

Economic Integration and Trade Tax Revenue Issues in Nigeria

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Abstract

This study was undertaken given that Nigeria is a developmental state that requires financing, more so that the country has been trying to diversify revenue source from the volatile oil revenue, but it is in the same vein pursuing economic integration that has revenue consequences. The objective was to evaluate the effect of economic integration on trade tax revenue in Nigeria. The study sourced secondary data from CBN statistical bulletin and Transparency international, utilizing Multivariate cointegration estimation technique. Findings indicate that economic integration has significantly adversely affected trade tax revenue in Nigeria for the period of the study. Hence, the study recommends; it is important for the country to fully understand and implement foreign trade agreements in a conducive macroeconomic environment. There is an urgent need to deepen and diversify the productive base of the economy to develop, reinvigorate and widen domestic tax bases, while institutions of government like the anti-corruption agencies should be motivated to carry out their duties effectively to shield the country from the manipulations of powerful rent-seeking economic agents.

Keywords: Economic Integration, Trade tax, Fiscal Deficit, Revenue

JEL Classification: F02, F15, H2, H27

1.1 Introduction

Nigeria's trade policy since 1986 was targeted at economic integration to achieve greater liberalization and greater openness with the global economy, this is in a bid to expand market access, create trade, ensure economics of scale and improve revenue generation. With this, the country signed bilateral, multilateral, regional and continental trade agreements with different countries, and she is one of the founding members of Economic Community of West African States (ECOWAS) and the World Trade Organization (WTO). Markevicius (2011) opined that the first step in an economic union is economic integration and after a set of trials and errors the countries can take steps forward to more complex integration levels until arriving at further levels of integration, which Balassa (1961) classify as follows;(i) preferential trade agreement (ii) free trade arrangements (iii) customs union (iv) common market (v) economic and monetary union (vi) complete integration.. For the purpose of this study, economic integration is the trade agreements among nations that have to do with the liberalizing of trade legislation and rules, lowering of tariffs, having a common external tariff, and generally, reducing barriers to trade or trade restrictions between the members of the trade agreement against non-members for the purpose of their mutual interdependence and common benefit of economic growth and development. Today, practically every country is involved in some form

of economic integration, hence, the choice of whether to maintain a protected economy or to open up to the rest of the world will not be available indefinitely as pressures for trade reforms intensify, so in- order to remain relevant Nigeria needs to take measures that will be of benefit to her.

Trade tax otherwise called international trade tax (tariff) is the summation of import duties charged on foreign goods and services that are imported into the country is administered by the Nigerian Customs Service (NCS). There is an indication of the government desire to diversify and restructure the productive base of the economy to fast track economic development taking advantage of emerging opportunities in economic integration. The concern for this study is that a developmental state like Nigeria requires financing for economic development and the implementation of economic integration policies has revenue consequences especially in the face of progressively increasing deficit financing, depleting reserves, deepening debt which affects exchange rate, and lending interest rate, worse still in the face of fiscal indiscipline and wanton corruption, this may potentially lead the country into profound problem of fiscal squeeze with implication for macro-economic stability and economic growth and development.

The findings in literature are mixed revealing that there is no clear-cut evidence on the issue (Bonaglia and Fukasaku, 2003). More so, that the experiences of many of the successfully integrating developing countries has shown that the potential trade tax revenues losses following tariff reduction can be much and may require some level of fiscal discipline and adjustments, which in the case of Nigeria with high level of fiscal indiscipline and corruption becomes a herculean task. So there is an agenda that Nigeria needs to address to create conducive environment for expanding trade and taxes, as conclusions that economic integration leads to higher growth rates have drawn caution from some researchers, indicating that these outcomes could be conditional upon certain factors (Harrison, 1996) and (Grossman and Helpman, 1991). Based on this, the specific objective of this study is to evaluate the effect of economic integration on trade tax revenue in Nigeria.

The study is organized logically in five sections; section one covered the introduction. Section two dealt with literature review including theoretical and empirical literature of the study. Section three is about the methodology of the research, section four presented and analyzed the data obtained and finally, section five presents the conclusion drawn and policy recommendations.

