lowest opportunity cost, hence it encourages net gain and economic welfare. Trade liberalization results to reduction in prices since removal of tariffs entails price fall. Trade liberalization no doubt stimulates competition and healthy rivalry among nations since it spurs increased efficiency and cut costs or even provide incentives for an economy. Furthermore, since trade liberalization stimulates specialization whereby nations concentrate on producing specialized goods and services that affect are economies of scale.

On the other hand, trade liberalization leads to shift in the balance of payments (BOP) of nations. Since it is inevitable that some industries grow while other decline, there tends to be structural unemployment. The effect in the short run may be undesirable due to job loss by workers of the uncompetitive industries. Also trade liberalization leads to exploitation of the environment. Sometimes there may be the trading and transfer of toxic wastes to countries with less strict environmental laws. Again for countries that cannot compete against free trade, trade liberalization may be disastrous. It is recalled that the infant industries argument suggests that trade protection is justified to help developing economies to diversify and develop new industries. In the light of the above line of arguments, some opine that trade

liberalization often benefits developed nations (LCs) more than the less developed nations (LDCs).

Whichever may be the case, trade liberalization is expected to positively stimulate the economies that embark on it. It is seen that the GDP of most of these economies depicts robust figures. This no doubt shows that trade liberalization contributes significant proportion of the GDP. The extent such contribution has affected the income of a single and average Nigerian has remained a source of worry and calls for further investigation. This is justified since hunger, poverty, unemployment, lower income, uneven and skewed income distribution etc ravage the typical Nigerian citizen over the years.

The dependent variable is the per capita income is proxy by PCI and calculated as GDP divided by the total country's population on an annual basis. It is the GDP divided by the mid year population. Per capita income – denotes basically "average per person" that is per head, or, per person. It expresses the average income for the citizens of a particular country or area.

The explanatory variables include- trade liberalization, gross domestic product GDP, foreign direct investment FDI, domestic prices in real terms DoP, and population Pop. Trade liberalization is expected to drive the GDP and thus stimulate the entire economy, thereby improving the overall income of the country. In this paper trade liberalization is given as FDI divided by GDP. The next independent variable is the foreign direct investment (FDI) also called direct foreign investment (DFI). Anyanwu (1993), opines that direct foreign investment (DFI) implies that the firms of the investing country exercises *de facto* and *de jure* control over the assets created in the capital-importing country by means of that investment. Increase in the DFI directly stimulates the GDP and implies growth in the trade liberalization. This trickles down to the improvement in the per capita income.

Gross domestic product GDP is the total production of goods and services in a country within a particular period, usually one year. The increase in GDP demonstrates the general growth in the economy and implies increase in the per capita income (PCI). Domestic prices are the general prices of goods and services in real terms as it is deflated by the inflation rate. This depicts the real income of the persons in real terms.

Population is the total number of individuals in a country at a particular period of time. Increased population decreases the per capita income. Since the GDP is divided by the total population to arrive at the per capita income, there is always an inverse relationship between the total population and the per capita income. There is need to allay the fear and worry that the population growth implies low or insignificant contribution of trade liberalization to the per capita income. This is because foreign direct investment stimulated by liberalized trade flows has also been on the increase over the years. The *a prori* expectation of the study is that trade liberalization should drive, stimulate and positively affect the per capita income of the citizens of a country that opens up its trade with the rest of the world (ROW).

Theoretical Review

The study is predicated on the Stolper- Samuelson theory. It predicts that for a developing nation, trade liberalization will shift income towards a country's abundant factor. Therefore the theory suggests that liberalization will principally benefit the abundant unskilled labor nation. Technology differentials between trading partners are important in shaping the distributive effects of trade openness. The interplay between international trade liberalizations and technology may stimulate importation mechanism. This will trigger possible increase in income differentials in the liberalized developing countries through skill enhancing strategies. It describes the relationship between relative prices of outputs and relative factor rewards, specifically real wages and real returns to capital.

It is concerned with the effects the changes in the prices of output have on prices of the factors (income and per capita income) when positive production and zero economic profit are maintained in each industry. It is useful in analyzing the effects on factor income, either when countries move from autarchy to free trade (trade liberalization) or when tariffs or other government regulations are imposed. By extension, the theory opines that liberalization of trade by developing nations will stimulate and increase income of its nationals.

