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Trade Openness and Employment Growth in Nigeria

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Abstract

This study sought to find the impact of trade liberalization on employment growth in Nigeria from 1981-2016 using trade openness as proxy for trade liberalistion. A three-prong estimation approach was adopted. In the first stage, the descriptive statistic was examined in order to understand the nature of the series. The stationarity of the variables were also tested using Augmented Dickey fuller test. The result indicated that all the variables were stationary at first difference which necessitated the deployment of the Johansen co-integration and Vector error correction model for both the long-run and short-run nexus amongst the variables in the second stage. The Toda Yamoto test was also conducted to ascertain the direction of causality. In order to determine the ripple effect of the introduction of economic shock, the Impulse Response Function was deployed. In the post-estimation stage, the robustness and validity of regression model is checked using the Heteroscedasticity and the autocorrelation tests. The study found a

negative and significant relationship between trade openness and employment growth. The foreign direct investment had significant impact on employment levels. Inflation although significant was negatively related. Both the exchange rate and terms of trade were not significant. The result of Breusch-Godfrey Serial Correlation LM Test reveals the absence of serial correlation. The government should enact the provision of social and economic policies required to protect the country against the adverse effects of lowered trade barriers especially in the labour intensive sector of the economy.

Key words: Trade openness, employment growth, stagflation, Phillips Curve, Keynes Theory

Introduction

Unemployment has always been a recurring issue in the discourse on Nigerian economy. In order to fight poverty, Oni (2006) argued that reducing the level of unemployment will engender growth in the income level in the economy which will in turn reduce the level of poverty. The importance of international trade in filling the investment resource gap according to Obadan (2004) in providing both foreign exchange earnings and market stimulus for accelerated economic growth cannot be over emphasized.

Nigeria although endowed with abundant material and natural resources the country is bedeviled with the problem of unemployment. This state of joblessness in the opinion of Nwagwu (2014) has resulted in reduced purchasing power, with attendant loss of consumption capacity and hampered production and economic growth. About 50% of the unemployed are secondary school graduates (Knoema, 2017). Forty percent of the unemployed were within the 20 and 24 years age group. About 31% of the jobless were between the ages of 15 and 19 years. (Knoema, 2017). The rate of unemployment in Nigeria increased to 14.2% in the last quarter of 2016 when compared with the 10.4% of the previous year. It is the highest jobless rate since 2009 when the number of unemployment rate went up by 3.5 million people to 11.5 million. Unemployment rate in Nigeria averaged 9.76% between 2006 and 2016. The unemployment figure reached an all-time height of 19.70%

in the fourth quarter of 2009 and a record low of 5.10% in the fourth quarter of 2010. As at August 2016, about 4.58 million were unemployed. In ratio terms, the figure rose from 12.1% in quarter 1, through 13.3% in quarter 2 and 14% in quarter 3. As at November 2016, the ratio stood at 17.8%. As of 2017, the unemployment figure stood at 18.8% (Knoema, 2017).

The liberalization of the economy to global trade has been recommended for tackling the issue of poverty (Jhingan, 2005). This is in line with the neo-classical free market theory which postulates free trade generates domestic and foreign investment with attendant increase in capital accumulation. This is comparable to increase in the rate of domestic savings and consequent enhancement of the capital-labour ratios with consequential increase in GDP growth (Solow, 1960; Swan, 1956).

The literature is replete with mixed finding regarding the effect of the liberalization of trade on economic growth and unemployment levels. Some authors have reported insignificant relationship between the two variables (Kareem 2015). Some others have found substantial nexus (Seyfried, 2014; Echekoba, Okonkwo and Adigwe, 2015). Yet others reported negative nexus (Umoru, 2012; Meroyi, 2016). Given these conflicting findings, this study sought to investigate the impact of trade liberalization on employment growth. The research covered the period of thirty-five years, from 1981 to 2016. The study period provided the prospect for comprehensively assessing the nexus between trade openness and the level of unemployment in Nigeria.

The theory of comparative advantage espoused by Ricardo in 1817 is based on the differences in production cost of similar commodities in different countries as a result of difference in climate, natural resources, geographical situation, and efficiency of labour. The specialization in the production of good with comparative advantage engenders growth in the employment of labour resources in the participating countries. In order for countries to exchange these goods effectively and efficiently there is a need for free trade. This is where trade liberalization comes in because it enables the reduction or removal of tariffs, import duties, export duties and other trade restrictions in order to enable free trade among countries of the world.