2.1 Review of Related Literature

Theoretically, the free trading neo-classical and even the protectionists argued in favour of trading blocs generating economic gains, not until Viner's penetrating analysis in Customs union in 1950. He built on the neo-classical free trade theory which insisted on unhindered free trade without barriers throughout the world. Through the key concepts of trade creation and trade diversion he argued that the exchange of goods and services would increase and be beneficial to all the parties within a customs union as long as trade was created and lead to advantages of economies of scale and greater revenues, and also demonstrated that trade blocs are not necessarily growth improving, whether for member states or globally, as it could also harm economic growth. He associates trade creation with economic gains and trade diversion with economic loss.

However, while the evidence linking greater economic integration to growth is compelling, the direction of the interaction between trade, revenue and growth is less clear: From a trade perspective, the most important argument in economic integration is its effect on revenue productivity which is what is of interest to this study, for it has been contended that in economic integration the revenue sacrifice may be huge, hence the study wants to investigate the direction of Nigeria. Public finance experts at a United Nations conference in Monterrey, France in 2002, stated an important criterion to judge a good tax should be based principally on its revenue productivity. Smith (1776) also argued that it made little sense to institute a tax system in which the cost of collecting the tax is higher than the realized tax revenue. Hence, the two aspects of revenue productivity agree that the tax base must be large enough and that the cost of operating the tax system must be low. Revenue adequacy is the basic elementary standard that a tax system ought to achieve, and the existing budget deficits in many developing countries suggest that the tax systems are not revenue productive (Oriakhi and Osemwengie, 2013). Developing countries cannot afford to adopt tax reforms, no matter how desirable the might be on ground, if they lead to substantial revenue losses. Goode (1987) argues that it is hard to gain serious consideration for any revenue- neutral tax reform proposal especially in Africa, where most countries consider revenue gain as the primary motive for a tax. Lawrence (2011) states external developments in integrated economies affect the tax base and hence the tax yield, both directly and indirectly, and relatively large foreign trade sector tends to be related with a high tax level.

In general terms, conventional economic theories are hinged on the gains derivable from changes in the existing trade patterns (Okoh, 2004). It is this dynamic gain from trade that is the focus in modern trade theory (Helpman and Krugman, 1985), and in the new growth theory (Grossman and Helpman, 1991) constitutes a vital link in the causal chain between economic integration and economic growth and development. Cage and Gardenne (2012) in their work on the fiscal cost of trade liberalization identified a number of episodes of decreases in tariff revenue and investigated whether countries are able to recover lost revenue due to the introduction of low tariff in accordance with integration policy through other tax sources. Other studies with similar conclusions are Gudissa and Mishra (2014), Bourdon and Viji (2013), Baunsgaard and Keen (2005), Khattry and Rao (2002), Okoh, (2004), Ogujuiba, Oji & Adeniyi (2004), Enrico (2009) and Ghani (2002). Some studies indicated a positive effect, such as Aytac and Kilic (2014), Afesorgbor (2013), Morgan and Kanchanahaki (2012).

Nwaibu, Saibu and Fakunle, (2012) also found that trade liberalization, public debt, trade openness, GDP and labour force exerted positive influence on total revenue while exchange rate has a negative effect. Their study provided relevant information to this study which improved on it by including important variables; corruption, lending interest rate, and foreign direct investment which are relevant to the determination of the productive capacity of the economy to expand the base of trade tax and develop alternative sources of revenue to offset the possible loss in trade tax revenue. Also, relevant diagnostic and tests were conducted to ensure adequate result is obtained. Yet, Sharma (2013), Grossman and Helpman (1991) in their studies gave conditions upon which economic integration will be beneficial to economic growth and development.

It is evident that there is no consensus among empirical studies on the impact of economic integration on the growth of trade tax revenue. In the light of this, this study carried out a country specific analysis for the period 1970 to 2015 to examine the direction of the effect on Nigeria. This study also takes cognizance of the fact of the contemporary challenges of

diversifying the revenue base and the opportunities integration provides for export led economic growth strategy. The existing literature looked at trade integration and economic growth, ignoring a significant link between them, trade tax, this perhaps is one of the reasons for ineffective macro-economic policy decisions.

3.1 Research Design

The study adopted an ex post facto research design to evaluate economic integration and trade tax issues in Nigeria. It made use of secondary data obtained from annual Statistical Bulletin of the Central Bank of Nigeria, the National Bureau of Statistics Annual Abstract of Statistics, text books, journals, internet and other materials. The two methods of statistical data analysis; Descriptive and Analytical Statistics was used to estimate and present information as appropriate using specified data and econometric models.

