

**ECOWAS ECONOMIC INTEGRATION AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM NIGERIA**

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**ABSTRACT**

This paper investigated the impact of regional economic integration on economic growth in Nigeria using the autoregressive distributed lag (ARDL) model for data analysis. The study analysed time series data from 1995 to 2018. The data analysed were collected on gross domestic product growth rate as the dependent variable, ECOWAS intra-trade (which proxied regional economic integration) and human capital (HK)- proxied by secondary school enrolment as independent variables. The empirical results revealed that ECOWAS intra-trade had a positive relationship with economic growth in Nigeria but failed to impact growth significantly as the coefficient of ECOWAS intra-trade failed to pass the significance test at both the 1 and 5 percent levels. The results further revealed that human capital was a growth determinant in Nigeria in the long run. The coefficient of its first lag was positive and passed the test of significance at the 5 percent level. The results of the study confirmed that Nigeria's economy was yet to harness the much-expected benefits of regionalism. It is recommended that Nigeria should give export diversification and the development of essential industries the much-needed attention in order to enhance trade within the region. Also recommended is the need for Nigeria to intensify and formulate stable trade policies capable of promoting sustainable growth and development towards the growth of the ECOWAS' Sub-region.

**Keywords:** Economic integration, Economic Growth, ECOWAS, Nigeria, ARDL

**JEL Classification:** F13, F15, F43, R11

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**1. INTRODUCTION**

Regional economic integration has been engaged as a growth and development strategy by both developed and developing countries. As a result, both global and regional economic integration have been characterized by unprecedented progress since the second half of the twentieth century. The countries that are integrated into an enlarged economy interact with one another in several dimensions in the absence of barriers. They trade goods on product markets, borrow and lend on capital markets, and exchange information through market and nonmarket channels. Many of these interactions generate forces that accelerate growth in each of the integrated countries (Badinger, 2005). Economic integration is majorly measured based on free trade and investment among member countries with the aim of promoting growth in the integrated economy (Prakash and Hart, 2000).

Nigeria has been a major regional member country of ECOWAS since its creation in May, 1975 (ECOWAS Commission, 2016). The total regional gross domestic product(GDP) for the period under this study stands at 14, 519,339,501,749.00 US\$ and Nigeria accounts for 6,049,298,670,171.23 US\$. Nigeria dominates the regional economy with about 42 per cent of the regional GDP (WBDI, 2020). Also, Nigeria dominates

ECOWAS intra- regional trade in volume with about 23 percent during the period of 1995 and 2018 (UNCTAD, 2020). A question of great interest not only from an academic point of view but also from an economic policy and public perspective relates to the consequences of regionalism on economic growth and thus human welfare in Nigeria. The extant literature on ECOWAS integration and growth has focused on the entire region and this warrants research on the benefits each of the countries in the region stands to gain especially Nigeria with the largest economy in the region.

The previous empirical studies which investigated the impact of economic integration on economic growth found mixed results. Majority of the empirical studies found that regional economic integration has a significant positive effect on economic growth (Badinger, 2005; Kitavi, 2014; Ogbuabor, Athony-Orji, Ogbonna & Orji, 2019; Nguyen, Bui, & Vo, 2019; Tinta, Sarpong, Ouedraogo, Al Hassan, Mensah-Bonsu & Onumah, 2018). While some empirical studies found negative relationship between economic integration and growth (Ogbuabor, Athony-Orji, Ogbonna & Orji, 2019; Tumwebaze and Ijjo, 2015; Ashakah & Okungbowo, 2020). The variation in the empirical results warrants further research into the relevance of economic integration and growth especially in Nigeria.

The purpose of this study is to provide evidence for policy direction to guide ECOWAS member countries in intensifying their efforts in promoting regionalism in their various countries towards the attainment of economic growth and development in the region. The current study focuses on the relevance of ECOWAS economic integration to the growth of the Nigerian Economy- as Nigeria is the largest member country in the region. To the best of the authors' knowledge, this is the first study to investigate the contribution of ECOWAS economic integration to the growth of the Nigerian economy.

The remaining part of the paper is organised as follows: Section 2 presents the conceptual, theoretical and empirical literature on the relationship between economic integration and economic growth. Section 3 discusses the methodology of the study. Section 4 presents data analysis results and discussions. Section 5 presents the conclusion and policy implications. Section 6 is the reference list.

## **2. REVIEW OF LITERATURE**

This section describes the conceptual, theoretical and empirical literature on the relationship between economic integration and economic growth. In this study, two main concepts are identified; regional economic integration and economic growth. Each of these two concepts is carefully discussed in the following sub-sections.