The assumption of the theory is that perfect competition an all countries, which of is mostly criticized as this in not always the case. The theory is most relevant and applicable to the study in achieving the objective, rejection or acceptance of the null hypothesis and proffering solution to the problem of the study. Most importantly the theory supports the a priori expectation of the study that trade liberation is expected to stimulate and improve the income of the citizens of the trade- liberalized country.

Empirical Review

Malvika (2016) in a study investigates the effects of Trade openness on income inequality – evidence from BRIC countries.. The countries are Brazil, Russia, India, and China (BRIC) countries. It was found that increase in trade as a percentage of GDP has in fact resulted in the worsening of the income distributions in these countries.

Malvika (2011) studied The effects of Trade openness on income inequality – evidence from developing countries, using Panel data for 72 countries between 2000 to 2010, he reveal that trade openness and income inequality is positively and significantly related in developing countries. However when trade was disaggregated into exports and imports, the study depicts that the two has different effects in income inequality, while import is positively and significantly related, exports are insignificantly related with trade openness. Finally, he concludes that the effect of trade openness on income inequality varies by continent.

Meschi(2007) researched on trade openness and Income inequality in developing countries". The paper investigated the distributive consequences of trade flows in developing countries. It adopted dynamic specification to estimate the impact of trade on within -country income inequality in a sample of 70 developing countries within the time frame of between 1980 to 1999. Results indicate that total trade flows are weakly related with income inequality, but when trade is disaggregated according to areas of origin, it was found that trade with high income countries worsen income distribution in developing countries both in exports and imports. This supports the hypothesis of that study that technology differentials between trade partners are important in shaping the distributive effects of trade openness. There was further test for the differential impact on middle income countries (MICs) versus low income countries (LICs). The previous result is applicable to the MICs indicating that MICs has greater potentials for technology upgrading both in absorption capacity and in superiority in saving than the differentiated and high quality markets of the developed nations.

Parilah(2012) in their research on Relationship between trade liberalization, economic growth and trade balance- an econometric investigation, studied 42 developing countries of Asia, Africa and Latin America. The study in the first place examined the impact of trade liberalization on economic growth, investment share of GDP, openness, trade balance and current account (as percentage to GDP). Both the panel data and country by county data were used to measure the impact of liberalization on the domestic economy. Preliminary results indicate that domestic economic growth is often positively related to liberalization for many countries. The impact of growth on trade balance and current account was next to be investigated. This was to ascertain whether higher economic growth due to liberalization leads to adverse effect on balance of trade (BOT). Trade balance is normalized by GDP to take into consideration, different sizes of the various countries being studied. Control variables

were allowed in both sets of regression, such as terms of trade (TOT), advanced countries growth, liberalization and debt related variables. The BOP constrained growth model uses foreign exchange constraints that limit growth using the Harrod multiplier, Thirlwell and Hussain derived growth equation which is apparently constrained by BOT. Then, panel data of 42 countries, regional panel for 3 regions and country by country analysis (Ordinary Least Square OLS regression) was conducted. It was found that liberation has promoted growth but growth has positive effect on trade balance for a large majority of the countries.

Ehinomen(2016) investigate the Impact of trade openness and output growth in the Nigeria economy. He examined the relationship between trade openness and output growth in Nigeria. The monotonic modeling technique was adopted. Also the ordinary least square (OLS), the unit root test (URT) and the cointegration test were adopted for a period spanning between 1970-2010. The results indicate positive relationship between trade openness and output growth in Nigeria. This by implication suggests that trade openness will grow the Nigerian economy rapidly. The study recommends that government should focus on the other sectors other than petroleum.