3.2 Kinds of Data

Given the secondary source of data mentioned above, the specific kinds of data required for the study includes the following for the period 1986 to 2023

- (i) Trade tax revenue (TRT)
- (ii) Economic integration (INT)
- (iii) Value of total trade (TOT)
- (iv) Foreign direct investment (FDI)
- (v) Exchange rate (EXR)
- (vi) Lending interest rate (LIR)
- (vii) Corruption perception index (CPI)

Trade tax is a major revenue source in Nigeria and the dependent variable while Economic integration is the main explanatory variable supported by foreign direct investment which is also a major incentive for economic integration. Exchange rate, lending interest rate and corruption perception index were included as determinants of the productive capacity of the Nigerian economy. This was to indicate the probability of the economy off- setting the possible revenue loss from implementing economic integration policy through improving the base of trade tax, expanding domestic taxes and harnessing alternative revenue sources.

3.3 Method of Data Analysis

The evaluation of economic integration and trade tax issues in Nigeria is central to this study. The chosen method of evaluation is the multivariate co-integration analysis as this examines both the short-run and long run perspective. Granger (1980) demonstrated that Error Correction Method is important too, this is derived from its usefulness in explaining long run equilibrium effect through the process of short-run dynamics of economic data. The study also conducted pre and post diagnostic test to ensure that results obtained are not spurious.

3.3.2 Model Specification

Using a simplified regression estimate, the empirical relationship between trade tax revenue, trade and economic integration can be expressed as follows;

$$TRT = f(INT, TOT) \quad \text{---} \quad \text{eqn. 1}$$

Given these the relationship can be expressed as;

$$TRT = \beta_{i=1}^2 (INT, TOT) \quad \text{---} \quad \text{eqn. 2}$$

Taking note of the assertions made by Harrison (1996), Obokoh (2008), Grossman and Helpman (1991) on implementing environment, and the view of Winters (1991) on influencing determinants of trade tax, other explanatory variables were added to equation 2. These are FDI, EXR, LIR, in line with Nwosa, Saibu and Fakunle (2012), and Suparek (2009).

Hence, the equation can be restated as;

$$TRT = \beta_{i=1}^5 (INT, TOT, FDI, EXR, LIR) \quad \text{---} \quad \text{eqn. 3}$$

Finally, motivated by the assertion of Ogbeidi (2012) and Ibrahim et al (2013) on corruption evidenced by the Transparency international (TI, 2014) computation on Nigeria, this study includes corruption as an important explanatory variable such that the equation becomes;

$$TRT = \beta_{i=1}^6 (INT, TOT, FDI, EXR, LIR, CPI) \quad \text{---} \quad \text{eqn. 4}$$

To this end therefore, the specified model for this study is provided in the following equation;

$$TRT = \beta_0 + \beta_1 INT + \beta_2 TOT + \beta_3 FDI + \beta_4 EXR + \beta_5 LIR + \beta_6 CPI \quad \text{---} \quad \text{eqn. 5}$$

Introducing the stochastic function yields;

$$TRT = \beta_0 + \beta_1 INT + \beta_2 TOT + \beta_3 FDI + \beta_4 EXR + \beta_5 LIR + \beta_6 CPI + U_t \quad \text{---} \quad \text{eqn. 6}$$

Taking the natural logarithm function, the equation becomes

$$\begin{aligned} \text{Log}TRT = & \text{Log}b_0 + b_1 \text{Log}INT + b_2 \text{Log}TOT + b_3 \text{Log}FDI + b_4 \text{Log}EXR + \\ & b_5 \text{Log}LIR + b_6 \text{Log}CPI + U_t \quad \text{---} \quad \text{eqn. 7} \end{aligned}$$

The logarithm transformation of data was done as a means of removing growth overtime in the variance of data, and to give absolute values to variable data.

Where, b_0 is the intercept and b_1 , to b_6 , are coefficients of the parameters.

The a priori expectation is stated as: $b_1, b_2, b_3 > 0$, and $b_4, b_5, b_6 < 0$.

4.0 Presentation of Results

4.1 Trend of Data

Here, time series annual data is presented on; trade tax (TRT), (INT) which proxy economic integration, Total foreign trade (TOT), Foreign Direct Investment (FDI), Exchange rate (EXR), Lending interest rate (LIR), and the Corruption Perception Index (CPI). The data collected is for the period from 1986 to 2023 making up entries over a 38 years period. The full detailed data is contained in Appendix I, with its natural logarithm transformation in appendix II.