### **2.1.1. Regional Economic Integration**

Regional economic integration is an arrangement to promote economic growth and national welfare through efficient allocation and optimal utilization of resources in the integrated economy (Jovavonic 1997; Stanley, 1977). Regional economic integration has enabled countries to focus on issues that are relevant to their stages of development, encourage trade and investment among member countries. Economic integration takes place in stages and in different dimensions. According to Balassa (1961), there are four stages of economic integration. The first is the free trade area (FTA), the second is Customs Union (CU), followed by a Common Market (CM) and finally an Economic Union. Free trade area arrangement entails the elimination of trade barriers among the participating countries and each country member charges different external tariffs to non-members of the trading bloc. Customs union is an extension of free trade area where members of the union charge same external tariff to non-member countries. A common Market is a Customs Union which further allows the free movement of labour and capital among member countries. The most advanced form of economic integration is the Economic Union, where the monetary and fiscal policies of member states are harmonized and sometimes completely unified (Izilein, 2011).

### **2.1.2. Economic Growth**

Economic growth refers to sustained increase in inflation-adjusted gross domestic product (market value of goods and services produced in a country) over time. Conventionally, it is measured as the percentage increase in real gross domestic product (GDP). This measure of growth is quite prominent in growth

theories such as the Solow growth model and endogenous growth theory among others. This measure has been used in numerous empirical growth studies (Barro, 1996; Agosin, 2007; Hamed, Hadi and Hossein, 2012; Adamu, Ighodaro and Iyoha, 2012).

### **2.2.1. Theories of Economic Integration**

Basically, there are two theories of economic integration namely the traditional and dynamic theories of economic integration. The traditional theory of economic integration theory explains the theoretical implications of economic integration and it is specifically linked to the pioneering work of Viner (1950). In his book titled 'The Customs Union Issue', he subjected the issues of gains from economic integration to such a detailed and critical analysis from a purely economic point of view. Viner's study came as the first to identify concrete criteria to distinguish between the potential advantages and disadvantages of economic integration into the well-known trade creation and trade diversion effects. Viner concludes that trade creation raises the welfare of the people while trade diversion lowers it.

The dynamic theory of economic integration is linked to the work of Balassa (1962), Cooper and Massell (1965a) who introduced dynamic effects into the analysis of the welfare effects of economic integration, as a more efficient economic reason behind the formation of customs unions or economic integration schemes in general. Simply, Balassa's dynamic theory of economic integration proved that static analysis of the impact of economic integration is no longer adequate in capturing the effects of economic integration scheme. Balassa lists dynamic effects to include increased competition, investment flows, economies of large scale, technology transfers and improved productivity. Schiff and Winters (1998) have summarized the definition of the dynamic effects of economic integration schemes as anything that affects the country's rate of economic growth over the medium term.

### **2.2.2. Theories and models of Economic Growth**

Different economic theories and models, proposed different sources of economic growth, which have been subjected to empirical investigations to ascertain their relevance (Iyoha, 2004). Efforts is made here to discuss some of these theories and models.

The Harrod-Domar (Harrod 1939 and Domar 1946) model sees growth in an economy to be determined by the level of savings and capital productivity. The model opined that major stimulus for economic growth is the accumulation of savings which are directed into investment. This model depicts three growth patterns; warranted growth, actual growth and natural growth rates. The model further opined that full employment and stable growth rates are not naturally obtained in an economy, but through savings channel into investment.

The Solow growth model of 1956 also provides the basis for analysing economic growth. The model holds that, in the long run growth in an economy will be attained through accumulation of factor inputs such as capital (K) and labour (L) with the provision for technical progress (T). The Solow growth model of economic growth is also based on the assumption of aggregate production function with some unique features such as constant return to scale in labour, reproductive capital and one composite commodity output.

The endogenous growth theory holds that economic growth emanates from endogenous factors, which is against the view of the neoclassical and Harrod-Domar growth models. Romer (1986) and Lucas (1988) who are among the contributors to the endogenous growth theory hold the view that growth is as a result of physical and human capital accumulation (Mallick & Moore, 2006). The endogenous growth theory also holds that capital inflows in form of foreign direct investment to less developed countries help in the advancement of research and technology thereby resulting in economic growth. The endogenous growth models also hold that policies that enhance international trade and public and private investments in human capital, promote long-run economic growth. All the growth factors in the endogenous model influence growth within the economic system.

