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Research Paper

International Trade and Employment in Nigeria

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ABSTRACT
The paper examined international trade and employment rate in Nigeria from 1999-2019. The objectives of the study were to examine the impact of export on employment rate; and determine the impact of import on employment rate in Nigeria using the dynamic ordinary least square (DOLS) regression analysis. The data for the analysis which ranges from 1999 to 2019 was sourced from the Central Bank of Nigeria (CBN) bulletin. The estimated DOLS result showed that export is negatively signed with employment rate but it is statistically significant in elucidation the rate of employment in Nigeria during the period of study. This means that, there is an indirect link between an increase in export and the employment rate.Similarly, the import is negatively signed with employment rate but statistically not significant in explaining the rate of employment in Nigeria during the period of study. The coefficient of determination (R^2) is approximately 86%.This showed that the model is a good fitBased on these findings, the paper concluded that internationaltrade is negatively related to employment rate in Nigeria during the period of study. Based on these findings, the paper recommended amongst others thatgovernment should use the available resources with a well-coordinated fiscal policy in a manner to engage the teeming population that will make them be employable and efficient in productivity which in the long run will trigger the growth of the Nigerian economy as a result of an increase in the employment rate.

KEY WORDS: DOLS, Employment, Export, Import, International trade

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I. INTRODUCTION

The performance of an economy in terms of growth and development is not only been based on domestic production and consumption activities but also on international transactions of goods and services. Every nation buys, and also sells what it produces to other countries. This act of buying and selling is what international trade is all about (Gbanador, 2005). According to Gbosi (2019), international trade is that trade that cuts across the international boundary and involved the use of foreign currencies. International trade creates a flow of goods and services from one nation to another and this process helps to enhance employment creation. Employment is therefore a state in which individuals who are eager to work at a predominant wage rate by law are adequately engaged (Obayori & Robinson, 2019). Thus, employment can begenerated when nations engages in international trade.This is because, it is expected that countries which have increasing export rate will witness a fast increase in the rate of employment; thus there is a positive correlation between employment and export rate. Conversely, one can expect a positive employment effect if a significant portion of the imports constitutes labour-intensive inputs (Umoru, 2013).

Meanwhile, the challenges of globalization and trade liberalization have brought about new realities having uncertain implications for employment creation in many developing nations like Nigeria (Kareem, 2010). Nigeria has experimented with two discrete trade regimes, namely, restricted trade and the liberalized trade regimes. In the words of Kareem (2010), "the philosophy of controlled trade regime embodied a regime of regulation that has both direct and indirect instruments of control in the conduct of foreign trade and payments". This is to achieve efficiency in the face of market failure(Jenkins & Sen, 2006).

In Nigeria, despite the implementation of trade liberalization measures and the perceivedsigns of economic recovery, some macroeconomic indicators show poor performances of the overall economy. For

instance, the economy has been characterized by low degree of savings, capacity underutilization and low rate of capital formation to triggered employment(Obayori & Robinson, 2019; Umoru, 2013; Yusuf, 2000).

The conventional arguments in support of and against international trade are no doubt convincing, but the empirical evidence is yet to be typical especially in Nigeria. Empirical evidence shows that one of the causes of the negative relationship between international trade and employment is the *Dutch disease* phenomenon.This is because Nigerian as an oil rich country has been affected by the *Dutch disease*phenomenon, which might make the relationship between exports and employment to be negative (Hausman & Rigobon, 2002). Intensive exportation of her oil resources makes the real exchange appreciate strongly, which in turn makes export to be expensive, unprofitable and therefore globally uncompetitive. This lead to a decline in traditional exports which consequently lead to declining employment in these sectors. Also, a negative relationship existsif the increase in exports is due to increased out of the country border's reprocessing which leads to a declining domestic production.

In lieu of the above argument, the objectives of the study are to examine the impact of international trade in terms of export and import on employment generation in the Nigerian economy. The remaining parts of this paper x-rayed, literature review, methodology, results and discussion as well as concluding remarks.

II. LITERATURE REVIEW

Theoretically, the study is anchored on Adam Smith's theory of absolute advantage. Smith argued that using the same unit of labour, two countries tends to gain an absolute advantage. Absolute advantage means the ability of a country to produce a specific good with fewer resources than other countries (Meier, 1988). For instance, two nations say Ghana and Nigeria producing cocoa and ground nut respectively. Using the same unit of the same amount of labour by the two countries and fewer resources by Nigeria, Nigeria can produce more units of a ground nut than Ghana (Gbosi, 2005). The reverse will be the case for Ghana in the production of cocoa. Therefore, Nigeria has an absolute advantage over Ghana. Smith (1776) argued that the excess production will be sent to another country and the revenue generated will be used to finance the importation of the goods the country cannot produce. From the above, it follows that if the two countries (Nigeria and Ghana) trade with each other, Nigeria will benefit by specializing in the production of ground nut. Therefore, Nigeria will export the surplus ground nut to finance the cocoa import from Ghana (Gbosi, 2005). This will in turn lead to employment creation in the short run and economic development in the long run.

