Tax Revenue and Socio-economic Performance in Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The study examined the effect of tax revenue on socio-economic performance in Nigeria between 1981 and 2020, the primary purpose of this study was to examine the effect of tax revenues on the socio-economic performance of Nigeria. The expo-factor research design was adopted for this study and the analysis was carried out using descriptive and broad econometric techniques. The analysis started with exploring the trends in each variable using line graphs after which descriptive statistics were used. Both the Autoregressive Distributive Lag (ARDL) and Dynamic Error-Correction Model (ECM) econometric models were estimated. Other relevant pre-estimation diagnostic tests (normality, serial correction, heteroscedasticity and unit roots) were satisfactory. Succinctly, the study found that tax revenue from Customs and Excise Duties (CED) showed a positive and significant influence on basic school enrolment and life sustenance. Also, current period company income tax revealed a negative influence on basic school enrolment but positive on life sustenance. Whereas, petroleum profit tax exhibited a positive influence on life sustenance and basic school enrolment. The study also confirms the existence of long-run relationship among the variables. Therefore, we conclude that the selected tax revenue components examined have the potential to spur a considerable improvement in socio-economic indicators of Nigeria. Consequently, the study put forward that the government should improve on channeling tax revenue receipts towards improvement in livelihood and the overall socio-economic condition of the Nigeria economy.

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1. INTRODUCTION

The rationale for imposing taxes in an economy such as Nigeria, stems from the government responsibilities to provide public goods, redistribute income, enhance wealth, promote social and economic welfare, and promote stability in the economy, among others [1]. He added that aside from mobilizing funds for public sector activities, taxes serve all the five functions of government namely: allocative, distributive, regulatory, stabilization and co-ordination functions. The allocative function corrects market failures arising from existence, structure, signal and incentives.

Agiobenebo [1] noted that the allocation function of tax has failed to correct market imperfection. In other words, there is market failure in the economy and the distributive function of tax has not been able to allocate resources effectively. This problem has been worsened by high level of income inequality in Nigeria. In addition, the regulatory function of tax has not been able to correct institutional defects which has hindered level of foreign exchange. It was also noted that the stabilization function of tax has failed to curb the problem of high level of inflation and unemployment in Nigeria.

The economic situation in Nigeria has even worsened with the instability in crude oil prices. This has reduced Nigeria's foreign exchange which have been dominated by crude oil revenue. Tax revenue from non-oil sector has not increase significantly over the years. For instance, non-oil revenue contributed about 97.2% to total revenue in 1960 but this declined to 74.6% in 1965, 31.9% in 1975, 31.6% in 1985 and 31.1% in 1987 [2] Agiobenebo [1] noted that tax revenue mobilization as a source of financing economic activities in Nigeria has been difficult. This is primarily due to various forms of resistance which include tax evasion, tax avoidance and corruption by tax officials.

The paucity of revenue from tax in Nigeria has widen the budget deficit. This has worsened the socio-economic conduction of Nigeria, this is visible in portable water, bad road network, high level of unemployment and poor health facilities [3].

According to the Central bank of Nigeria (CBN, 1981) annual report, oil accounted for more than 90% of Nigeria exports by value and about 80% of government revenue. The situation still remains the same, it is the major foreign exchange earner, though oil has important role in the overall socio-economic advancement in Nigeria, but the adverse effect of petroleum exploration is very severe as these have affected the economy, particularly the agricultural sector [4]. Conclusively, there are differences among the economic effects of the different taxes which motivate questions as to how to divert resources from the private to the public sector. Hence, this study was carried out to examine the effect of tax revenue and socio-economic performance in Nigeria with focus on basic school enrolment and life sustenance. Specifically, this study examined the effect of petroleum profit tax, company income tax and custom and excise duties on basic school enrolment and life sustenance in Nigeria.