Merale(2015), worked on the" empirical analysis of the effects of trade openness on economic growth- evidence from South East European countries. The paper considered the South East European (SEE) countries at different stages of development and integration with the European Union (EU) although these have no highlighted difference on trade openness. They used 16 year panel data of 10 SEE countries for the period spanning from 1996 to 2012. The system General Movement Method GMM was adopted to help address the challenge of endogeneity. The dependent variable is the growth rate while trade openness and a set of control variables as initial level of income per capita, human capital, gross fix capital formation, foreign direct investment FDI, labour force, and a number of interactive

variables with trade openness were the independent variables. Results indicate that there is a positive effect of trade openness on economic growth and initial income per capita and other explanatory variables, otherwise there is no robust evidence between these two variables. Trade openness is more beneficial to countries with higher per capita income, high FDI and high fixed capital formation.

Olufemi (2004) studied the trade openness and economic growth in Nigeria- further evidence on the causality issue, and investigated the causality between openness variables and economic growth using data from the Nigerian economy. Using performed causality tests with the openness variables and economic growth, results depict unidirectional relationship between openness and growth. It means that increasing level of openness will be beneficial to the economy depending on the level of economic development. The result is robust across different measures of openness and analytical techniques.

In summary, it can be deduced that literature has dealt on the effect of trade liberalization on economic growth with remarkable robust effect. Yet little or no concerns has been raised on the effect of such on per capita income in Nigeria. Therefore this study strives to fill this gap.

Methodology

Model specification

Using the Nigeria data spanning from 1972 to 2019, the study ascertains the effect of trade liberalization on the per capita in Nigeria. Data is collected through secondary sources – statistical bulletin of the Central Bank of Nigeria CBN. Data from the Bank

is mostly reliable and authentic as it is the apex Bank with the powers of monetary, external and internal regulation, control and supervision of the nation's financial transactions. The dependent variable is per capita income depicted as the GDP divided by the total population of the country on annual basis.

The independent variables are trade liberalization shown as foreign direct investment divided by the gross domestic product, that is, FDI/GDP; gross domestic product; foreign direct investment; domestic prices; population. The tool adopted is Augmented Dickey Fuller (ADF) unit root test (URT) to forestall the spurious regressions associated with the Ordinary Least Square OLS, then the Johansen co integration tests and Granger causality test. The essence of the tools is that they remain veritable to rejecting or accepting the null hypothesis (Ho).

The following linear model is estimated

$$L\Delta\, PCI = \beta_0 + \beta_1 LTrL + \beta_2\, LGPD + \beta_3\, LFDI + \beta_3 DoP + \beta_4\, Pop_t \quad (1)$$

Where:

PCI = per capita income GDP/Population, TrL= trade liberalization given as FDI/GDP, GDP= gross domestic product, FDI= foreign direct investment, DoP= domestic prices, PoP= population growth. These variables have been explained in the conceptual review.

To achieve the objective of the study, the following tests were estimated;

The unit root test (URT), the Augmented Dickey Fuller (ADF), the Co-integration test-Johansen co-integration test and the Granger causality test

The unit root test (URT)

The Augmented Dickey Fuller (ADF) unit root test was performed in order to test the stationary of the variables. The Unit Root Test is a series statistics. According to Dickey and Fuller (1979) "a series, say, X_t is said to be integrated of order k, that is, X_t [] $I(k)$

, if it is stationary after differencing it k times". The decision rule is as follows- if the critical value (table value) is greater than the calculated t-ratio, the null hypothesis of unit root (non stationary) is rejected in which case the level of time series X_t is characterized as integrated of order zero i.e. I (0). But if it is observed that the individual time series in the equation are integrated of order one I(1), that is when the critical value (table value) is lesser than the calculated t-ratio then the series is said to be non stationary. If the variables are integrated of the same order I(1), we move a step further to employ the Johansen (1991) co integration test procedures to test the co -integration among the variables.

This is depicted as

$$\Delta X_t = \alpha_o + \alpha_1 t + \beta X_{t-1} + \sum_{j=1}^{m} \mathbf{Y}_j \Delta X_{t-j} + \mu_1 \qquad (2)$$

where :

X_t is integrating series (independent variable), β is coefficient, Y_j is integrating series (dependent variable), Δ is the first difference operator; t is the time trend; α_o is a drift; $_t$ represents the linear time trend; m is the lag length; $\boldsymbol{\mu}_1$ is a white noise process.