The Institutionalist theory however held an ambiguous stance about free trade because it embraces a more active role for State management of economic development. It is apprehensive that opening up national economies to world trade might interfere with those plans (Scott, 2004). Indeed, national indicators like the balance of payment, the share of manufacturing industry or the exchange rate of the nation's currency are more important issues than consumers' welfare gains.

The classical theory of employment identifies an automatic force known as the invisible hand that tends to maintain full employment given wage price flexibility. The Say's Law of market is at the heart of the classicalist theory, with increased production, wages and salaries leading to greater effective demand. Thus, the very act of supplying goods implies a demand for them. It is in this way supply creates its own demand. This is based on the assumption that labour is homogenous in addition to the existence of perfectly competitive labour and product market. The Say's Law (1834) also assumed a closed capitalist economy without foreign trade.

The Keynesian Theory however rejected the Say's Law of market and Pigou's Theory of Unemployment (1934) which ascribed the level of employment to the real rates of wages as determined in the workpeople and the shape of the real labour demand curve. The Keynesian Theory of Employment, Interest and Money (1936) also was against the notion the level of savings and investment can be increased through alterations in the interest rate. It also opposes the attainment of long-run full employment through a self-adjusting process. According to Keynes in the short period, level of national income and of employment are determined by aggregate demand and aggregate supply in the country. This short-run position known as the effective demand point.

Given that the physical and technical conditions are constant in the short-run, Keynes (1936) suggested that the aggregate supply function would be constant. Consequently, in order to tackle the problem of unemployment, efforts should be concentrated on the aggregate demand function which is in turn driven by consumption and investment demand. The equilibrium level according to Keynes (1936) is an underemployment equilibrium because not all income is consumed in the short-run.

Hence an income consumption gap is created which cannot be easily filled up due to the lack of investment. Therefore the full employment income level can only be achieved if the gap between consumption and investment is closed. The domestic consumption and investment demand when augmented by foreign trade reduces the unemployment level. Therefore full employment income level can only be established if the volume of investment is increased in order to fill up the income consumption gap that corresponds to full employment. The domestic consumption and investment demand when augmented by foreign trade reduces the unemployment level.

Empirical Review

Omoke (2013) using the Vector Auto Regression (VAR) applied the Hecksher Ohlin and Stolper Samuelson Theory in examining the casual relationship among financial development, trade openness and economic growth in Nigeria. The study reported that trade and financial development do have positive effect on economic growth. This was tested at the African continental level by Anyanwu (2014) using the Ordinal Least Squares method. The findings states that high levels of intra-Africa trend tends to reduce youth unemployment both on aggregate and when differentiated by gender.

Measuring services trade liberalization and its impact on economic growth by Mattoo, Rathindran, and Subramanian (2006) made use of cross-country data and Goldsmith Theory to find that service liberalization is different from trade in goods because the former necessarily involves factor mobility and leads to scale effects that are distinctive and unique. Using the same method and total employment as a dependent variable, Kareem's (2015) study on Nigeria, and reported fluctuations in the trend of interest rate, employment, inflation, gross domestic product and foreign direct investment between 1985 and 2012.

The impact of trade liberalization policy on the Nigerian rubber industry was investigated by Mesike, Giroh and Owie (2008), using both secondary and primary data. The study revealed that rubber output quantity, the producer price and the domestic consumption quantity significantly affect the Nigeria rubber exports and employment. Similar quest by Akinyemi, Ebiefie, Adekojo and Ibiyemi (2014) in the study

utilised the Pooled Least Squares method. The deployed Cobb-Douglas production function revealed that the incorporation of tariff structure has a profound impact on both trade liberalization and employment. Using the same type of data, but different result, Echekoba, Okonkwo and Adigwe (2015) deployed Ordinal Least Square (OLS) method based on the Classical trade theory. The findings was that trade liberalization is beneficial to the economy. This confirmed the quality-complementarity hypothesis postulated by Kugler and Verhoogen (2008).

The International Labour Organisation (ILO) wage database and the OECD input-output database were utilized together with cross-country data on trade policy by Newfarmer and Sztajerowska (2013). The result of the regression and Hechsher-Ohlin trade models showed that trade can be a driver of economic growth when complimentary welfare policies are deployed. Seyfried (2014) applied the Walterskirchen (1999) theory to show that the labour markets in each country display different underlying dynamic as changes in economic growth affect employment in different ways with employment being quite sensitive to economic growth in some countries with a weaker relationship in others.