1.1 Objectives of the Study

The general purpose of this study was to ascertain the effect of tax revenues on the socio-economic performance of Nigeria. Specifically, the study examined;

i) The effect of petroleum profit tax on the socio-economic performance of Nigeria
Ii) The effect of company income tax on the socio-economic performance of Nigeria
ii) The effect of custom and excise duties on the socio-economic performance of Nigeria

1.2 Research Hypotheses

Ho₁: There is a significant relationship between petroleum profit tax and socio-economic performance of Nigeria
Ho₂: There is a significant relationship between company income tax and socio-economic performance of Nigeria
Ho₃: There is a significant relationship between custom and excise duties and socio-economic performance of Nigeria.

2. SYNOPSIS OF LITERATURE ISSUES

The theory of taxation provides scope for different interpretation from various schools of thought. For instance, Goffman [5] and Goffman and Mahor [6] theory interpreted the Wagner's

law, that as economy experiences economic growth, an increase must occur in the activities of the public sector and the ratio of increase, when converted into expenditure term, it would exceed the rate of increase in output per capita. Goffman's view was that the percentage change in income leads to a greater percentage change in expenditures.

Peacock and Wiseman [7-8] known as the PWT was on the political theory of public expenditure determination which states that government intends to increase spending, but the citizens are not interested to pay more taxes. They posit that government spending are largely influenced by government revenue gotten mainly from taxes. PWT states that economic prosperity and improvement in income is matched by improvement in tax income thereby facilitating the expansion in government spending being at smaller face with the rising Gross domestic product and that the proportion of government spending to revenue from taxes must be expected to increase above the foreseeable future which increase smoothly and consistently at a rate higher that the government revenue which assumes that the economic growth of government public spending is associated with changes in the demand for government services. PWT interpretation to this is that the level of government expenditure is a function of government revenue mainly from taxes. Faculty theory of taxation, in Appah [9] the theory states that one should be taxed according to his ability to pay. It is simply an attempt to maximize an explicit value judgement about the distributive effect of tax. Bhartia [10] argued that a citizen is to pay taxes just because he can and his relative share in the total tax burden is to be determined by his relative paying capacity.

Dibia and Onwuchekwa [11] studied the relationship between taxation and economic growth in Nigeria. The study covered the period from 1981 to 2016, the study adopted ex-post facto research designed because the study utilised secondary data, the authors revealed a positive and significant relationship between tax revenue and economic growth in Nigeria. Their study suggested that government should make fiscal policies that will enhance socio-economic activities to all nooks and crannies of the economy to enhance revenue from taxes.

Olushola *et al.* [12] examined the effect of tax revenue on economic growth in Nigeria using time series data extracted from central bank of

Nigeria statistical bulletin and employed multiple regression model, for the study found a positive and significant relationship between tax revenue and economic growth. The study recommended that government should utilise the revenue generated properly to bring about growth of the Nigerian economy.

Uket at el. [13] investigated taxation revenue on the development of Nigeria economy, ordinary least square technique was employed using cointegration technique and error correction model. Their study revealed a positive relationship between taxation and economic development of Nigeria with a coefficient of determination of 99.2% of the variation in economic development attributed to the tax revenue.

Abel [14] examined the effects of tax revenue on economic development of Nigeria, ex-post facto was adopted, human development index and Gross domestic product were used as proxy to economic development while company income tax, petroleum profit tax, value added tax and custom and excise duties were used as proxy to tax revenue. Abel [14] found that the relationship between petroleum profit tax and economic development are negative and significant, this result indicates a possibility that revenue from petroleum profit tax has not been properly and directly channelled to infrastructural facilities that will boost the economic development of Nigeria. Hence, the study recommended that government should channel more revenue generated from petroleum profit tax into infrastructure facilities that will engender economic development in Nigeria.

Also, Olugbemi *et al.* [15] examined tax revenue and economic growth in Nigeria, the study adopted exploration design and found that there is a positive and significant relationship between tax revenue and economic growth.

Awa [16] examined the effect of tax revenue on economic growth in emerging market economic context from 2008 to 2018, the study revealed that there is a positive and significant relationship between petroleum profit tax, company income tax and economic growth but custom and excise duties and value added tax have negative influence on economic growth, hence he argued that value added tax and custom and excise duties are not significant in determining economic growth in emerging market economy context with special interest in Nigeria.