Table 1: Descriptive Statistics

	TRT	INT	TOT	FDI	EXR	LIR	CPI
Mean	104.2669	37.74044	4650.365	240.6967	51.72400	18.36533	1.440000
Median	15.50000	38.66000	348.8000	14.46000	17.30000	19.49000	1.150000
Std. Dev.	150.1091	13.82431	7690.490	394.1157	62.79317	7.296616	0.583901
J-Bera	17.36423	0.459449	23.33957	20.25098	6.928820	1.416127	12.59804
Probability	0.000170	0.794752	0.000009	0.000040	0.031291	0.492597	0.001838

Observations 38 38 38 38 38 38 38
Source: Author's Computation, from E-views 10 (2024)

The summary of the data shows the mean values of the variables: TRT (104.26), INT (37.74), TOT (4650.36), FDI (240.69), EXR (51.72), LIR (18.36); and CPI (1.44). The estimated standard deviation of TRT is 150.1 while the mean divergence of INT, TOT, FDI, EXR, LIR, and CPI are 13.82, 7690.49, 394.11, 62.79, 7.29, and 0.58 respectively.

Jarque–Bera (JB) test of Normality in Table 1 has critical value of 5.99. The computed p values are quite low and significant. Therefore, it seems that the error term in our sample did not follow the normal distribution, but keeping in mind that the JB test is a large-sample test, our sample of 38 observations is not large. Also, the test of normality does not preclude the conduct of other tests, which may invariably correct this result (Gonzalo, 1994).

4.2.1 Unit Root Test

The unit root is used to examine the stationarity properties of the data series. The ADF test is employed given that the model is linear. This test is important because it enhances validity of results and is also a prerequisite for further analytical tools to avoid spurious results. At levels the time series data were not stationary as shown in table 2 below, hence the need to difference.

Table 2: Stationarity Test Result

Variables	ADF Test Levels	5% Critical Value	Order of integration	ADF test 1 st Difference	Order of Integration
TRT	-0.48	-2.93	NS	-7.41	I(1)
INT	-2.13	-2.93	NS	-8.81	I(1)
TOT	-0.91	-2.93	NS	-7.22	I(1)
FDI	-0.75	-2.93	NS	-9.46	I(1)
EXR	-0.30	-2.93	NS	-5.30	I(1)
LIR	-1.17	-2.93	NS	-6.99	I(1)
CPI	-0.44	-2.93	NS	-9.93	I(1)

Source: Author's Compilation from E-views 10 (2024)
NS ; Not stationary

The result revealed that all the variables were stationary only at 1st difference 1(1). This is substantiated by the ADF test statistic in comparison to the critical values – with the former greater than the latter (taking absolute values) at 5% significant level.

4.2.2 Presentation of Regression Results

The Ordinary Least Squares regression result is presented below:

$$\text{TRT} = 0.23 - 0.29\text{INT} + 0.71\text{TOT} - 0.11\text{FDI} + 0.37\text{EXR} - 0.33\text{LIR} - 0.37\text{CPI}$$

Se	[0.54]	[0.09]	[0.05]	[0.05]	[0.15]	[0.14]
t	(-3.39)	(13.80)	(-1.95)	(4.67)	(-2.20)	(-2.52)

$$R^2 = 0.92 \quad \text{Adjusted } R^2 = 0.91 \quad F_{0.05}\text{-statistic} = 1148.84 \quad \text{D-W statistic} = 1.81$$

Source: Author's Compilation from E-views 10 (2024)

Note: Standard errors are in parenthesis, t statistics in bracket

The results show the effect of INT, TOT, FDI, EXR, LIR and CPI on TRT. The signs and the magnitude of the estimated coefficients indicate the following; Firstly, INT (proxy for economic integration) indicate a negative effect on TRT (against economic criteria) and it is also statistically significant. According to Viner (1950), there exists a positive relationship between economic integration and the growth of trade tax. This result is not in line with that postulation as it shows an inverse relationship indicating that a unit increase/decrease in INT will lead to a 0.29 decrease/increase of that unit in TRT. This result obtained is in line with that obtained by Gudishra and Mishra (2014), and Ghani (2011) in their studies.