Asiedu and Gyimah-Brempong (2008) investigated in the impact of the liberalization on investment policies on employment and investment of multinational corporations in Africa used aggregate investment data and dynamic panel estimator. The study found significant and positive impact of liberalization on foreign direct investment (FDI). In addition, the research reported an indirect impact of liberalization the employment levels by multinational companies.

On the other hand, Meroyi (2016) conducted a comparative analysis of the influence of the liberalization of trade on the generation of employment during the military and civilian regimes in Nigeria. The study utilised secondary data and times series data and found that import intensity (lagged) was negatively related to the employment generation during the civilian dispensation. Similar result was recorded in the study employment and international trade flows in Nigeria, Umoru's (2012)'s Vector error correction and Heckscher-Ohlin Theory confirm that the influence of employment on total international trade volume is significant but negative in Nigeria.

In summary, the different results have been reported in the literature. Some of the findings suggest that most of the variables that affect economic growth bring about a fluctuation in employment level. The gap to be filled is the linkage between trade liberalization and employment growth.

Methodology

The data sources are from secondary sources. The openness of trade is calculated by the summation of imports (constant local currency) and export (local currency), divided by GDP (constant local currency). Total Employment Wages refers basically to the total gross (pre-tax) wages paid by employers to employees for work done in an accounting period, such as a quarter or a year. The Terms of Trade (TOT) is the relative price of imports in terms of export and is defined as the ratio of export prices to import prices. Data on inflation rate and FDI were obtained from the World Bank Development Indicators (2016). The other data were extracted from the Knoema (2017), Central Bank of Nigeria Statistical Bulletin (2014) and (National Bureau of Statistics, 2017).

Model Specification

The Cobb-Douglas Production function model forms the basis of this investigation

$$Q = A^{\lambda} Ki^{\alpha} Li^{\beta} \quad (1)$$

Where A^{λ} = technological efficiency index,
Q = output,
K = Capital stock,
L = Labour,
λ = production efficiency,
α and β are the coefficients of the factor inputs share of capital and labour respectively

In order to maximise profit, capital is employed until marginal revenue product of capital equals its costs (MRPK = Z). In the same vein, the marginal revenue product of labour equals the wage rate (MRPL=W). The Labour demand and technology are negatively related, but with positive nexus to output level.

In its pristine form, Akinyemi, Ebiefie, Adekojo, and Ibiyemi (2014) deployed equation (2) in the investigation of the nexus between trade liberalization and employment.

$$InLit = In\beta o + \beta_1 InTRT_{it} + \beta_2 InWAG_{it} + \beta_3 InTROP_{it} + \beta_4 InFDIit + \mu_{it} \quad (2)$$

Where Lit is the total employment wages, $TRT_{it,}$ $TROP_{it,}$ *and* FDI_{it} are represented with tariff rate across the sectors, trade openness and Foreign Direct Investment respectively. M_{it} is the stochastic error term and unknown slope parameter to be estimated are denoted by β_1 β_2 β_3 β_4

This study adapted equation (2) by including the Exchange rate (*EXCH*) and the Terms of Trade (*TOT*) has been included because of the vagaries and fluidity of these variables in a developing economy like Nigeria. The wages (Lit) and tariff (*TRT*) are dispensed with because the focus of this study is the holistic aggregate employment not sectoral engagement of labour.

The model for investigation is presented as equation (3):

$$EMPL_t = \beta_0 + \beta_1 TROP_t + \beta_2 FDI_t + \beta_3 INF_t + \beta_4 EXCH + \beta_5 TOT_t + \mu \quad (3)$$

Where:

$EMPL_t$ = Total Employment across all sectors at the considered time period (t)

$TROP_t$ = Trade Openness at considered time period (t)

FDI_t = Foreign Direct Investment at considered time period (t)

INF_t = Inflation rate at considered time period (t)

$EXCH_t$ = Exchange rate at considered time period (t)

TOT_t = Terms of Trade at considered time period (t)

$\beta_{1,}$ $\beta_{2,}$ $\beta_{3,}$ $\beta_{4,}$ β_5 are the parameter to be estimated, μ symbolizes the stochastic error term.