Awa and Ibeanu [16] studied the effect of tax revenue on economic development in Nigeria from 1997 to 2018, the study found that company income tax and petroleum profit tax have positive and significant influence on economic development in Nigeria but value added tax has not significantly influence economic development in Nigeria, this result is in line with Awa [16].

Ojijo and Oluwatosin [17] examined the relationship between taxation and economic growth in a resources rich country. Nigeria as a case study, both time series data and cross sectional data were employed, the study found that taxation has a positive and significant influence on real gross domestic product (RGDP), the study further revealed that Nigeria has a huge untapped potential to engender revenue mobilization, hence the study recommended that government should institute an appropriate tax structure with the views of broading the tax base and also review the tax rate upwards with the views of increasing tax revenue.

3. METHODOLOGY

The study adopted ex-post facto research design because the study utilised secondary data and to analyse the data, ordinary least square technique was employed including co-integration technique and error correction mechanism.

The theoretical foundation of this study is drawn from Peocock and Wisemen [7-8] theory and adopted by Dibia and Onwuchekwa [11] model. The variables used in this study are tax revenue which was decomposed into company income tax, petroleum profit tax and custom and excise duties), while socio-economic performance was decomposed into basic school enrolment and life sustenance.

Thus, the functional relationships of the variables are specified as follows:

$$BSE = f(PPT, CIT, CED) \qquad (1)$$

$$LST = f(PPT, CIT, CED) \qquad (2)$$

The linear forms of the above functional relationships from equation (1) to equation (3) above are expressed as:

$$BSE = \beta_0 + \beta_1\,PPT + \beta_2\,CIT + \beta_3 CED + u_t \quad (1.1)$$

$$LST = C_0 + C_1\,PPT + C_2\,CIT + C_3 CED + u_t \quad (2.1)$$

Where:

BSE = Basic School Enrolment
LST = Life Sustenance
PPT = Petroleum Profit Tax
CIT = Company Income Tax
CED = Custom and Excise Duties
$\beta_1, \beta_2,$ and $\beta_3 > 0$; = Parameter
$C_1, C_2,$ and $C_3 > 0$; = Parameter
u_t = Error term

The ADF procedure involve testing whether variables in a model are stationary or testing the order of integration through Unit Root Tests. All these tests are based on the series in equations as presented below:

$$\Delta Y_t = \alpha Y_{t-1} + \sum_{i=1}^{m} \beta Y_{t-1} + \delta Y_t + \varepsilon_t \text{ (for levels)}$$
3.1

$$\Delta\Delta Y_t = \alpha\Delta Y_{t-1} + \sum_{i=1}^{m} \beta\Delta\Delta Y_{t-1} + \delta Y_t + \varepsilon_t \text{ (for first differences)}$$
3.2

ΔY are the first differences of the series, M is the number of lags and t is the time.

The procedure tests a data generating process for difference stationarity against trend stationary, given a variable Y, for example, the following regressions are employed.

$$\Delta Y_t = \alpha_0 + Y_{t-1} + \sum_{i=1}^{m} \alpha_{t-1} + \varepsilon_t \text{ (t=1, ..., n)}$$
3.3

Where Δ is the first difference operator, α are constant parameters and ε_t is a stationary stochastic process. The number of lags(n) is determined based on the minimum Akaike Information Criterion (AIC) to determine the order of integration of the series, equation 3 is modified to include second difference on lagged first and n lags of second differences. This is

$$\Delta_t = \Delta Y_{t-1} + \sum_t^\theta \Delta^2 Y_{t-1} + \varepsilon_t \text{ (i=1, ..., n)}$$
3.4

The constant parameters and ε_{it} is a stationary stochastic process. The n lagged difference term ε_t and ε_{it} in both equations are serially independent. To test for stationarity, the Augmented Dickey Fuller (ADF) test is applied, essentially, the Augment Dickey Fuller (1981) test procedure is specified when ε_t is auto-regressive to eliminate serial correlation of errors. A stationary time series is said to be integrated of order Zero or (0) and a time series

Y_t is defined to be integrated of order one or (1) if ΔY_t is a stationary time series.

