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# TRADE OPENNESS AND MACROECONOMICS PERFORMANCE OF ECOWAS MEMBERS- EVIDENCE FROM NIGERIA.

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***Abstract***

It is believed that the more countries strive to ensure that they elevate the growth of their economy by opening up to international trade, the more they become in a less advantageous position compared to their trading confrère in terms of their GDP growth. The study observes the impact of openness to trade on the macroeconomic performance of ECOWAS Members centring on Nigeria (1985-2020). The model built has real gross domestic product (RGDP) as the dependent variable which served as a place-holder for macroeconomic performance. The Auto Regressive Distributive Lag (ARDL) bound test method was utilised for this study, owning to the fact that it generates more findings when mini samples are enmeshed. The result revealed that the relationship betwixt the macroeconomic performance of the Nigeria economy and openness was negative and trifling. This indicates that the component that characterises openness as relating to the Nigeria economy cannot trigger the required macroeconomic development. The study recommends that only essential capital goods should be imported, keeping in view that not all imported materials are mandatory.
**Keywords** : Trade, Openness, Macroeconomics, Performance, ECOWAS

## INTRODUCTION

The emergence of globalization and trade liberalization has strike the interest of a lot of economists who are concerned with the factors that brings about different growth rates and wealth accumulation of different countries. Openness to trade happens to be one of these determinants. The theory of openness is settled on the generality of non-interference by the system of rules involve in the transaction of capital goods and services across global delimitation and district. This trade begins with an individual buyer, his demands, and tendency to increase fulfilment (John & Njogo, 2017). Development and international economists have often been fascinated in assessing whether openness facilitates the growth and development of an economy, or if it obstructs it through the rapid flow of money out of the country and intense rivalry from transnational firms (Zahonogo, 2017).

The improvement in global commerce in contrast to that of global production has magnified substantially, due to trade openness. While, global production has increased tremendously, the magnitude of world marketing has pullulated sixteen-folds at a mediocre compound rate of over 7% per annum (World Bank, 2015). Hence, trade aberrations such as tax and non-tax impediment increases the price of purchasing from overseas. International marketing forms a major portion of Nigeria's GDP and it can be said that both its exports and imports have flourished rapidly in preceding years. *Au*

*fond,* Nigeria is an open economy with transnational proceedings constituting an essential quotient of its aggregate output.

Nigeria has a large domestic market. But, this market alone, cannot support growth, because it cannot deliver the sustainable growth needed to make an ocular wallop on poverty reduction. Thus, Nigeria has continued to rely on external markets for survival. Today, as part of moving with the drift in openness in the international economical scheme, Nigeria is an associate of, and signatory to, numerous global and sectoral commercial treaties such as World Trade Organization (WTO), Africa Continental Free Trade Agreement (ACFTA), Economic Community of West African States (ECOWAS), and others. The paramount goal of these co operations on foreign trade has being to establish unrestricted trade sectors by uprooting the hurdles on trade, reducing tax and embarking on outward-oriented market strategies.

Regardless of the efforts Nigeria has placed in ensuring that it meets up with the requirements of these economic agreements, as mirrored in the 2017 appraisal of market scheme revaluation, her commerce liberty was appraised at 62.3% making her the worlds 161st freest trade economy. The economy has made every effort in using openness to expand its growth, but it seems that the more effort the country puts in order to boost her economy by embarking on international trade, the more she finds herself in a less advantageous position compared to her other trading counterparts as regards the growth in her production. The objective of this study focuses on the relationship between trade openness and Macroeconomic performance in Nigeria. Hence we asked, is there any notable relationship between openness to trade and performance of macroeconomic variables in Nigeria? Does it bring about an increase or a decrease in it?

## LITERATURE

Recently, there are arguments which suggest that unemployment and high inflation brings about a rise in the level of trade openness irrespective of the development pace of the country. Threads of these arguments proposed that higher level of openness can result in an increase in imports which in turn replaces indigenous production. Also, these suggest that a rise in openness to trade can translate to an increase in domestic consumption by both sole consumers and manufacturers which will result in a rise in exchange rates and finally increased inflation (Rogoff, 2013.