Model Estimation Procedure

The investigation is conducted in three phases. In the first stage, the descriptive statistics of the series are computed in order to comprehend the nature of the data. The other objective is to know the stability of the series using the Augmented Dickey-fuller (ADF) unit root test. The result of these test determines the type of estimation technique to be deployed in the second phase where the long run and short run cointegration computation amongst the series are computed. Prior to this exercise, the optimal lag required for the selection from the long-run co-integration is calculated.

In the third phase, known as the post-estimation stage, the robustness and validity of regression model is checked using the Heteroscedasticity and the autocorrelation tests. These computations were done with E-views version 9.0 software. In the next section, the findings are presented and discussed.

Results

Preliminary Analyses

Descriptive Statistics

The descriptive statistics of the series are presented in Table 1.

Table 1: Descriptive Statistics

	$EMPL_t$	$TROP_t$	*FDI*	*INF*	*EXCH*	*TOT*
Mean	52.69	0.15	2,827.08	19.61	77.22	152.26
Median	52.95	0.09	1,881.00	12.55	57.21	146.13
Maximum	54.70	0.46	8,915.00	72.80	305.00	258.73
Minimum	50.90	0.00	189.00	5.40	0.61	76.19
Std. Dev.	1.04	0.15	2,598.73	17.73	75.44	48.01
Skewness	-0.19	0.62	1.03	1.67	0.76	0.49
Kurtosis	1.76	1.97	2.85	4.52	3.19	2.61
Jarque-Bera	2.53	3.89	6.41	20.05	3.50	1.66
Probability	0.28	0.14	0.04	0.00	0.17	0.44

Source: Author's computation using E-views 9.0 (2018)

There is a wide gulf between the values of the variables (minimum and maximum) which, is indicative of a significant variation in the trends of the variables. The variables are positively skewed except employment level. In the same way all the values, are platykurtic in nature except exchange and inflation rates since their kurtosis values are less than 3. There is a manifestation of non-normality in all the variables (except terms of trade) given that the Jacque-Bera statistics are greater than the standard threshold of 2.

Stationarity Test Results

The Unit root test results are presented in Table 2.

Table 2 Result of the Augmented Dickey Fuller Test Result

Series	5%Critical Value	ADF at first difference (Prob.)	ADF Test at first difference	Equation Specification	Order of integration
$EMPL_t$	-2.95	0.00	-8.45	Intercept	I(1)
ONP	-2.95	0.00	-5.44	Intercept	I(1)
INF	2.95	0.00	-5.38	Intercept	I(1)
LOGFDI	-2.95	0.00	-10.94	Intercept	I(1)
LOGEXCH	-2.95	0.00	-4.98	Intercept	I(1)
TOT	-2.95	0.00	-6.11	Intercept	I(1)

Source: Authors computation using E-Views 9.0 (2018)

The result in Table 2 showed that all the explanatory variables are stationary at first difference because their respective absolute test statistic is greater than their 5% critical values at constant at intercept. The implication of this is the rejection of the null hypothesis and makes it inappropriate for the use of the Ordinary Least Squares (O.L.S) method for estimation. The test of the long run connection can be conducted with the aid of the Johansen co-integration test. Prior to this exercise, the optimal lag length has to be checked.

Estimation Results

Optimal Lag Length Selection

The selection of an optimal lag length which is critical in determining how the outcome of the previous year(s) influence the current year is presented in Table 3.

Table 3: Lag Length Criteria Determination

Lag	*LogL*	*LR*	*FPE*	*AIC*	*SC*	*HQ*
0	-49.63	NA	0.004	3.09	3.23	3.14
1	27.55	136.20*	8.07e-05	-0.91	-0.37*	-0.73*
2	38.15	16.83	7.45e-05*	-1.008*	-0.06	-0.68

Source: Authors computation using E-views 9.0 (2018)

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: -Hannan- Quinn information criterion

The result in Table 3 portrays the selection of different lag lengths by the different criterions. The lag of (1) being the lowest selection by LR, SC and HQ should be utilized.

Cointegration Test Result

The research employed both the Eigenvalue and Trace statistic tests of the Johansen Co-integration technique. The null hypothesis being the absence of cointegration among the series. Where each of the trace statistic and the maximum Eigen value is greater than the respective critical value, the null hypothesis will be rejected. The results are presented in Table 4.