On the empirical perspective,Asaleye, Okodua, Oloni and Ogunjobi (2017) trade openness and employment in Nigeria. The identified Vector Error Correction model and Granger Non-Causality are used for this purpose. The findings showed short-run, but no long-run causalities among employment, trade openness, real gross domestic product, consumer price index, exchange rate and interest rate. A negative long-run relationship between trade openness and output has also been established. This implies that trade has been harmful to employment generation.Lawal, Nwanji, Asaleye and Ahmed (2016) examine the nexus among economic growth, financial development and trade openness using the ARDL bound estimation techniques. The result of showed that a two-way cointegration exists between economic growth and financial development, on the one hand, as well as between economic growth and trade openness, on the other hand. Kurihara and Fukushima (2016) findings showed that greater openness of the economy does not always mean greater economic growth in emerging and developing countries. The scholars concluded that economic conditions and market structures related to international trade must be considered carefully to achieve inclusive economic growth. Serdaroglu (2015) analysed the effects of openness on total factor productivity in Turkey. The result of the research work revealed that the impact of openness on total factor productivity is significant and positive along with the other determinants of total factor productivity specified as human capital, foreign direct investment, financial development, innovation, macroeconomics stability and governance indicators in their sample period.

Umoru (2013) examined the impact of international trade flows on employment generation in Nigeria within the framework of the vector error correction model. The study found that the volume of international trade has no significant positive impact on employment generation in Nigeria. Besides, the employment effect of trade liberalization is insignificant and negative as well in this study. Also, Stefan, Marco and Michael (2013) examined the effect of trade liberalization on employment in Switzerland. The scholarly results suggest that trade liberalization has a positive effect on employment. It should be clear, though, that the effect is likely to vary across different episodes of trade liberalization. Jenkins and Sen (2006) examined the impact of trade flows and foreign investment on employment infour developing countries. Their empirical evidence has it that the economic integration of Bangladeshand Vietnam has brought about significant increase in the number of unskilled jobs, job creation in response to greater openness has been minimal in Kenya and South Africa with job creation biased towards more skilled workers and that for a given level of output, trade appears to have led to a significant fall in employment in South Africa and Kenya.

Swane and Vistrand (2006) examined the *GDP*-employment growth relationship in Sweden. Using the employment-population ratio as a measure of employment generation, the study found a significant and positive relationship between *GDP* and employment growth. Sen (2008) analyzed the effect of international trade on manufacturing employment in India for the period 1975 to 1999 and found that the overall effect of international trade on manufacturing employment has been minimal. Kareem (2009) found no significant link between trade flows and employment in Nigeria both in the short-run and long run.

III. METHODOLOGY

The study is quantitative in nature. As a result, secondary data from 1999 to 2019 was sourced from the Central Bank of Nigeria (CBN) statistical bulletin, volume 30, 2019.This study adopted the econometrics method of dynamic ordinary least square (DOLS) to explore the impact of the explanatory variables (export and import) on the dependent variable (employment rate). The choice of the DOLS recommended by Stock and Watson (1993) is based on the ability to eliminate the endogeneity problem and it is robust to the autocorrelation problem. Meanwhile, a preliminary test via descriptive statistics was carried out to ascertain the characteristic nature of the time series under consideration. Also, a stationarity test via ADF unit root test was carried out to establish stability of the time series. Also, a co-integration test proposed by Johansen (1998) was conducted to ascertain the long-run equilibrium relationship among the variables

3.1. Model Specification

The model for the study was cast in line with the one proposed by Umoru (2013), who used VECM to examine the impact of international trade flows on employment generation in Nigeria. The VECM model was in the form of EMP = f(TT) ---------- (1). Where EMP isthe employment rate, TT is total trade. But the current model disaggregated total trade to export and import trade in the model. It also extends the time frame to 2019. Thus, DOLS model specified in log-linear econometric form is stated thus;

EPR = f(EXT, IMT) (2)

$$\text{EPR} = \lambda_0 + \lambda_1\text{EXTt} + \lambda_2\text{IMTt} + \sum_{i=1}^{n} \Delta\lambda_1 EXTt - 1 + \sum_{i=1}^{n} \Delta\lambda_2\text{IMT} + \text{?t} \quad (3)$$