Co-integration test, Johansen co-integration test

Using the Johansen (1991) co integration test which is the generalization of the ADF test, we adopt two likelihood ratio tests (Trace and Maximum Eigenvalue) to test the presence of no co integration regarding the co-integrating vectors. That is to say the trace and maximum eigenvalue is used to test the presence of cointegrating vector among the variables at 5% significant level. Notably a set of variables are said to be cointegrated if a linear combination of their individual integrated series I(d) is stationary. Generally speaking, Johansen (1991) asserts that "two variables are said to be co integrated if they have a common stochastic trend, that is, if they move together

for a long period of time. Succinctly put, a set of variables that are stationary in their first differences but not stationary in their levels are said to be co integrated if their exits a stationary linear combination between them".

We therefore generate the equation (ii) below;

$$X_t = \sum_{j=1}^{m} A_i X_{t-Ii} \quad (3)$$

where, μ_i is the column vector of error term, X_t is the vector of the variable to be determined.

Adding $X_{t-1}, X_{t-2}, \ldots X_{t-m}$ and $A_1X_{t-1}, A_2X_{t-2}, \ldots A_mX_{t-m}$ to both sides of sides of equation (ii),

equation (i) can now be expressed in first difference form as

$$\Delta X_t = \sum_{i=1}^{m-1} di\, \Delta X_t\text{-}m + \prod X_{t-1} + \mu_1 \quad . \quad (4)$$

where :

$\prod_{rxq} = (K_{rxq}\text{-}A_1\text{-}A_2 \ldots A_m)_t$, $K = -K + A_1 A_2 + \ldots Am$ and K is $n \times n$ square matrix. Also, the coefficient matrix $\prod$ contains the long run relationship among the variables in the vector of data

The Johansen's cointegration proposed two test statistics through Vector Autoregressive (VAR) model that are used to identify the number of cointegrating vectors, namely the trace test statistic and the maximum eigenvalue test statistic.

We recognize that the critical values for the λ_{trace} and λ_{max} statistics are provided by MacKinnon–Haug–Michelis (MacKinnon, Haug, & Michelis, 1999).

The decision rule is thus -if the calculated values of the individual time series in the equation are greater than the critical values, using Johansen-Juselius (1990), it means that the independent variables are not statistically significant in influencing or affecting the dependent variable. Hence, the null hypothesis is accepted.

Granger Causality test- Pairwise Granger Causality Test

If it is discovered that series are cointegrated, the standard Granger causality test is constructed. This is by way of augmenting with a necessary error correction term derived from the cointegration equation. The concept of causality according to Granger (1969), "is appropriate and by most of the studies for testing the relationship between economic growth and exports". The test for Granger causality was performed by estimating equations in the form:

$$\Delta LTrL_t = \sum_{i=1}^{m-1} \beta \ \Delta LPCI_{t-1} + \sum_{i=1}^{m-1} \delta_j \Delta LTrL_{t-j} + \varepsilon_t \quad (5)$$

$$\Delta LPCI = \sum_{i=1}^{m-1} \beta \Delta LPCI_{t-1} + \sum_{i=1}^{m-1} \lambda_j \Delta LTrL_{t-j} + \mu_1 \quad (6)$$

where:

$LPCI_t$ is the log of per capita income, $LTrL$ is the log of trade liberalization i.e. GPD, FDI, DoP, Pop

μ_1 is the white noise disturbance term, ε is also the white noise disturbance term

The decision rule is thus- if the probability value (the probability) is equal to, or greater than 0.05, we accept the null hypothesis that there is no causality (or that one variable does not Granger cause the other) between the variables, hence we reject the alternative hypothesis. However, if the p-value (the probability) is lesser than 0.05, we reject the null hypothesis that there is no causality (or that one variable does not

Granger cause the other) between the variables hence we accept the alternative hypothesis that one variable Granger cause the other. Thus if probability = or > 0.05 , accept (do not reject) the null hypothesis, if probability < 0.05, reject (do not accept) the null hypothesis.