Table 4: Johansen Co-integration test based on Trace Statistic

Hypothesized		Trace			Max-Eigen		
No. of CE(s)	Eigenvalue	Statistic	Critical Value 0.05	Prob.**	Statistic	Critical Value 0.05	Prob.**
None *	0.74	126.48	95.75	0.0001	46.37	40.08	0.0086
At most 1 *	0.60	80.11	69.82	0.0060	30.91	33.88	0.1087
At most 2 *	0.55	49.21	47.86	0.0371	27.06	27.59	0.0583
At most 3	0.35	22.15	29.80	0.2905	14.50	21.13	0.3254
At most 4	0.17	7.65	15.50	0.5041	6.23	14.27	0.5833
At most 5	0.04	1.41	3.84	0.2348	1.41	3.84	0.2348

Source: Authors computation using E-views 9.0 (2018)

The result in Table 4 reveals that at all levels the null hypothesis is rejected because the trace statistic and Max-Eigen values are greater than their respective critical values. The alternative hypothesis is therefore accepted which indicated the existence of long run connection among the series.

Vector Error Correction Model (VECM)

VECM is deployed in determining the likelihood of short run relationship among the variables. The result is presented in Table 5.

Table 5: Result of the Short Run Relationship of Variables.

Error Correction	D (EMPL)	D (TROP)	D (lnGFDI)	D (INF)	D (lnGEXCH)	D (TOT)
CointEq1	-0.2	0.003	-0.076	5.44	0.09	-1.89
Standard error	(0.05)	(0.005)	(0.05)	(1.69)	(0.04)	(5.21)
t-stat	[-3.70]	[0.61]	[1.56]	[3.21]	[2.45]	[-0.36]
	0.59	F-cal (30 df 6)	3.24			

Source: Authors computation using E-views 9.0(2018)

The result showed that only exchange rate and inflation rate have a short run relationship with employment level because the t-calculated is greater than t-tabulated (2.04). A long-run relationship exists between each of foreign direct investment, trade openness and terms of trade on the one hand and employment on the other. The adjusted coefficient of determination () which is used to measure the goodness of fit or the explanatory power of a model technically gives the proportion or percentage of the total variation in the dependent variable explained by the regressors. The results show that the five explanatory variables account for 59% (=0.59) variation in the employment level. The results with the degree of freedom as 30 for upper degree of freedom and 6 for lower degree of freedom indicates that f-calculated (3.24) is greater than f-tabulated (2.42). This implies that the model is statistically significant.

Regression Result

The regression was normalized after the co-integration test by multiplying each variable with (-1). The result is presented in Table 6 and equation (4).

Table 6: Vector Error Correction Model Results

Variable	Co-Efficient	Standard Error	T-Statistic
D(TROP)	-20.74	3.71	-5.58
D(Ln FDI)	2.32	0.64	3.58
D(INF)	-0.13	0.02	-8.13
D(LnEXCH)	0.08	0.21	0.38
D(TOT)	-0.009	0.004	-1.97

Source: Authors computation using E-views 9(2018)

The estimated long run model is shown as below

EMPL= – 20.74TROP + 2.32lnFDI - 0.3INF + 0.08lnEXCH – 0.009TOT (4)

t-stat (-5.58)* (3.57)* (-8.13)* 0.38 (-1.97)

R-squared: 0.59

F-statistic: 3.24

* Signifies statistical significance at 0.05

The inference to be draw equation (4) is that trade openness significantly and negatively impact employment levels in Nigeria. Indeed, an increase in trade openness causes a twenty-five fold rise in employment. A positive relationship and significant relationship exists between foreign direct investment and employment level. In effect, a percentage change in each of foreign direct investment rate will cause an elastic (2.3%) increase in employment levels in Nigeria.

However, inflation exert a significant but negative impact on employment levels in Nigeria. The impact of exchange rate is positive but insignificant while the terms of trade exert negative and insignificant impact on employment levels in Nigeria.

Toda Yamamoto Causality Test

The cointegration tests reveal the causality or otherwise of the variables. There is the additional need to know the direction of causality. The benefit of multivariate Toda and Yamamoto (1995) over bivariate Granger tests manifests in its ability to help avoid spurious correlations especially in cases of non-normal variables. The decision criteria is that where the probability (p-value) is less than the 10% level of significance then the null hypothesis is not rejected.