Where; EPR is employment rate, EXT is Export trade, IMT is Import trade, u is Error Term, λ_1 and λ_2 are Slope Parameters, λ_0 is Intercept Parameter and $\sum$ is a summation

IV. RESULTS AND DISCUSSION

Table 1: Descriptive Statistics of the Time Series

Measurement	EMR	EXT	IMP
Mean	8.636190	9138.386	6388.757
Median	8.700000	8835.600	5593.200
Maximum	11.76000	19280.00	13445.10
Minimum	6.840000	1189.000	862.5000
Std. Dev.	1.575321	5353.149	4248.540
Skewness	0.473376	0.012428	0.047779
Kurtosis	2.026618	1.938249	1.431026
Jarque-Bera	1.613333	0.986941	2.161959
Probability	0.446343	0.610504	0.339263
Sum	181.3600	191906.1	134163.9
Sum Sq. Dev.	49.63270	5.73E+08	3.61E+08
Observations	21	21	21

Source: Authors' Computation from E-view 9

The descriptive statistics in Table 1 showed that the approximate average employment rate (EMR) Export trade (EXT) and Import trade (IMP) are 8.6%, ₦9138billion and ₦6389billion respectively. The corresponding standard deviation of employment rate (EMR) Export trade (EXT) and Import trade (IMP) are approximate; 1.6%, ₦5353billion and ₦4248billion respectively. Thus, the standard deviation of all the variables was within their mean. The skewness results showed that the variables were positively sloped. Moreover, all the variables were normally distributed as indicated by the p-value of Jarque-Bera statistic at 5%. Given the scenario above, there variables were not completely stable and normally distributed to give a best fit regression line. Thus, the need for a stationarity test to stabilize the data.

Table 2. Result of Augmented Dickey Fuller Unit Root Test at Level and First Difference

Variables	ADF @ Level	5% Critical Value	Decision	ADF @ 1st Diff	5% Critical Value	Decision
EMR	-0.67852	-3.0403686	Not stationary	-8.871386	-3.040391	Stationary I(1)
EXT	-1.462731	-3.020686	Not stationary	-4.467913	-3.040391	Stationary I(I)
IMP	-0.833318	-3.020686	Not Stationary	-4.712512	-3.040391	Stationary I(I)

Source: *Authors' Computation from E- view 9*

The unit root test for stationarity of each of the series via the ADF test as presented in Table 2 showed that the variables were not stationary at a level I(0). Thus, were differenced once to attain stationary at first difference prior to estimation of the dynamic ordinary least square (DOLS) regression analysis to prevent false regressions results.

Table 3: Johansen Test for Cointegration

Eigen value K=2, r=2	Trace Statistics	5% critical value	Prob. **	Hypothesis of CE(s)
0.613516	33.63392	29.79707	0.0172	None *
0.536466	16.52194	15.49471	0.0349	At most 1*
0.138440	2.682187	3.841466	0.1015	At most 2

*Note: r=number of co-integrating vectors and k = number of lags in model. * rejection of the H0*
Source: *Authors' Computation from E- view 9*

The results of the Johansen test of co-integration showed via the Trace statistics revealed the existence of two co-integrating equations in the model. This is because the computed values of the Trace test statistics were greater than their corresponding critical values at 5% level. Thus, the null hypothesis (H0) of no co-integration among the variables was rejected. Based on this result, the study concludes that there is a long-run equilibrium relationship amongst the variables in the model.

Table 4: Analysis of Dynamic Ordinary Least Square(DOLS)Result

Dependent Variable: Employment Rate (EMR)			
Variables	**Coefficients**	**t-statistics**	**Probability**
C	10.81887	31.74240	0.0000
EXT	-0.0000465	-3.087862	0.0071
IMP	-0.000281	-2.117513	0.0633
R-Squared	0.8580	F-statistics	762.1858
		Prob(F-statistic)	0.0000

Source: *Authors' Computation from E- view 9*

From the estimated dynamic ordinary least square (DOLS) regression result in Table 4, despite the fact that the independent variable (Export) is negatively signed with employment rate but it is statistically significant in explaining the level of employment generation in Nigeria during the period of study. Thus, there is anindirect link between an increase in both boil and non-oil export and employment rate as a unit rise in export will lead to a decrease in the level of employment by 0.0046%. The above result is not far-fetched from the fact that the bulk of Nigeria export is from the oil sector which does not contributeimmensely to employment generation when been compared to the non-oil sectors. On the other hand, the independent variable (Import) is negatively signed with employment rate but it is statistically not significant in explaining the level of employment generation in Nigeria during the period of study. Thus, there is an indirect link between increase import and employment rate as a unit increase in import will lead to a decrease in the level of employment by 0.0281%. The above result is a true nature of the Nigerian economy that is import dependent on finished goods, which in turn cripple the opportunity of manufacturing; industrial sector to create a meaningful employment opportunity for the teeming unemployed labour in Nigeria. The finding supports the view of Asaleye, Okodua, Oloni and Ogunjobi (2017) who averred that trade in the form of import and export has been harmful to employment generation.