Secondly, TOT (total foreign trade) shows a positive effect on TRT (This is in agreement with economic criteria). The same result was obtained in the study done by Bourdon and Viji (2013), and Ghani (2011). The result indicates that a unit increase in TOT will lead to 0.79 increase of that unit in TRT and vice versa. An interesting part of this result is the fact that total foreign trade has grown significantly over time, probably due to trade agreements, but not much have been translated into growth in trade tax revenue for which it is a base. This adverse impact is attributed to corruption embedded in smuggling, tax avoidance and evasion, frivolous and unwarranted waivers, exemptions, and concessions dubiously granted by authorities.

It is of concern that imports constitutes the bulk of total foreign trade in Nigeria, as economic integration does not mean export growth and Nigerian goods are mainly of primary nature that commands low prices in the international market, and are reputed to be of poor quality especially in an environment of volatile exchange rate.

Thirdly, FDI (foreign direct investment) has a negative effect on TRT (this is against economic criteria). The result indicated that a unit increase/decrease in FDI will lead to 0.12 of that unit decrease/increase in TRT. This is in agreement with Oluwaseyi and Maku (2013). This negative effect stems from policy of attracting FDI which have not been properly implemented. There is also high level of tax avoidance and evasion, including excessive tax exemptions and tax holidays granted multinational corporations in the country, such that they have not contributed to energizing the productive base of the Nigerian economy. FDI inflow into Nigeria is mainly in portfolio investment to take advantage of the high stock prices which at the slightest sign of risk are withdrawn as hot money and capital flight ensues.

Fourthly, EXR (exchange rate) shows a positive effect on TRT (not in agreement with economic criteria). The result indicates that if Naira appreciates by a unit, TRT will also increase by 0.37 of that unit and, if Naira depreciates by a unit, TRT will decrease by 0.37 of that unit. The same result was obtained in the study by Okoh (2004). It should be noted that over the years Nigeria has been involved not just in trade agreements, but also in many debt agreements with international finance institutions (World Bank and International Monetary Fund) that requires tampering with its currency, so the value of its currency has not been stable. The growth witnessed in TOT may be in the direction of imports with implication for indigenous firms.

Fifthly, LIR (lending interest rate) has a negative effect on TRT (agreeing with economic criteria), It indicates that for a unit decrease in LIR, TRT will increase by 0.33 of that unit. Also, a unit increase in LIR will decrease TRT by 0.33 of that unit. Khattry and Rao (2002) obtained same result in their study. This inverse relationship may be the high cost of securing investment capital in Nigeria, due to government quest to borrow to finance increasing deficit thereby crowding out private investment and consumption that spur domestic tax base. This has kept LIR at double digits for a long time now in Nigeria affecting the productivity, profitability and competitiveness of indigenous firms.

Lastly, CPI (proxy for corruption) exerts a negative effect on TRT as stipulated by economic criteria. A unit decrease in CPI will lead to a 0.37 unit increase of that unit in TRT, and a unit increase in CPI will lead to a 0.37 unit decrease of that unit in TRT. It is in line with Ume and Kyarem (2014), Ghura (1999) and Gupta (2007). Corruption is reputed to have permeated every segment of the society in Nigeria, such that Transparency International has over the years placed the country amongst the most corrupt nations in the world. Corruption is evident in the area of tax avoidance and evasion, and even much more in the waivers, exemptions and concessions granted by official fiat such that tax revenue is greatly hampered.

Evidence from this study has shown that economic integration (INT) has a negative effect on trade tax (TRT), this results in revenue loss to the economy from this potentially large source, consequently government is faced with inadequate revenue and resorts to deficit financing to finance economic development. This action of government will crowd out private investment and consumption which will hamper the growth of the domestic productivity and tax base. This is further worsened by the upward pressure on lending interest rate that weakens the productive capacity of the domestic economy to compete favourably with cheaper imports because of the over-valued domestic currency, creating avenue for dumping and sealing the possibility of a viable domestic tax base that can off- set the revenue loss from implementing economic integration policy. In an environment of continuous economic integration in the face of an over-valued domestic exchange rate (EXR) and high lending interest rate, coupled with pervasive corruption, this will not curtail fiscal deficit but instead exacerbate it resulting in a pervasive fiscal imbalances and under-development.

The summary statistics in the regression result above showed that the model's estimates are generally robust. The computed R^2 of 0.92 implies that about 92% of the total variation in TRT is explained by the regressors with the remaining 8% accorded factors exogenous to the model but covered by the error term. Also, the overall model is statistically significant at 5% significant level as shown by the F statistics calculated at 1148.8. The Durbin Watson value computed at 1.8 is very close to 2, hence, depicting the presence of minimal positive serial autocorrelation. These observations necessitate the test for long-run relationship.