The ARDL of order (p,q) model is expressed as follows;

$Y_t = \beta_0 + \beta_1 y_1 + \ldots + \beta p Y_{t-p} + \alpha_0 X_t + \alpha_1 X_{t-1} + \ldots + \alpha q X_{t-q} + \varepsilon_t$ 3.5

where, ε_t is a random disturbance term or error term. The model is autoregressive because Y_t is explained partly by its lagged values. It also has a distributed lagged component in the form of successive lags of the X – explanatory variables. According to Odhiambo [18] and Al-Malkawiet et al [19] ARDL approach is more reliable and preferable in estimating the co-integration relationship to other methods like Engle and Granger [20] Johansen [21] and Gregory Hansen [22,23]. The model yields consistent estimates of the long-run coefficients that are asymptotically normal, irrespective of whether the underlying regressors are $I(0)$ or $I(1)$. More so, it gives the opportunity to explore correct dynamic structure. Finally, it allows for the inferences on impact estimates.

4. RESULTS AND DISCUSSION

The result of performing descriptive analysis on the entire variable is to determine the historical properties of basic development indices of life sustainability and basic school enrolment. The results are presented in the table.

These test statistics revealed that CED values from 1981 to 1995 were less than its mean value; the median value lies between year 2010 and 2011 representing about 30 years out of the 40 years period covered by the study. The maximum value was in 2007 while its minimum value coincides with 1984. The result of the skewness statistic which measures symmetric nature of the data around its mean suggests that the data has a long positive tail as its reported statistic is greater than zero. The value for kurtosis which measures the peakedness or flatness of the data suggests that the distribution of the data is relatively leptokurtic as the reported statistic is greater than 3. The Jarque-Bera which measures the normal distribution of the data suggests that the data is normally distributed as the test statistic and its associated probability value of 0.00 is greater than the conventional 5% significance level. A further look at Table 1 reveal that Company Income Tax (CIT) has a mean value of 29735.13, skewness value of 2.54,

kurtosis value of 8.96, Jarque-Bera value of 102.39 and its associated probability value of 0.00. The mean value revealed that CIT from 1981 to 1997 remained relatively low compared to periods of 1998 to 2020. The skewness statistic which measures the symmetric nature of the distribution of the data suggest that it has a long positive tail while kurtosis statistic that measures the peakedness or flatness of the distribution of the data suggest that it is leptokurtic (peaked) and the Jarque-Bera statistic and its associated probability value suggest that the data is normally distributed as the test statistic and its associated probability value of 0.00 is greater than the conventional 5% significance level.

The descriptive statistics for Life Sustenance (LST) on table 1 shows that the variable has a mean value of 268654.0, standard deviation 67204.62, skewness value of 0.50, kurtosis value of 1.61 and Jarque-Bera value of 4.91 and its associated probability value of 0.08. The mean value lies between 2003 and 2004. The skewness statistic suggests that the distribution of the data on the variable has a positive tail while the kurtosis statistic suggest that the distribution of the data on the variable is platykurtic (flat) and finally, the Jarque-Bera statistic and its associated probability suggest the rejection of the null hypothesis that the distribution of the data on the variable follows the normal distribution.