The coefficient of determination (R^2) is approximately 86%. Meaning that the variation in employment rate explained by the two explanatory variables in the model is 86%, while the remaining 14% was explained by other factors not captured in the model. The F-test which is used to determine the joint significance of the explanatory variables in the model, showed that the P-value of F-statistics (0.0000) is less than the critical p-value at 0.05 level of significance. Thus, the model is considered to be good and adequate for forecasting and policy analysis.

Table 5: The Wald Test

Test Statistic	Value	Df	Probability
F-statistic	762.1858	(3, 9)	0.0000
Chi-square	2286.557	3	0.0000

Source: *Authors' Computation from E- view 9*

The Wald test measures the significance of the explanatory variables in explaining the dependent variable in an estimated model. Thus, for the explanatory variables to be significant in explaining the dependent variable, the p-value of the F-statistics must be less than 0.05 critical p-value. Given the result in Table 5, the two explanatory variables are significant in explaining the estimated mode since the p-value of 0.0000 of the f-statistics is less than the critical p-value of 0.05.

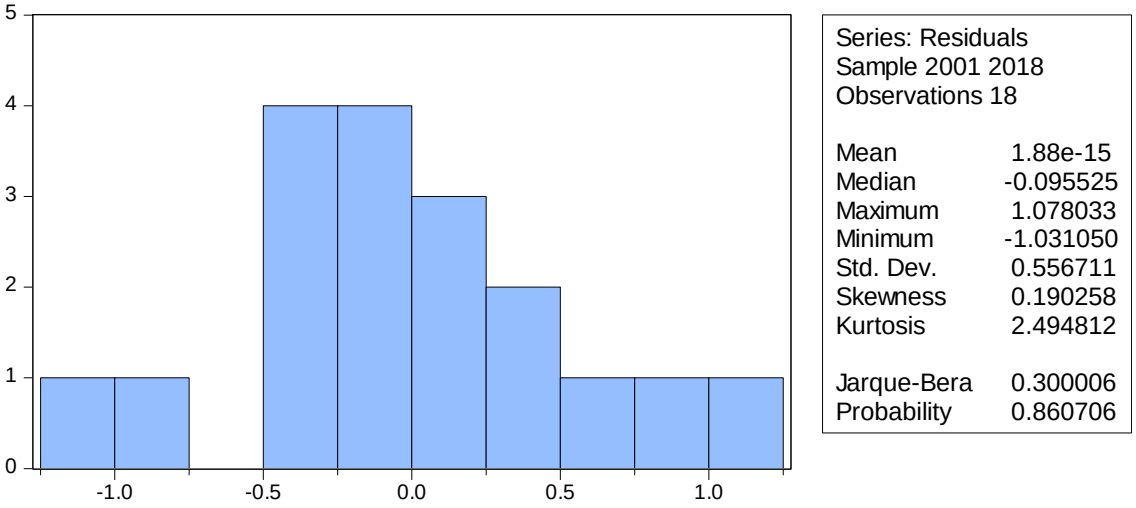

Figure 1: Normality Test Result

The normality test in Figure 1 showed that the error terms are normally distributed. This is because the probability value of the Jerque-Bera statistic (J-B stat) which is 0.8607 is greater than 0.05 critical value. Thus, the study concluded that the sample data fit a standard normal distribution.

From the analyses in both Table 5 and Figure 1, the result of the post estimation tests are welcoming as they meet the statistical criteria and authenticate the reliability of the estimated model for policy formulation and recommendation.

V. CONCLUSION

The paper carried out an empirical analysis on international trade and employment rate in Nigeria from 1999-2019 using the DOLS analytical method. The empirical result established that international trade and employment rate have a negative relationship in Nigeria during the period of study. The underlying principle for such a result is rooted in the fact that Nigeria as a nation depend more on import finished products and less export of finished products. This in turn cripple the local industries that ought to employ more labour force in both public and private sector that will drive the economy. In like manner, the finding from the paper invalidates the theoretical claim of Adam Smith theory of absolute advantage, when Smith argued that absolute advantage means the ability of a country to produce a specific good with fewer resources than other countries. Based on the findings, the paper recommended that; since it is evidence that an increase in export is significant in explaining the level of employment, the government should use the available resources with a well-coordinated fiscal policy in a manner to engage the teeming population that will make them to efficient in productivity which in the long run will trigger the growth of the Nigerian economy as a result of an increase in the employment rate.

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