Empirical Results

Table 1: Unit Root test result

Variable	Intercept Only	Decision	Trend and Intersect	Decision
LDOP	-2.9237 (-2.0091)**	I(1)	-3.5063 (-1.9419)**	I(1)
LFDI	-2.9266 (-0.7317)**	I(1)	-3.5107 (-0.4093)*	I(1)
LPCI	-3.5811 (-4.3282)	I(1)	-2. 9266 (-4.3282)*	I(1)
LPOP	-2.9251 (1.4410)**	I(1)	-3.5297 (0.1414)**	I(1)
LTRL	-3.5811 (-5.2452)	I(1)	-3.5107 (-5.2017)	I(1)
LGDP	-2.9314 (-0.7142)**	I(1)	-4.1705 (-3.7716)*	I(1)

* (**) *** Significant at 1% (5%) 10% level of significance

Source-Researcher's computation using E-views Econometric Data Computation

Table 2 Cointegration test result

Sample (adjusted): 1972 2019

Included observations: 44 after adjustments

Trend assumption: Linear deterministic trend

Series: PCI DOP FDI GDP POP TRL

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.719836	164.6630	95.75366	0.0000
At most 1 *	0.637633	108.6783	69.81889	0.0000
At most 2 *	0.535325	64.01404	47.85613	0.0008
At most 3 *	0.369704	30.29169	29.79707	0.0438
At most 4	0.145436	9.982797	15.49471	0.2821
At most 5	0.067343	3.067600	3.841466	0.0799

Source- **Researcher's computation using E-views Econometric Data Computation**

NOTE- Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 3 Pairwise Granger Causality Tests

Sample: 1972 2019

Null Hypothesis:	Obs	F-Statistic	Prob.
DOP does not Granger Cause PCI	47	3.21710	0.0501
PCI does not Granger Cause DOP		1.01114	0.3725
FDI does not Granger Cause PCI	44	0.19499	0.8236
PCI does not Granger Cause FDI		6.53260	0.0036
GDP does not Granger Cause PCI	47	4.35021	0.0192
PCI does not Granger Cause GDP		10.4556	0.0002
POP does not Granger Cause PCI	47	3.47071	0.0403
PCI does not Granger Cause POP		1.73572	0.1887
TRL does not Granger Cause PCI	47	0.74500	0.4809
PCI does not Granger Cause TRL		3.82298	0.0298

Source-Researcher's computation using E-views

Table 1 shows the unit root test result. The Augmented Dickey Fuller unit root test depicts that at 1%, 5% and 10% level of significance, both the dependent and independent variables are integrated of order 1, that is, I(1) respectively as the case may be. For both intercept and trends and intercepts, the calculated t-test is greater than critical (t-tabulated) t- values, hence the null hypothesis of no unit root cannot be accepted. The individual series are non stationary and thus quite suitable for the purpose intended.

Table 2 depicts the Cointegration test result. It is observed that variables are integrated of the same order I(1). It implies that the Johansen (1991) integration test be used to procedures to test if the variables are cointegrated. The Johansen methodology is the

generalization of the ADF test. Two likelihood ratio tests (Trace and Maximum Eigenvalue) were used to test the hypothesis regarding the cointegrating vectors. The results depicts that there exists an underlying long run stationary steady state relationship between the dependent and the independent variables.. The trace test indicates two cointegrating equations at 0.05% level, so the null hypothesis of no cointegration cannot be accepted, ie r=0 among the variables.

Table 3 depicts the Pairwise Granger Causality Tests. The test depicts interesting results. The probability of the causality from domestic prices to per capita income (i.e. 0.05) is equal to 0.05 depicting causality. Conversely the probability of the causality from PCI to DoP which is (0.37) is more than 0.05 showing no causality. Therefore PCI is affected by domestic prices in Nigeria.

Further results show that total population has affected and boosted the PCI while the reverse is the case for the effect of PCI on population probability of the causality from foreign direct investment to per capita income (i.e. 0.8236) is greater than 0.05 depicting no causality. On the contrary, the probability of the causality from PCI to FDI which is (0.0036) is lesser 0.05 showing causality. This implies that foreign direct investment has not impacted on the per capital income of the average Nigerian rather it is the PCI that has driven the FDI. This implies that the contribution of the populace towards the growth of FDI has not benefited them so far.