### **2.2.3. Empirical Literature**

Classic economic theory holds that elimination of tariffs will increase trade which culminates into economic growth. This assertion has been empirically investigated by some researchers and a few of them are noted in this study. Ogbuabor, Athony-Orji, Ogbonna and Orji (2019) investigated the impact of regional economic integration on economic growth in West Africa Economic Monetary Union (WAEMU). They used robust instrumental variables system GMM regression in the framework of a cross-country growth model and annual panel data for the period 2000 to 2015. The results of data analysis did not find any empirical support for a positive growth impact of WAEMU integration in West Africa. The study therefore recommended that policy reforms towards improved institutions and increased FDIs would enhance economic growth in West Africa.

Nguyen, Bui, and Vo (2019) examined the relationship between regional economic integration and growth nexus in Vietnam using the Autoregressive Distributed Lag (ARDL) and the Granger causality test. The study focused on three types of economic integration, including overall integration, financial integration and trade integration, which affected economic growth in Vietnam from 1986 to 2015. The key finding from this study was that when three types of economic integration were considered together, integration provides positive impacts on economic growth. It was recommended that the Vietnamese government should carefully outline socio-economic development strategies to maintain political stability and to derive benefits from economic integration.

Tinta, Sarpong, Ouedraogo, Al Hassan, Mensah-Bonsu and Onumah (2018), assessed the impact of economic integration and international trade on economic growth and food security in ECOWAS. Three instruments were investigated (trade openness, intraregional trade and the community insertion to value chains). Two models were estimated with panel fixed effects using data from 1995 to 2012. The findings supported that regional integration needed to be strengthened and better promoted to stimulate growth in the region.

To provide further evidence, Bong and Premaratne (2017) empirically examined the impact of regional integration on economic growth in Southeast Asian. They employed a cross-country growth model using a Generalized Method of Moments (GMM) in the dynamic panel Framework of 43 countries. Their results found that regional integration has a significant effect on economic growth in Southeast Asia. It was recommended that public institutions should work towards eliminating corruption and stabilizing macroeconomics and political stability while promoting international trade among member countries.

Considering the confinement of Common Market for East-Southern Africa (COMESA), Tumwebaze and Ijjo (2015) examined the impact of regional economic integration on economic growth. They analyzed annual data covering from 1980 to 2010 using Instrumental Variable GMM regression framework. The results found no significant empirical support for a positive growth impact from region economic integration. Growth in capital stock, population, world GDP and the level of openness to international trade turned out to be the most robust drivers of growth in the COMESA region over the period.

The empirical literature reviewed above shows that the impact of regional integration is mixed. It further shows that no study has focused on the impact of ECOWAS economic integration on the growth of the Nigerian economy. This gap is what this current study stands to bridge.

## **3. METHODOLOGY**

In order to investigate the link between economic integration and economic growth, the empirical model for this study is specified based on the endogenous growth model as used by Ashakah and Okungbowa, 2020.

### **3.1. Model Specification**

The empirical model for the study is specifies as follows:

$$GDPGR = f[EINT, HK] \text{-----}(1)$$

The above function can be stated in econometric form as follows

$$GDPGR = \beta_0 + \beta_1 EINT + \beta_2 HK + \varepsilon \text{-----}(2)$$

Equation 2 above can be stated in ARDL form as follows

$$\Delta GDPGR_t = \beta_0 + \beta_1 GDPGR_{t-i} + \beta_2 EINT_{t-i} + \beta_3 HK_{t-i} + \sum_{j=1}^p \gamma_1 \Delta GDPGR_{t-1} + \sum_{j=0}^p \gamma_2 \Delta EINT_{t-1} + \sum_{j=0}^p \gamma_3 \Delta EHK_{t-1} + \phi ECM_{t-1} + \varepsilon_t \text{-----}(3)$$

Where GDPGR is gross domestic product growth rate, EITN represents ECOWAS economic integration (proxied by ECOWAS intra-trade), HK represents human capital; proxied by secondary school enrolment., t-i stands for time lags,  $\beta_{0-3}$  represents the parameters to be estimated while  $\varepsilon$  stands for the error term (other variables that affect the dependent variable but not included in the model). The a priori expectation of the dependent variables is greater than zero. In order words, we expect economic integration and human capital to impact economic growth positively in Nigeria.

**3.2. Data Sources and Description of variables**

The annual data covering from 1995 to 2018 was sourced from the World Bank Development Indicator (2020) and the United Nations Commodity Trade website (2020). The scope of the study is determined by the availability of data on ECOWAS-intra trade. The variables used in this study are GDP growth rate as the dependent variable while Intra- ECOWAS trade and HK are used as independent variables. Data on ECOWAS-intra trade was sourced from United Nations Commodity Trade website (2020) while data on gross domestic product growth rate and HK was sourced from the World Bank Development Indicator (2020). We used ECOWAS intra- trade values as a measure of economic integration in the region because financial integration is yet to gain strength.