### *Theories of Trade Openness*

The doctrine that trade enhances welfare and growth has a long and distinguished ancestry dating back to Adam Smith (1723-90). In his famous book; "an inquiry into the nature and causes of the wealth of nations" (1776), Smith stressed the importance of trade as a vent for surplus production and as a means of widening the market thereby improving the division of labour and the level of productivity. In summarizing the absolute advantage trade theory of Adam Smith; countries should specialize in and export those commodities in which they have an absolute advantage and should import those commodities in which the trading partner has an absolute advantage. That is to say, each country should export those commodities it produced more efficiently because the absolute labour required per unit was less than that of the prospective trading partners. (Appleyard and Field, 1998)'

Empirical studies of unrestricted trade have espoused a collection of procedures. The hypothesis of scholars differs on which method renders a keen appraisal of the nexus betwixt openness and macroeconomic operation. Studies like Kavoussi (2014) and Fosu (2015) centred their survey on cross-country data. Others like Abdulai and Jaquet (2002) conducted a country-specific examination on Cote d'Ivoire (1961-1997) by

analysing the relationship between the growth rate of export and economic growth.

Sachs and Warner (2015) propounded that in the 1970s and 1980s, opened countries were able to initiate an annual growth rate of 4.5% in their economy, while the closed countries struggled to experience a growth rate of 0.7%. This prospect is in conjunction with economic dogma which speculates that if the magnitude of competition arising from trade openness is high, simultaneously, the level of economic performance in nations would be relatively better.

Uwatt (2012) employed longitudinal data for forty-one (41) African countries for the time period 1980-2010 analysed the nexus between globalization and growth. Irrespective of the study producing heterogeneous results, the writer advised that African states must rise up to conquer the requests of openness via the establishment of substantive policies that would help in promoting and spawning increased trade and capital inflows.

Tekin (2014) administered the quantile regression tack to dissect the growth-trade linkage between 75 countries. The results from their study connoted that the outcome of unrestricted trade on economic growth is greater in less developed countries compared to sovereign nations.

Ezike, Ikpesu and Amah (2012) used simple regression method and enacting a sequence of quantity and variable designs from the dossier enclosing the spam1970–2008 analysed the macroeconomic influence of trade on economic growth. They observed that the two forecasters utilized for the study; exports and foreign direct investment (FDI), had a favourable and momentous effect on Nigeria's growth during the time period. Lawal, Nwanji, Asaleye, and Ahmed (2016) administered the ARDL method to Nigeria and discovered a contrary long-run outcome of trade-growth but an encouraging trade-growth effect in the short-run. Also, a two-way relationship was discovered between both variables.

## Materials and method of Study

This study will employ the use of descriptive as well as causal research design. The researcher employs this method to get the causal link between trade openness and macroeconomics performance in Nigeria. The data for this study were obtained through secondary sources from the publications of the Central Bank of Nigeria (CBN). Time-series data from the period of 1985 to 2020 was employed in the course of this research to examine the effect of trade openness on macroeconomic performance. Five widely used macroeconomic variables were employed in the cause of the study; inflation, unemployment, trade openness, exchange rate and Real Gross Domestic Product (RGDP)'

### *Model formulation*

In empirically investigating this study we thus present the model of this study following the work of Babatunde (2009) and Greenway et al (2002). $Y_{i,t}= \alpha_0+ \mu_i+\beta_i^*X_{i,t} + \varepsilon_{i,t}$; $\varepsilon_{i,t}\approx N\ (0, \delta^2\eta)$

In a bid to properly determine the effects of trade openness on the Nigeria macroeconomic performance, we state our variables as follows: $RGDP_t$ represents the real gross domestic product per capita at the current period and is used as a proxy for macroeconomic performance. The model is specified with one dependent variable and four (4) independent variables as given below;

$Y= f (X_i)$ ---------- (1)

Where; $Y= RGDP_t$ ; and; $X_i$= (TOP, EXR, UNEM, INF) ---------- (2)

The level of trade openness (TOP) is proxied using the ratio of magnitude of trade to GDP (i.e. Export+Import/GDP). The notion here is that the more the level of trade openness, all things being equal, in an economy, the higher

the degree of economic operations captured by real RGDP. RGDP is used to acquire the level of economic performance because it gives an attestation on the percentage of income per citizen, which should increase when the performance of the economy improves.