4.2.4 Johansen Cointegration Test

Having determined the optimal lag structure, the cointegration test was carried out using Johansen cointegration test which is a superior test that relies on asymptotic property. It is also robust to many departures from normality as it gives room for the normalization with respect to any variable in the model that automatically becomes a dependent variable. It is analyzed via the Trace statistic and Maximum Eigen value. Their respective results are displayed below.

Table 4: Cointegration Test Result

Null Hypothesis	Trace Statistic	0.05 Critical Value	Null Hypothesis	Max-Eigen Statistic	0.05 Critical Value
$r = 0^*$	177.14	125.62	$r = 0^*$	60.39	46.23
$r \leq 1^*$	116.75	95.75	$r \leq 1^*$	50.11	40.08
$r \leq 2$	66.64	69.82	$r \leq 2$	26.63	33.88
$r \leq 3$	40.00	47.86	$r \leq 3$	18.27	27.58
$r \leq 4$	21.73	29.80	$r \leq 4$	11.47	21.13
$r \leq 5$	10.26	15.49	$r \leq 5$	9.53	14.26
$r \leq 6$	0.73	3.84	$r \leq 6$	0.73	3.84

Source: *Author's Compilation from E-views 8.0 print out (September, 2016)*

*Note: r represents number of cointegrating vectors. Trace statistic indicates 2 cointegrating equations while Max-Eigen statistic also indicates 2 cointegrating equations. * denotes rejection of the hypothesis at the 0.05 level*

The Trace test indicates 2 cointegrating equations, Max-Eigen value test also indicates 2 cointegrating equations. The trace statistic and the Max-Eigen statistic are greater than their respective critical values for the cointegrating equations at these points. This means that there exists a long run relationship among the variables at 5% significance level. This long run relationship existing between the variables is shown in the model below:

Estimated normalized cointegration test result

$$\text{TRT} = -0.29\text{INT} + 1.12\text{TOT} - 0.39\text{FDI} + 0.35\text{EXR} - 0.78\text{LIR} - 0.78\text{CPI}$$

Se	[0.08]	[0.06]	[0.07]	[0.07]	[0.15]	[0.14]
t	(3.98)	(-17.62)	(5.38)	(-4.82)	(5.32)	(5.74)

Source: *Author's Compilation from E-views 10 (2024)*

Note: Standard error in parenthesis, t test in bracket.

From the long run model, the coefficients of TOT, LIR and CPI are correctly signed, thereby agreeing with the economic criteria. The coefficients of INT, FDI, and EXR do not agree with a priori expectation. Despite the signs of the parameter estimates, they are all statistically significant. The result revealed an interesting fact that the signs of the coefficients of the variables are the same both in the short run and the long run, indicating that the analysis may not be much different.

4.2.5 Error Correction Method

The cointegration term is known as the *error correction* term since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments. The summary result of the error correction model is given as follows:

Table 5: Error Correction Model

Variable	Coefficient	Standard Error	t statistics
ECM	-0.96	0.24	-3.84
D(TRT(-1))	0.61	0.29	2.08
D(INT(-1))	0.05	0.20	0.27
D(TOT(-1))	-0.01	-0.00	-3.42
D(FDI(-1))	0.12	0.07	1.72
D(EXR(-1))	0.07	0.24	0.30
D(LIR(-1))	-0.36	0.69	-7.2
D(CPI(-1))	3.56	10.09	0.35
C	-7.11	2.99	-2.39