**3.3. Method of data Analysis**

The Autoregressive Distributed Lag (ARDL) model was employed in data analysis. The choice of the autoregressive distributed model was informed by the nature of the data for the study (Iheonu & Nwakeup, 2016; Ogbuabor, Agu, Odo & Nchege, 2017; Onyema, 2020). The data failed to follow same order of integration. Prior to the estimation of the ARDL model, we performed preliminary data analysis to ascertain the stationarity status and confirm if long run relationship existed among the variables for the study. We employed two-unit root tests (ADF & PP) in the study. The ARDL bounds cointegration test was applied to determine the existence of a long run relationship among the variables. Some diagnostics tests (stability test and serial correlation tests) were carried out to evaluate the goodness of the estimated models.

**4. EMPIRICAL RESULTS AND DISCUSSION**

This section presents the empirical results of data analysis and discussion.

**4.1. Descriptive Statistics**

The descriptive statistics describe the variables in terms of their averages, maximum values, minimum values, standard deviation, skewness, kurtosis, J.B and probabilities to ascertain if the variables are normally distributed or not.

Table 1: Descriptive Statistics of the variables

| Variab le | Mean   | Max.     | Min.    | Std. Dev. | Skewnes s | Kurtosi s | J.B   | Prob.  | Obser v. |
|-----------|--------|----------|---------|-----------|-----------|-----------|-------|--------|----------|
| GDPGR     | 5.0527 | 15.32916 | -       | 3.5854    |           | 4.1880    | 2.641 | 0.2669 | 24       |
| R         | 46     |          | 1.61686 | 9         | 0.55448   | 48        | 2     |        |          |
| EINT      | 1.6491 | 5.46666  | 0.0000  | 1.6945    | 1.05509   | 2.8158    | 4.486 | 0.106  | 24       |
|           | 09     | 7        | 00      |           | 5         | 07        | 8     | 1      |          |
| HK        | 73.267 | 102.108  | 0.0000  |           | -         | 2.9552    | 7.302 | 0.025  | 24       |
|           | 88     | 1        | 00      | 38.856    | 1.35094   | 22        | 3     | 9      |          |
|           |        |          |         | 7         | 9         |           |       |        |          |

**Source:** Authors’ Computation using Eviews 11

Looking at Table 1, the growth rates of real gross domestic product between 15.32916 and -1.616869. The standard deviation was 3.5854 and the average growth rate was 5.052746 from 1995 to 2018. The coefficient of skewness, kurtosis and the Jarque-Bera statistic with a probability of 0.2669 indicated that the variable followed a normal distribution. The rates of ECOWAS intra- trade ranged between 5.466667 and 0.0000. The standard deviation was 1.6945 and the average rate was 1.649109 from 1995 to 2018. The coefficient of skewness, kurtosis and the Jarque-Bera statistic with a probability of 0.1061 indicated that the variable followed a normal distribution. Also, the percent of HK ranged between 102.1081 and 0.00000. The standard deviation was 38.8567 and the average percent was 73.26788 from 1995 to 2018. The coefficient of skewness, kurtosis and the Jarque-Bera statistic with a probability of 0.0259 indicated that the variable failed to follow a normal distribution pattern. Majority of the variables considered for this study are normally distributed based on the coefficient of skewness, kurtosis and the Jarque-Bera statistics probability values which are more than 5 per cent.

**4.2. Unit Root Tests**

Table 2: Summary of Unit Root Tests

| Variable | ADF<br>(Probabilities)<br>Level | ADF<br>(Probabilities)<br>1 <sup>st</sup> . Difference | Phillips –<br>Perron/<br>(Probabilities)<br>Level | Phillips –<br>Perron/<br>(Probabilities)<br>1 <sup>st</sup> . Difference | Remark                 |
|----------|---------------------------------|--|---|--|------------------------|
| GDPGR    | -2.728564<br>(0.0846)           | -6.537622<br>(0.0000)                                  | -2.787625<br>(0.0756)                             | -6.524476<br>(0.0000)  | Stationary<br>I(1)     |
| EINT     | -6.660396<br>(0.0001)           | N/A  | -3.946965<br>(0.0065)                             | N/A  | Stationary<br>I(0)     |
| HK       | -1.658410<br>(0.4374)           | -6.510492<br>(0.0000)                                  | -2.530187<br>(0.1217)                             | -7.093086<br>(0.0000)  | Not Stationary<br>I(1) |

**Note:** Probabilities in parenthesis. N/A- not applicable  
**Source:** Authors’ Computations using Eviews 11

Looking at Table 2, the variables considered for the study were not integrated in same order. The two-unit root tests (ADF and PP) employed showed that one (EINT) of the variables was stationary at level while the other two (GDPGR & HK) were not. Following the differences in the order of integration found in the variables, it appeared unnecessary to proceed with the traditional cointegration tests and cointegration estimations (Eagle and Granger, 1987; Maddala and Kim, 1998; Stock and Watson,1993). By the features of the variables and our sample size, the ARDL approach appeared more appropriate.