Thus, the above equation can be written in their natural log form as thus:

$\ln RGDP_t = \alpha + \beta_1 \ln INF + \beta_2 \ln TOP + \beta_3 \ln EXR + \beta_4 \ln UNEM + \varepsilon_t$ ---------- (3)

Where; RGDP = Real Gross Domestic Product; INF = Inflation; TOP = Trade openness; UNEM = Unemployment; EXR = Exchange Rate; $\varepsilon_t$ = Error term

## RESULTS AND DISCUSSION

### *Unit root test*

Studies on econometrics (e.g. Granger, 1986, Engle & Granger, 1987) had revealed that major macroeconomic time series data are not stationary. This therefore suggests that most Ordinary Least Squares (OLS) regressions that are carried out at levels may be iffy.

Table 4.1: Augmented Dickey-fuller Test results

| Variable | McKinnon Critical Values | Level ADF test Stat. | 1st difference ADF Stat. | Order of Integration | Summary |
|---|---|---|---|---|---|
| **Exchange Rate** | 1% -4.309<br>5% -3.574<br>10% -3.221 | -1.649 | -3.443*** | I(1) | Stationary |
| **Economic Growth** | 1% -4.339<br>5% -3.587<br>10% -3.229 | -1.991 | -3.955** | I(1) | Stationary |
| **Inflation Rate** | 1% -4.416<br>5% -3.622<br>10% -3.248 | -2.489 | -5.609** | I(1) | Stationary |
| **Trade Openness** | 1% -4.296<br>5% -3.568<br>10% -3.218 | -2.972 | -4.291** | I(1) | Stationary |
| **Unemployment** | 1% -4.309<br>5% -3.574<br>10% -3.221 | -6.360*** | -1. | I(0) | Stationary |

**Source: Author's Computation using E-views 9**

N.B: * significant at 1%, ** significant at 5%, *** significant at 10%

Granted this cognizance, the use of Augmented Dickey-Fuller (ADF) and/or Philip-Perron (PP) tests in testing for the stationarity (unit root) of variables becomes very essential. Table 4.1 presents the summary of the unit root test results for the series in levels and in first differences. The stationarity test results in table 4.1 above reveals that all the variables are non-stationary at level except uneployment. Having constituted the vector of variables of concern, the order of integration and stationarity of all the series was regulated using the Augmented Dickey-Fuller (ADF) cardinal of establishing unit root. The ADF test was carried out on variables in order to ascertain their stationary quality and those found non stationary were differenced to get rid of the random trend, an occurrence connected with time series data.

### *ARDL bounds test*

The empirical results from the estimated ARDL models needed for discussion are

presented in Tables 4.2 to 4.6. Table 4.2 reports the ARDL bounds test for cointegration of the selected macroeconomic variables. A critical examination of table 4.2 shows that the calculated F-statistics $F_{RGDP}(F_{RGDP} \mid INF, TOP, EXR, UNEM) =$ 6.938 is broader than the upper and lower bound critical value of 4.01 and 2.86 at the 5 percent significant level respectively. This is also true for the t-statistic at 10 percent level. This supports the assertion that a long-run cointegration relationship exists between economic GDP, inflation rate, trade openness, exchange rate and unemployment rate.

The ARDL result below depicts the following process which is the Short-run (1, 2, 0, 1, and 0). From the short-run estimates, the rate of some variables such as: inflation, trade openness is perverse and statistically significant at 5% confidence level in explaining changes in economic GDP with coefficient value (-0.175). Table 4.4 shows the long-run ARDL estimates which is the long-run (1, 2, 0, 1, and 0). As a result of the rejection of the null hypothesis of no cointegration, the long-run equation is ascertained. From table 4.4, the rate of inflation, trade openness is statistically significant at 5 percent confidence level, implying that in the long-run with coefficient value of (-0.160), the rate of inflation affects the growth trajectory of the Nigerian economy. But on the other hand, trade openness exhibits a negative and an insignificant relationship to growth.