Table 7: Result of Toda Yamoto Causality Test

Dependent variable: D(EMPL)		Null Hypothesis: Null Hypothesis: Trade openness do not cause employment growth		
Excluded	Chi-sq	df	Prob.	Decision
D(TROP)	4.51	1	0.03	Reject Null Hypothesis
D(lnFDI)	0.004	1	0.95	Accept Null Hypothesis
D(INF)	11.61	1	0.00	Reject Null Hypothesis
D(lnEXCH)	1.36	1	0.24	Accept Null Hypothesis
D(TOT)	0.86	1	0.35	Accept Null Hypothesis
All	16.57	5	0.01	Reject Null Hypothesis
Dependent variable: D(TROP)		Null Hypothesis: Employment growth do not cause Trade openness		
Excluded	Chi-sq	df	Prob.	Decision
D(EMPL)	1.70	1	0.19	Reject Null Hypothesis
D(INF)	0.05	1	0.82	Reject Null Hypothesis
D(LOGEXCH)	0.02	1	0.90	Reject Null Hypothesis
D(LOGFDI)	0.01	1	0.93	Reject Null Hypothesis
D(TOT)	0.29	1	0.59	Reject Null Hypothesis
All	2.75	5	0.74	Reject Null Hypothesis

Source: Authors computation using E-views 9.0 (2018)

From Table 7, trade openness and inflation rate caused employment growth. However, there is no reversed causality between inflation rate caused employment growths on trade openness. In effect, a uni-directional causality exists between trade openness and employment growth.

Post-Estimation Test

Impulse Response Function

Impulse response functions is suitable for reviewing the interfaces amongst variables in a vector autoregressive model. The impulses represent the responses of the variables to shocks hitting the system. After a given shock, the impulse response function provides a description of the evolutionary impact on the variable of interest along a specified time horizon. The response of trade openness shock is presented in Figure 1.

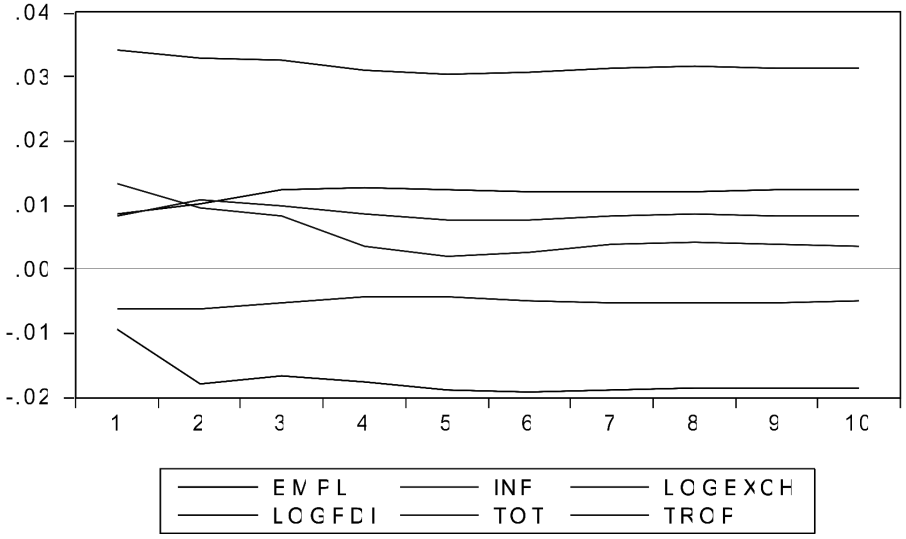

Figure 1: Shock of Trade Openness

One standard deviation positive shock of trade openness caused employment level to fall drastically form the first year. A slight increase (still in the negative zone) is recorded in the second year before a gradual fall up to the last year. This is consistent with the negative relationship trade openness and employment growth revealed by the Johansen cointegration technique.

Breusch- Godfrey Serial Correlation Lm Test

The Breusch (1978) and Godfrey (1978) technique is serial correlation test was used to check for the serial relationship between the variables. The null hypothesis stated absence of serial correlation. The prob. chi square if less than 5% level of significance signifies the acceptance of the alternative and rejection of null hypothesis.

Table 8: Result of Breusch-Godfrey Serial Correlation LM Test Result

F-statistic	5.15	Prob. F(2,25)	0.82
Obs*R-squared	14.03	Prob. Chi-Square(2)	0.12

Source: Authors computation using E-views 9.0 (2018)

The results above showed the prob. (chi-square) having a value of 0.12 which is greater than the 5% level of significance. Therefore we accept the null hypothesis which stated that there is no serial correlation.