**4.3. Test of Cointegration**

Table 3: ARDL Bounds Cointegration Test

| Function              | F- Statistics |      |      | Results       |
|-----------------------|---------------|------|------|---------------|
| GDPGR C EINT, HK      | 5.719851*     |      |      | Cointegration |
| Critical Value Bounds | 1%            | 5%   | 10%  |               |
| I(0)                  | 3.88          | 2.72 | 2.70 |               |
| I(1)                  | 5.30          | 4.50 | 3.19 |               |

**Note:** \*level of significance at 10%  
**Source:** Authors Compilation from EViews 11

The result of the cointegration test, based on the ARDL bound testing approach, is presented in Table 3. The ARDL bounds cointegration testing approach is employed to test for cointegration in a case where the variables for the study are integrated in mix order (Narayan & Smith, 2005). The results show that the F-statistic (5.719851) is higher than the upper bound critical value at the 5% level of significance. The

hypothesis of no long run relation is rejected (Andohol, Doki, & Ojiya, 2020; Anumudu, Ugwuanyi, Asogwa & Ogbuakanne, 2018). This indeed indicates that all the selected independent variables and real GDPGR are bounded by a long run relationship.

**4.4. Long Run Coefficient Estimates**

Table 4: Long run coefficients  
 Dependent variable: Real GDP Growth Rate  
 Model selection Method: AIC  
 Selected Model: ARDL (1, 1, 1)

| Independent Variables | Coefficient         | Std. Errors | t-Statistic | Probabilities |
|-----------------------|---------------------|-------------|-------------|---------------|
| C                     | -1.446912           | 1.682424    | -0.860017   | 0.4017        |
| GDPGR(-1)             | 0.253402            | 0.191638    | 1.322290    | 0.2036        |
| EINT                  | 0.303123            | 0.360055    | 0.841881    | 0.4115        |
| EINT(-1)              | 0.107904            | 0.345715    | 0.312118    | 0.7587        |
| HK                    | 0.018202            | 0.016852    | 1.080109    | 0.2952        |
| HK(-1)                | 0.044249            | 0.018093    | 2.445607    | 0.0256**      |
|                       | R-Squares:          | 0.5296      |             |               |
|                       | Adjusted R-Squares: | 0.4251      |             |               |
|                       | D.W:                | 2.2086      |             |               |
|                       | Prob.(F-Statistic): | 0.012090    |             |               |

**Note:** \*\* level of significance at 5 %

**Source:** Authors Compilation from EViews 11

From the long run model estimation result presented in Table 4, the value of the coefficient of determination (R- Squared) is 0.53; indicating that about 53 percent of the systematic variation in gross domestic product growth rate is captured by the explanatory variables included in our model. The remaining 47 percent is accounted for by other variables not included in the model. The F-statistic with a probability value of 0.012090 indicates that a significant relationship exists between GDPGR and the explanatory variables included in the model. The value of Durbin Watson (DW) statistic of 2.0086 suggests that that there are no effects of autocorrelation in our estimated model. This makes our result reliable for policy decision making.

The individual effect of the explanatory variables on the dependent variable is determined based on the coefficients and p-value of the variable. The result shows that the coefficients of ECOWAS’ intra-trade (measure of regional economic integration) which stand at 0.1923 and 0.0367 have positive signs but failed to impact economic growth positively in Nigeria as the coefficients failed to pass the significance test at both the 1 and 5 percent levels. The result further shows that human capital is growth factor in Nigeria as its first lag passed the significance test at the 5 percent level. The result shows that the impact of ECOWAS intra-trade on economic growth in Nigeria is positive but not significant. It is clear from our result that Nigeria is yet to benefit much from economic integration in ECOWAS.