From table 4.5, we notice that the coefficient of the error-correction term $ECM_{t-1}$ is negative and very significant. This is to be expected if there is co-integration and long run relationship between economic growth and other regressors. The ratio of this constant implies that nearly more than a 100 percent of any disequilibrium between growth and other variables is corrected within one period. Based on the ECM coefficient, it implies that the adjustment term which is (-1.03) indicates that the reversion to long-run equilibrium is at an adjustment speed of (103 percent). The ECM results further shows that a change in the rate of inflation will result in a epochal influence on growth negatively at 5% confidence level both at the actual period and at the preceding period. Also, exchange rate is statistically significant at 5 percent confidence level both at the current period and at the previous period.The serial correlation tests of the residuals were based on the Breusch-Godfrey LM test for autocorrelation. All the estimated models have their second order tests below them. Results from the second order tests indicate no evidence of serial correlation in the model. Also, the estimated model passed the heteroskedasticity test as shown in table 4.5

**Table 4.2 Results of Bound Tests**

| S/N | Models | F-Statistics | t-Statistics | Decision |
|---|---|---|---|---|
| **1** | $F_{RGDP}(F_{RGDP} \mid INF, TOP, EXR, UNEM)$ | 6.938** | -5.805** | Cointegration |
| **2** | $F_{INF}(F_{INF} \mid TOP, EXR, UNEM, RGDP)$ | 3.832** | -3.964** | Cointegration |
| **3** | $F_{TOP}(F_{TOP} \mid INF, EXR, UNEM, RGDP)$ | 3.758** | -3.802** | Cointegration |
| **4** | $F_{EXR}(F_{EXR} \mid INF, TOP, UNEM, RGDP)$ | 4.263** | 0.007 | Cointegration |
| **5** | $F_{UNEM}(F_{UNEM} \mid INF, TOP, EXR, RGDP)$ | 0.977 | -0.647 | No Cointegration |

**Source: Author's Computation using E-views 9**

N.B: upper bound (*1%, **5%, ***10% = 5.06, 4.01, 3.52); lower bound (*1%, **5%, ***10% = 3.74, 2.86, 2.45)

### 4.3 Short-run and Long-run ARDL estimates

**Table 4.3: Short-run ARDL Results**

| **Model 1** | **Dependent Variable (RGDP)** | | | |
|---|---|---|---|---|
| **Variable** | Coefficient | Std. Error | t-Statistics | Probability |
| **RGDP** | -0.039 | 0.179 | -0.222 | 0.826 |
| **INF** | -0.175 | 0.049 | -3.515** | 0.002 |
| **INF(-1)** | 0.099 | 0.055 | 1.787*** | 0.089 |
| **INF(-2)** | -0.091 | 0.046 | -1.945*** | 0.065 |
| **TOP** | -0.011 | 0.085 | -0.134 | 0.894 |
| **EXR** | -0.090 | 0.036 | -2.454** | 0.023 |
| **EXR(-1)** | 0.099 | 0.038 | 2.595** | 0.017 |
| **T4UNEM** | -1.044 | 0.697 | -1.497 | 0.149 |
| **C** | 13.672 | 5.990 | 2.282** | 0.033 |
| **R-Squared** | 0.602 | | | |
| **Adj. R-Squared** | 0.444 | | | |
| **D.W stat.** | 2.017 | | | |

**Source: Author's Computation using E-views 9**

N.B: * significant at 1%, ** significant at 5%, *** significant at 10%

**Table 4.4: Long-run-run ARDL Results**

| | **Dependent Variable D(RGDP)** | | | |
|---|---|---|---|---|
| **Variable** | Coefficient | Std. Error | t-Statistics | Probability |
| **D(INF)** | -0.160 | 0.055 | -2.906** | 0.008 |
| **D(TOP)** | -0.011 | 0.082 | -0.134 | 0.894 |
| **D(EXR)** | 0.008 | 0.013 | 0.653 | 0.521 |
| **D(UNEM)** | -1.004 | 0.659 | -1.522 | 0.143 |
| **C** | 13.672 | 5.990 | 2.282** | 0.033 |

$EC = RGDP - (-0.160 * \inf - 0.011 * TOP + 0.008 * EXR - 1.004 * UNEM)$

**Source: Author's Computation using E-views 9**

N.B: * significant at 1%, ** significant at 5%, *** significant at 10%

**Table 4.5: Parsimonious ARDL-ECM results**

| | **Dependent Variable D(RGDP)** | | | |
|---|---|---|---|---|
| **Variable** | Coefficient | Std. Error | t-Statistics | Probability |
| **D(INF)** | -0.175 | 0.037 | -4.715 | 0.000 |
| **D(INF(-1))** | 0.091 | 0.031 | 2.872 | 0.009 |
| **D(EXR)** | -0.090 | 0.028 | -3.134 | 0.005 |
| **EXR(-1)** | 0.099 | 0.038 | 2.595** | 0.017 |
| $ECM_{t-1}$ | -1.039 | 0.161 | -6.452 | 0.000 |
| **C** | 13.672 | 2.225 | 6.144 | 0.000 |
| **R-Squared** | 0.690 | | | |
| **Adj. R-Squared** | 0.638 | | | |
| **D.W stat.** | 2.017 | | | |