$R^2 = 0.96$, Adjusted $R^2 = 0.91$, F statistics = 20.87

Source: *Author's Compilation from E-views 10 (2024)*

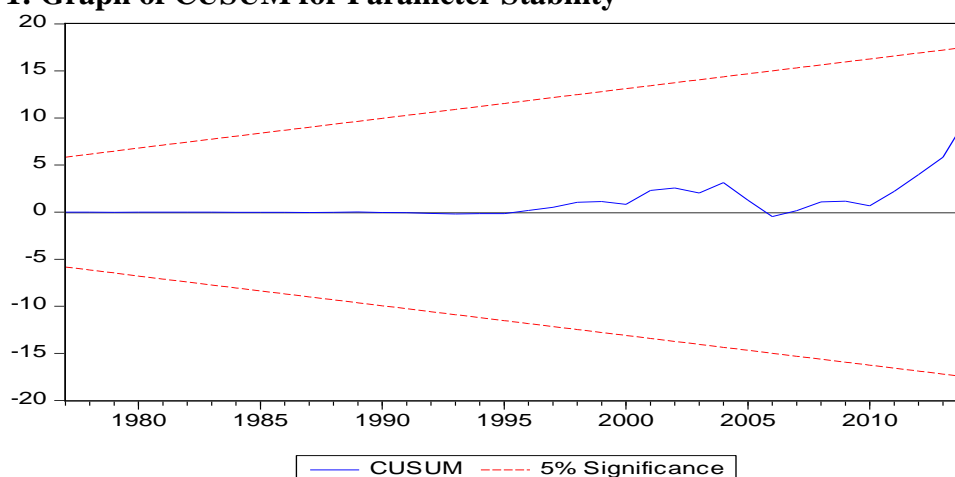
Table 5 show that in consonance with the error correction model, the coefficient of the error correction term is with the expected negative sign and it is statistically significant, an indication of a move back towards equilibrium with a magnitude of -0.96. This magnitude indicates that if there is any deviation, the long run equilibrium is adjusted speedily where about 96% of the disequilibrium may be removed in each period. This shows that the speed of adjustment to where TRT will equilibrate even when there is initial disequilibrium is in a little over a year.

4.2.6 Other applicable test

Cummulative Sum of Recursive Residual Test (CUSUM)

The CUSUM test adopted is based on the cumulative sum of the recursive residuals. This option plots the cumulative sum together with the 5% critical lines. The test finds parameter stability.

Figure 1: Graph of CUSUM for Parameter Stability



Source: Author's Computation from E-views 8.0 (September, 2016)

Table 6: Ramsey Reset Specification of Error test

Test Statistic	Value	Degree of freedom	Probability.
F-Statistic	2.609	2,36	0.087
Loglikelihood Ratio	6.092	2	0.047

Source: Computed from E-views 8.0 Extract (September, 2016)

This test follows the F-distribution under the null hypothesis that the model is well-specified. From the Ramsey RESET result; F-statistic = 2.6, While, critical $F_{0.05} (2,36) \approx 3.27$ Since F-statistic ≈ 2.6 is less than the critical $F \approx 3.27$, we do not reject the null hypothesis of model is well-specified, we therefore conclude that the estimated model is correctly specified at the 5% significant level given the 0.08 level obtained.

Heteroscedasticity test

The white's heteroscedasticity test is used to carry out this task. From the result obtained; Calculated $F = 0.93$, While, critical $F_{0.05} (27, 17) = 2.25$. Since the calculated $F = 0.93$ is less than critical $F_{0.05} (27, 17) df = 2.25$, we do not reject the null hypothesis of homoscedasticity and conclude that the error terms have a constant variance.

Table 8: White Heteroskedasticity Test Result

Test Statistic	Value	Degree of freedom	Probability.
F-Statistic	0.931	27,17	0.577
Obs R-Squared	26.847	27	0.472
Realed Explained SS	16.29	27	0.947

Source: Computed from E-views 8.0 Extract (September, 2016)

Autocorrelation test

The Breusch-Godfrey (BG) general test of autocorrelation also known as LM-test is used to verify this assumption. This test is better than the conventional Durbin-Watson test of autocorrelation in the sense that it allows for non-stochastic regressors such as the lagged values of the regress and, higher-order autoregressive schemes, and simple or higher order moving averages of the error terms. From the result obtained, Calculated F = 0.267, While, critical F = 4.12. In Conclusion, since calculated F is less than critical F = 4.12, we do not reject the null hypothesis of no autocorrelation and therefore conclude that the error terms in the model are not serially correlated.