**4.5. Short Run Adjustment and Impact**

Table 5: ECM representation of the ARDL model  
 Dependent variable: D(RGDPGR)  
 Selected Model: ARDL (1, 1, 1)

| Independent Variable | Coefficient | Std. Errors | t-statistics | Probabilities |
|----------------------|-------------|-------------|--------------|---------------|
| C                    | -1.446912   | 0.624664    | -2.316306    | 0.0333        |
| D(EINT)              | 0.303123    | 0.256266    | 1.182844     | 0.2532        |
| D(HK)                | 0.014630    | 0.014630    | 1.244144     | 0.2303        |

|         |                     |          |           |           |
|---------|---------------------|----------|-----------|-----------|
| ECM(-1) | -0.746598           | 0.168108 | -4.441176 | 0.0004*** |
|         | R-Squares:          | 0.540840 |           |           |
|         | Adjusted R-Squares: | 0.468341 |           |           |
|         | D.W :               | 2.462597 |           |           |
|         | Prob(F-Statistic) : | 0.001697 |           |           |

**Note:** \*\*\* level of significance at 1 %

**Source:** Authors Compilation from EViews 11

Table 5 presents the error correction estimate of the ARDL model. The coefficient of the ECM variable is found to be negative and statistically significant at 1% level confirming the existence of long run relationship among the variables used in the study. The coefficient of ECM for the cointegrating equation with  $\Delta rdpccgr$  as the dependent variable shows a very high speed of adjustment back to equilibrium position, with about 75% of disequilibrium in the previous year returning to the long run equilibrium in the current year. The estimated coefficients of the explanatory variables in the error correction model are positive but failed to pass the test of significance at both the 1 and 5 percent levels. The result shows that in the short run, ECOWAS’ intra-trade and human capital have insignificant impact on economic growth in Nigeria.

**4.6. Diagnostics and Stability Test**

The Breusch-Godfrey Serial Correlation LM test was employed to test for the presence of serial correlation in the model. The SUCUM and SUCUM of Squares tests were used to test for the model stability. The results are as follows:

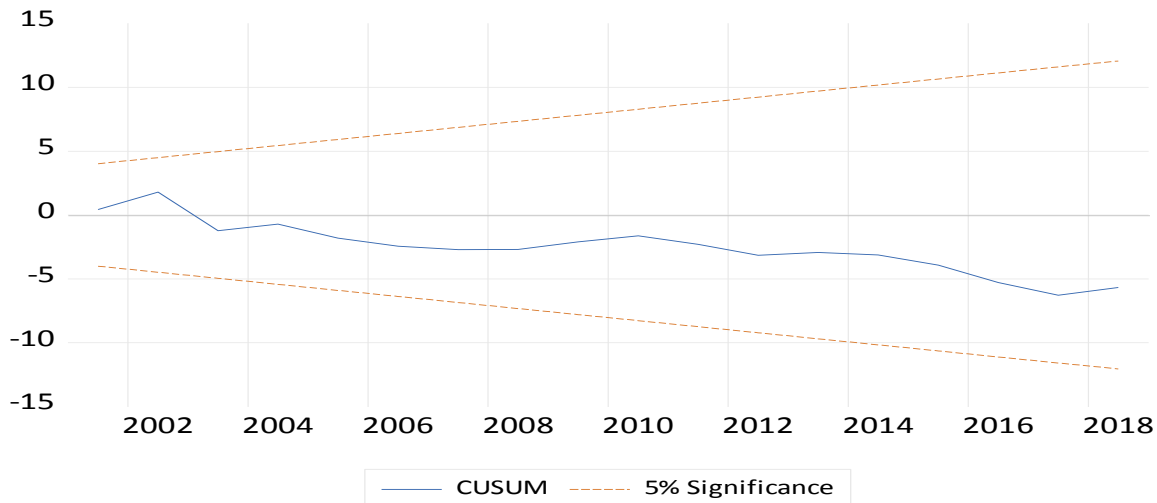
Table 6: Breusch-Godfrey Serial Correlation LM test

Null Hypothesis: No Serial Correlation

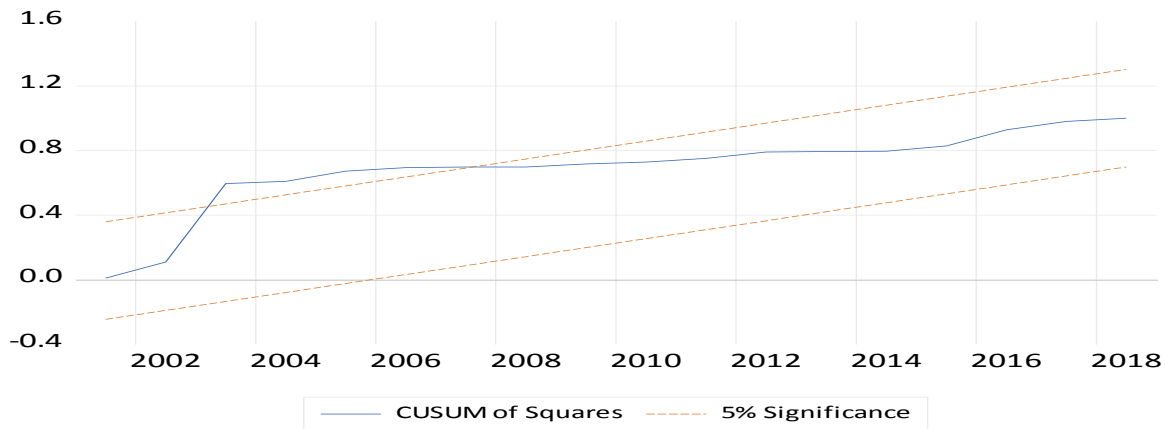
|               |          |                     |        |
|---------------|----------|---------------------|--------|
| F- Statistics | 0.300319 | Prob. F(2,9)        | 0.7447 |
| Obs*R-Squared | 0.832178 | Prob. Chi-Square(2) | 0.6596 |