With regards to the GDP and PCI there is a bi-directional causality between them. GDP and PCI have affected each other over the years. This is quite an interesting finding. The fabulous and rising GDP which has over the years impacted on the PCI has been only on relative terms and not absolutely. This is because in the real terms when the GDP is deflated by the entire population, the impact is not felt as we saw in the causality between the PCI and the FDI in Nigeria.

The probability of the causality from the total population to PCI (i.e. 0.0433) is less than 0.05 depicting causality. Conversely, the probability of the causality from PCI to the total population which is (0.1887) is greater 0.05 showing no causality. There is a unidirectional causality between total population and PCI. in Nigeria.

A more interesting finding as depicted by the tests is that the liberalization of trade in Nigeria has not affected the PCI. The probability of causality trade liberalization to PCI which is 0.4809 is more than 0.05 thereby showing no causality. However the causality exists from PCI to trade liberalization as the probability is 0.02.

Therefore the major finding of the study is that trade liberalization has negative effect on per capita income in Nigeria within the period under review. Studies supporting the finding that liberation has negative effect , or worsen or insignificant impact of income include Malvika, M (2016), Malvika, M (2011) reveal that trade openness and income inequality is positively and significantly related in developing countries i e as trade increases income inequality increases.

Previous findings of Malvika, (2016) and that of Meschi, (2007)are in tandem with the above findings

Conclusion, Summary and Policy Recommendations

Conclusion

The study ascertained the effect of trade liberalization on personal income in Nigeria from 1970 to 2018. The study adopted the unit root test to circumvent the OLS spurious bias, the Johansen co -integration test and the Granger causality test. The study majorly found that trade liberalization has not affect the per capita income of Nigerians. The finding will spur the government into making policies that will enhance the per capita income of the people as the policy makers are now presented with yet another finding that is disturbing and inimical to economic development is

not urgently addressed. The growth in the GDP has not really affected the people as there is prevalence of poverty, hunger, unemployment etc.

There are enormous economic benefits accruable from trade liberalization. However this has not been equally distributed. The success of trade liberalization depends on how flexible an economy is. If workers are highly educated and flexible, it may be easier for the economy to reap the benefits of trade liberalization. However, if they are uneducated and inflexible, unemployment will persist. It is suggested that if nations are desired for diversification, out of low agricultural income growth, protectionism should be allowed to an extent. It could be blamed on inconsistent policies and policy implementation. For instance, most often when a new government takes over from a previous one, the new government in most cases drops some laudable policies of the past administration for flimsy and political reasons. There is the cankerworm of insecurity bedeviling the nation. This also has assumed global phenomena. Also there is this cancerous problem of bribery and corruption that has eaten the fabric of the society. Equally lack of infrastructure and infrastructural decay has been the bane – power outage, bad and impassable roads, etc has remain without remedy.

Summary

The major finding of this study is that trade liberalization has negative effect on per capita income in Nigeria within the period under review. The total population has affected and boosted the PCI while the reverse is the case for the effect of PCI on population. The domestic prices has affected the and boosted the PCI while the reverse is the case for the effect of PCI on population. The total foreign direct investment has not affected the and boosted the PCI while the reverse is the case for the effect of PCI on foreign direct investment. The total population has affected the and boosted the PCI while the reverse is the case for the effect of PCI on population. The gross domestic product has affected the PCI and vice versa.

Policy Recommendations

i.The government should implement policies that will foster and engender trade liberalization such as improving on the easy- of- doing- business procedures. Global ranking in recent times depicts poor Nigeria performance in this aspect.

ii. Income distribution is concentrated on few individuals while the generality of the population are ravaged with hunger, poverty, unemployment and illiteracy. Therefore there is need for income redistribution.

iii. Other economic challenges as capital flight, favoritism, nepotism, favoritism and ethnicity have remained the other of the day. Inflation rate that is soaring high daily, volatile rate of exchange, mono product economy, money laundering, lack of due process also remain contributory factors to the problem. More pathetic the cankerworm of national rising wave of insecurity. It is therefore suggested that for the positive of trade liberalization to be felt, these vices must be dealt with decisively.

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