Heteroscedasticity Test

The Breusch-Pagan heteroscedasticity test ascertains whether the variance of the error from a regression is dependent on the values of the independent variables. In that case, Heteroscedasticity is present. The alternative hypothesis is unequal finite variance or Heteroscedasticity. The decision criteria is not to accept the null hypothesis if the F-statistics value is greater than 0.05 level of significance which means the presence of heteroscedasticity.

Table 9: Heteroscedasticity Test: Breusch-Pagan Test Analysis

F-statistic	0.94	Prob. F(3,31)	0.44
Obs*R-squared	2.90	Prob. Chi-Square(3)	0.41
Scaled explained SS	2.90	Prob. Chi-Square(3)	0.41

Source: Researcher's computation

From the result in Table 9, probability of chi-square is 0.41 which is greater than 0.05 at 5% at significant level. Therefore, we reject the alternative hypothesis of presence no Heteroskedasticity in the model. This implies that the regressor estimator predictions based on them remains unbiased and consistent.

Discussion of Findings

This paper was anchored on both the classical theory and the Keynesian theory. Whereas the former posits that the achievement and sustenance of full employment in a closed economy was guided by an automatic force known as the invisible hand, given wage price flexibility. In line

with the theory, regression result showed a positive significant relationship between trade openness and employment level both in the long run and short run. This research finds otherwise.

It however supported the Keynesian postulation that full employment income level can only be achieved if the quantum of investment is enlarged in order to fill up the gap between income consumption. In effect, for a developing country like Nigeria, unless the domestic trade in terms of consumption and investment demand is augmented by foreign trade, the level of unemployment cannot be reduced. A country in autarky will find employment generation to be an uphill task. This implies that trade openness or international trade helps to achieve full employment in an economy. The increased international competition for market, labour skills and resources may promote unemployment in a developing country like Nigeria.

The deleterious effect of liberalized international trade on domestic employment could be due to the unbridled imports of goods that are competing with the locally produced one having high cost of production. These local producers are faced with the additional cost of provision of basic infrastructure like electricity generation and water. Some of these local industries have had to close down and lay off workers thereby exacerbating the unemployment problem.

The study found a negative relationship between employment level and trade openness, which implies that a change in trade openness will lead to a reduction in employment level in Nigeria. The coefficient of determination (=0.59) means that 59% the variations in the employment level is accounted for by the explanatory variables. This is consistent with the findings of Meroyi (2016) which reported that lagged import intensity was negatively related to the employment generation during the civilian dispensation in Nigeria. It is also similar the report of Umoru (2012). It is however contrary to the findings of Anyanwu (2014) that foreign trade reduces unemployment rate.

The significant negative nexus between unemployment and inflation in Nigeria is inconsistent with the original proposition of the Phillips curve hypothesis (1958). Between 1980 and 2012, the Nigerian economy exhibited Stagflation which is a condition of simultaneous increase in both inflation and unemployment. This is at variance with the Phillips

Curve propositions that unemployment and inflation could be controlled by the government and the monetary authority. The heavy dependence on the export of crude oil which provided about 90% of foreign earnings provides a veritable explanation for insignificant impact of both the terms on trade and exchange rate on employment level as reported by this study.

In summary, the study found a negative and significant relationship between trade openness and employment growth. The foreign direct investment was also significant in explaining the employment levels. Inflation although significant was negatively related. However, both the exchange rate and terms of trade were not significant in influencing the level of employment in the country.

Conclusion

The study set to carry out an empirical analysis on the relationship between trade liberalization and employment growth in Nigeria. It deployed a three-prong estimation approach consisting of preliminary data assessment, regression analysis and post-estimation techniques to determine the robustness and validity of regression model.

The study found a negative and significant relationship between trade openness and employment growth. The foreign direct investment had significant impact on employment levels. Inflation although significant was negatively related. Both the exchange rate and terms of trade were not significant. The result of Breusch-Godfrey Serial Correlation LM Test revealed the absence of serial correlation. The Toda Yamoto test confirmed the existence uni-directional causality between trade openness and employment growth.

Recommendations

- Although no country can survive in autarky in the long run, the government should enhance the provision of social and economic policies required to protect the country against the adverse effects of lowered trade barriers especially in the labour intensive sector of the economy. However, the imposition of whole scale restrictive trade regime needs to be carefully considered in order not to breach the country's commitment to the World Trade Organisation (WTO) covenants on free trade.

- The government should enact the provision of social and economic policies required to protect the country against the adverse effects of lowered trade barriers especially in the labour intensive sector of the economy.

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