**Source:** Authors Compilation from EViews 11

Figure 1: Plots of SUCUM and SUCUM Square test of coefficient stability







From the diagnostic test results, there is no evidence of serial correlation, it shows the model is well specified in the ARDL specification (see table 6). The stability of the long-run coefficient is tested by the short-run dynamics. Once the ECM model given in table 5 had been estimated, the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMSQ) tests were applied to assess parameter stability (Pesaran and Pesaran, 1997). Figure 1 plots the results for CUSUM and CUSUMSQ tests. The results showed the absence of any instability in the coefficients since the plot of the CUSUM and CUSUMSQ statistic fall inside the critical bands of the 5% confidence interval of parameter stability (Iheanacho, 2017).

## 5.1. CONCLUSION AND RECOMMENDATIONS

This paper investigated the impact of regional economic integration on economic growth in Nigeria using the autoregressive distributed lag (ARDL) model in data analysis. The study analysed time series data from 1995 to 2018. The data analysed were collected on gross domestic product growth rate as the dependent variable, ECOWAS intra-trade (which proxied regional economic integration) and human capital (HK), proxied by secondary school enrolment. The empirical results revealed that ECOWAS intra-trade had a positive relationship with economic growth in Nigeria but failed to impact growth significantly as the coefficient of ECOWAS intra-trade failed to pass the significance test at both the 1 and 5 percent levels. The results further revealed that human capital was a growth determinant in Nigeria in the long run. The coefficient of its first lag was positive and passed the test of significance at the 5 percent level. The results of the study confirmed that Nigeria's economy was yet to harness the much-expected benefits of regionalism. The study recommended that Nigeria should give export diversification and the development of essential industries the much-needed attention in order to enhance trade within the region. It further recommended that Nigeria needed to intensify and formulate stable trade policies capable of promoting sustainable growth and development towards the growth of the ECOWAS' Sub-region.

## REFERENCES

- Adamu, P. A., Ighodaro, C. A. & Iyoha, M.A. (2012). Trade, Foreign Direct Investment and Economic Growth: Evidence from the Countries of the West African Monetary Zone. *The West African Economic Review*, 1(2), 9-32.
- Agosin, M. R. (2007). Export Diversification and Growth in Emerging Economies. *CEPAL Review*, 97(1), 115-131.
- Andohol, J. T., Doki, N. O. & OJIYA, E., A. (2020). Agricultural Input- Governance Nexus and Food Security in Nigeria. *Journal of Economics and Allied Research*, 5(1), 20-41.
- Anumudu, C. N., Ugwuanyi, C. U., Asogwa, I. S. & Ogbuakanne, M. U. (2018). Agricultural Output and Economic Growth Adjustment Dynamic in Nigeria. *Journal of Economics and Allied Research*, 2(2), 45-55.
- Ashakah, O. F. & Okungbowa, O.G. (2020). Effect of International Trade on Economic Growth in ECOWAS Sub-Region. *Confluence Journal of Economics and Allied Sciences*, 3(2), 98-114.