**Source: Author's Computation using E-views 9**

N.B: * significant at 1%, ** significant at 5%, *** significant at 10%

**Table 4.6: Result of Diagnostic Test**

| | F-Statistic | Probability |
|---|---|---|
| **Breusch-Godfrey Serial Correlation LM Test** | 0.008 | 0.99 |
| **Breusch-Pagan Godfrey Heteroscedasticity Test** | 0.404 | 0.904 |

**Source: Author's Computation using E-views 9**

Based on the results discussed above, several findings and implications can be high spotted. First, from the short-run estimates, the rate of inflation is negative and statistically significant at 5 percent confidence level in expounding changes in economic growth. The previous periods of inflation also show significant effects on changes in economic growth, implying that inflation affects the macroeconomic performance of the Nigerian economy. Exchange rate also exhibits a negative and significant relationship to growth, implying that with recent devaluation policies targeted towards improving the performance of national currency with the remainder of the world, it would trigger macroeconomic performance positively in terms of making the domestic currency more valuable with respect to trade. Unemployment rate in the short-run shows negative effect of openness both at the current period and the previous period, implying that increasing unemployment will lead to still productivity which will negatively affect productive structures internally.

In contrast to expected results, trade openness in the short-run shows a negative and trivial relationship to economic growth. This result deviates from the antecedent anticipations and major writings of Babatunde (2009), Greenaway *et al* (2002) and others, who all agreed on a positive relationship between trade openness and economic growth. It is a known fact that primary goods imported from other parts of the globe are used to transform raw materials into finished and intermediate goods which are further used for production. Similarly, export of the country contributes significantly in generating foreign exchange income, heightening contest ability, increasing the durability of commodities and others. But from the short-run estimates, this is far from reality which means that statistically, a unit change in the openness of the country leads about 0.01 unit drop-off in the country's economic growth.

In the long run the rate of inflation is statistically significant at 5 percent confidence level, implying that the rate of inflation affects the growth trajectory of the Nigerian economy. But trade openness exhibits a negative and insignificant relationship to growth. This suggests that the component that characterizes openness as relating to the Nigerian economy cannot trigger the required macroeconomic development. This further goes to show that the domestic economy does not attract the required growth inputs or it does not have the absorptive capacity to transform inputs into productive outputs.

## Conclusion

It is believed that openness to trade induces the growth process of an economy due to its effects in intermingling world economies and spawning fresh and vast markets for several nations within the intercontinental area. Against this backcloth, the study carried out an empirical analysis of the possible influence of trade openness on the macroeconomic performance of ECOWAS Members centring on Nigeria for the period

of 1987 to 2017. Data sourced from CBN and others were analysed using the ARDL bound test method and the study has contributed to existing knowledge by affirming that the component that characterized openness as relating to the Nigerian economy cannot trigger the required macroeconomic performance. This further goes to show that, the development of the domestic economy guarantees for a better structural level of openness to the outside world.

This study therefore recommends that; for degree of openness; in line with Heckscher-Ohlin theory of trade, Nigeria is blessed with abundant labour to produce and export agricultural products. Thus, policy makers should adopt policies that will help to revive the Nigeria's agricultural sector so as to reap and maximize the benefits of trade openness, and this will enable the economy to develop at remarkable rates. In addition, fresh and ground-breaking technologies must be encouraged to enhance growth. Also, the Nigeria authorities should strive to ensure that they avoid short-term arrangements and front-loaded agreements with other nations and advance beyond contracts that dwell entirely on the crude oil sector. High prices on trade goods are only a short-lived medium that can be used to thrust the Nigerian economy into a more economically heterogeneous state, the true mechanism for sustainable growth.

**Suggestion for Further Studies**

We suggest that other econometric technique such as static model or GMM can be applied to see if the same result can be gotten. The study can still be carried out in other ECOWAS member countries.

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