Table 9: Breuseh Godfrey Serial Correlation LM Test Result

Test Statistic	Value	Degree of freedom	Probability.
F-Statistic	0.267	1,37	0.608
Obs R-Squared	0.32	1	0.57

Source: Computed from E-views 8.0 Extract (September, 2016)

Multicollinearity Test

An assumption of the CLNRM is that there is no multiconlliearity among the explanatory variables induced in the regression model. The result of the correlation matrix is presented below:

Table 10: The result of the Correlation Matrix

	TRT	INT	TOT	FDI	EXR	LIR	CPI
TRT	1	0.38	0.52	-0.18	0.11	0.04	-0.10
INT	0.38	1	0.70	-0.14	-0.10	0.18	-0.19
TOT	0.52	0.70	1	0.04	-0.13	-0.03	-0.15
FDI	-0.18	-0.14	0.04	1	0.24	-0.02	-0.12
EXR	0.11	-0.10	-0.13	0.24	1	0.36	0.28
LIR	0.04	0.18	-0.03	-0.02	0.36	1	-0.00
CPI	-0.10	-0.19	-0.15	-0.12	0.28	-0.00	1

Source: Author's Compilation from E-views 10 (2024)

From the correlation matrix above, we can confirm that there is no pair-wise correlation coefficient that is in excess of 0.80 (Gujarati and Porter, 2006). Hence, the variables cannot be said to be collinear. INT is 0.38, TOT is 0.52, with FDI, EXR, LIR and CPI having -0.18, 0.11, 0.04, and -0.10 respectively. Therefore we conclude that there is no multicollinearity among the regressors.

4.4 Discussion of Findings

The summary of this finding is captured in the test of the hypothesis which shows that there exists a significant inverse relationship between trade tax and economic integration, it thus implies that Nigeria has not been able to derive expected revenue benefits from economic integration as the country is witnessing adverse return on trade tax revenue from economic integration, and the country has not been able to off- set this loss in revenue. The results obtained for foreign direct investment, exchange rate, lending interest rate and corruption perception index is significant in explaining these as shown both in the short and long run. That as a result of government's need to finance deficit financing through public debt occasioned by inadequate revenue generation, an upward pressure is put on lending interest rate inevitably crowding out private investment and consumption that should spur domestic productive activity to impact positively on the base of trade tax, other domestic taxes and harness the development of alternative sources that should off- set the loss in trade tax revenue due to the implementation of economic integration policy.

Exchange rate also showed significance in the study. In both the short and the long run results it exerted positive effect on trade tax revenue as against a priori expectation. This is an indication of over- valuation of the domestic currency (the Naira) against other currencies, making the country import dependent as imports becomes cheaper compared to domestic goods, even as it generates import duties the worry is the adequacy of such revenue given the high level of corruption prevalent in the economy and the impact of import dependency, especially as the domestic productivity is hampered and export is curtailed. The adverse effect of Corruption indicated a higher coefficient in the long run. It is exhibited in trade tax avoidance and evasion, generous waivers, frivolous exemptions and unwarranted concessions granted to undeserving individuals and firms by official fiat.

The finding in this study is also in line with Okoh (2004), Ghani (2011), which have affirmed that economic integration has adverse effect on trade tax revenue in developing countries like Nigeria for which trade tax is an important source of revenue. And that certain prerequisites need to be in place before implementing the policy of economic integration as stated by Cage and Gardenne (2012).

5.1 Conclusion

Following from the discussion of findings in this research, it can be concluded that Nigeria is yet to understand and address foreign trade agreements for implementation in the country. With poor policy environment authorities have continued to pursue economic integration policies in the economy at the expense of the ensuing revenue losses. This has affected foreign direct investment and put an upward pressure on exchange rate and interest rate which have adversely affected the productive capacity of the domestic economy, thereby limiting the capacity to expand the base of trade tax, other domestic taxes and harness the development of alternative sources to generate revenue that should off- set revenue loss from implementing economic integration policies. This has exacerbated the fiscal squeeze, fiscal imbalances, slow growth and under development in the country.

5.2 Recommendations

This study evaluated economic integration and trade tax revenue issues in Nigeria for the period 1986 to 2022. It showed that Nigeria is yet to develop and manage its tax revenue sources effectively to adequately off-set the loss of revenue

arising from implementing economic integration policies. In view of this, the research makes the following recommendations:

1. There is need to create a conducive macroeconomic environment for the implementation of economic integration policies for it to yield expected benefits to the Nigerian economy..
2. The development of alternative sources of revenue and the effective broadening and proper administration of the existing domestic tax sources to generate adequate revenue will off-set the loss in revenue from implementing economic integration policy in Nigeria should be pursued.
3. Corruption has become a huge menace in Nigeria, and unless it is curtailed the effort at raising finance for economic development will be futile, and even the application of tax revenue to encourage citizen faith in tax compliance will be thwarted.
4. Infrastructure development policies that will positively impact on the productive capacity of the economy should be implemented to encourage domestic production and export to generate foreign exchange to strengthen the naira.

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