- Badinger, H.(2005). Growth Effects of Economic Integration The Case of the EU Member States (1950-2000). Research Institute of European Affairs, University of Economics and Business Administration Vienna, Working Paper, Nr.40, 1- 45.
- Balassa, B. (1961). *The Theory of Economic Integration*. Homewood, Illinois: Richard D. Irwin.
- Balassa, B.(1975). Economic integration among developing countries. *Journal of Common Market Studies*, 14 (1), 37-55.
- Barro, R. J. & Lee, J. W. (1994). Sources of Economic Growth. *Carnegie Rochester Conference Series on Public Policy*, 40, 1-46.
- Barro, R. (1996). Determinants of economic growth. A cross-country empirical study. *NBER Working Paper*, 56(98), 22-29.
- Bong, A. & Premaratne, G. (2017). Regional Integration and Economic Growth in Southeast Asia. *Global Business Review*, 17(2), 1-20.
- Cooper, C.A. & Massell, B. F. (1965a). Towards a General Theory of Customs Union for Developing Countries. *Journal of Political Economy*, 73(5), 461-486.
- Domar, E. D.(1946). Capital Expansion, Rate of Growth and Employment. *Econometrica*, 14(2), 137-147.
- Engle, R. F. & C. W. J. Granger (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 55(2), 251-276.
- ECOWAS (2016). ECOWAS Common External Tariff: Achievement, Challenges and Prospect. ECOWAS Annual Report 2016.
- Hamed, K., Hadi, D. & Hossein, K. (2014). Export Diversification and Economic Growth in some selected Developing Countries. *African Journal of Business Management*, 8(17), 700-704.
- Harrod, R. F. (1939). An Essay in Dynamic Theory. *Economic Journal*, 49(193),14-33.
- Iheanacho, E. (2017). ARDL Approach to Trade Liberalisation and Economic Growth in the Developing Country: Evidence from Nigeria. *African Research Review*, 11(2), 138-158.
- Iheonu, C. & Nwakeze, N. M. (2016). Investment, Output and Real Interest Rate in Nigeria: An ARDL Analysis. *Journal of Economics and Allied Research*, 1(1), 72-92
- Iyoha, M. A. (2004). *Macroeconomics: Theory and Policy*. Benin City: Mindex Publishing.
- Izilein, (2014). *Introduction to International Economics*. Benin City: Ambik Press
- Jovanovic, N. M. 1997. *European Economic Integration*. London: Routledge, Pvt. Ltd
- Kitavi, D. N. (2014). Effect of Intra-African Regional Trade on Economic Growth in East African Community (EAC). *International Journal of Business and Commerce*, 4(6), 45-66.
- Lucas, R. E., (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, 22 (1), 3-42.
- Mallick, S. & Moore, T. (2006). Foreign Capital in a Growth Model. *Review of Development Economics*, 12(1), 143-159.
- Narayan, P. K. & Smyth, R. (2005). Electricity consumption, employment and real income in Australia evidence from multivariate Granger causality tests. *Energy Policy*, 33(9), 1109 –1116
- Narayan, P.K. (2005). The Saving and Investment Nexus for China: Evidence from Cointegration Tests. *Applied Economics*, 37(17), 1979-1990
- Nguyen, A. M., Bui, N.H. & Vo, D. H. (2019). The Nexus Between Economic Integration and Growth: Application to Vietnam. *Annals of Financial Economics*, 14(3). 1-32
- Ogbuabor, J.E., Anthony-Orji, O.I., Ogbonna, O.E. & Orji, A.(2019). Regional integration and growth: New empirical evidence from WAEM. *Business and Management Journal*, 19(2). 1-32.
- Ogbuabor, J. E., Agu, C.C., Odo,C.O. & Nchege, J. E. (2017). Does Foreign Aid Impact on Economic Growth in Nigeria? *Journal of Economics and Allied Research*, 2(1), 12-23.
- Onyema, S. (2020). The Influence of Rising Population on Poverty and Unemployment in Nigeria. *Journal of Economics and Allied Research*, 5(1), 106-122
- Prakash, A. & Hart, J.A. (2000). Indicators of Economic Integration. *Global Governance*, 6(1), 95–114.

- Romer, P. M. (1986). Increasing Returns and Long-run Growth. *The Journal of Political Economy*, 94(5), 1002-1037.
- Schiff, M. & Winters. A. L. (1998). Regional Integration as Diplomacy. *The World Bank Economic Review*, 12(2), 271–295.
- Solow, R. (1956). A contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*. 70(1), 65-94.
- Stanley, C. E. (1977). Review of A history of thought on economic integration, by Fritz Machlup. *Annals of the American Academy of Political and Social Science*, 434, 242-243.
- Tinta, A.A., Sarpong, D. B., Ouedraogo, I. M., Al Hassan R., Mensah-Bonsu, A. & Onumah, E.E. (2018). The effect of integration, global value chains and international trade on economic growth and food security in ECOWAS. *Cogent Food and Agriculture*. 4, 1-15.
- Tumwebaze, H. K. & Ijjo, A.T. (2015). Regional Economic Integration and Economic Growth in the COMESA Region, 1980–2010. *African Development Review*, 27(1), 67–77.
- United Nations Comtrade (2020). Commodity Trade Statistics Achieve. (Accessed 14<sup>th</sup> October, 2020).
- Viner, J. (1950). The Customs Union Issue. New York: Carnegie Endowment for International Peace.
- World Bank, (2020). World Development Indicators. [Online], Available: <http://data.worldbank.org>. [Accessed 14 October 2020].