The descriptive statistic for Petroleum Profit Tax (PPT) on Table 1 shows that the variable has a mean of 230691.0 which lies between 1999 and 2000. It has a standard deviation of 529982.8; skewness value of 2.41 which suggest that the distribution of the data on PPT has a positive long tail while the kurtosis statistic of 7.68 suggests that the distribution of the data on the variable is leptokurtic (peaked). The Jarque-Bera statistic value of 75.46 and its associated probability value of 0.00 suggest that the distribution of the data on the variable follows the normal distribution. Going further, table 1 also shows the descriptive statistics for Basic School Enrolment (BSE). It has a mean of 1819669, standard deviation of 4467090.1, skewness value of 0.31, kurtosis value of 1.75 and Jarque-bera value of 2067 and its associated probability value of 0.26. The mean value lies between 1999 and 2000. The Skewness statistic value indicates that the distribution of the data on the variable is positively skewed while the kurtosis statistic value of 1.75 indicates that the distribution is

platykurtic (flat) and finally, the Jarque-Bera Statistic and its associated probability value indicates rejection of the null hypothesis that the distribution of the variable follows the normal distribution.

From the above Table 2, apart from the diagonal, the correlation between variables are not unity, which implies that the explanatory variables have no exact or perfect relationship. In other words, none of the correlational coefficient showed perfect correlation between the variables.

4.1 Pre-estimation Diagnostics

4.1.1 Stationarity test of variables

The unit root test results are presented in tables 3 describes the Augmented Dickey-Full (ADF) and Phillips-Perron unit root test results for all the variables in the model. The null hypothesis of no unit root is tested at both 1% and 5% level. A comparison of the absolute value of the ADF and PP test statistics with the 1% and 5% test critical values was the basis for drawing conclusion on the stationarity of the time series.

The results presented in table 4 shows that both the ADF and PP test statistics of all the variables in the model are greater than both the 1% and 5% critical values. Hence the decision of stationarity. We can therefore conclude that the ADF and PP test statistic implies stationarity of

the BSE, LST, CIT, CED, and PPT variables at first difference.

From the result and discussion above, we can state that a single order of integration is evident among the time series variables, i.e. all the variables are $I(1)$.

Table 4 shows the post estimation residual (namely Normality, Serial Correlation and Heteroscedasticity) test results for the estimated model. First, the Jarque-Bera test statistic for normally distributed residuals is 5.03 with an associated probability value of 0.08 which is greater than (0.05) 5% significance level. This implies that the residuals are normally distributed. Secondly, the Breusch-Godfrey Serial Correlation test statistic for serial correlation is 0.43 with the associated probability value of 0.66 which is greater than (0.05) 5% significance level. This implies that the residuals are not serially correlated. Lastly, the Breusch-Pagan-Godfrey Heteroscedasticity statistic of 0.40 with an associated probability value of 0.91 is greater than (0.05) 5% significance level thereby suggesting that the residuals have a constant variance (homoscedasticity). In conclusion, the estimated model is free from having not normally distributed residuals, serial correlation and heteroscedasticity. Thus the estimated model adhered to basic assumptions of the ordinary least squares estimation and as such is good for prediction and forecast.

Table 1. Summary descriptive statistics test

Statistic	CED ₦	CIT ₦	LST ₦	PPT ₦	BSE ‰
Mean	41792.21	29735.13	268654.0	230691.0	18109669
Median	371.4000	655.9740	239635.2	1403.477	17907008
Maximum	241400.0	275300.0	385349.0	2038300.	26167544
Minimum	1.616000	0.403000	199039.1	3.747000	12117483
Std. Dev.	78927.66	64953.35	67204.62	529982.8	4467090.
Skewness	1.557203	2.543462	0.509591	2.417296	0.310739
Kurtosis	3.744958	8.963476	1.618476	7.680643	1.750603
Jarque-Bera	17.09082	102.3997	4.912235	75.46948	2.677440
Probability	0.000194	0.000000	0.085767	0.000000	0.262181
Observations	40	40	40	40	33

Source: Author's Computation with EViews 12

Table 2. Test for multicollinearity

	PPT	CIT	CED
PPT	1.000000		
CIT	0.816480	1.000000	
CED	0.838523	0.942281	1.000000

Source: Author's Computation with EViews 12

Table 3. Augmented Dickey-Fuller (ADF) & Phillips-Perron (PP) test results

	ADF t-Statistic	PP t-Statistic	ADF Critical	Order of Integration	Decision
BSE	-3.314401	-3.429132	-2.971853	*I*(1)	Stationary
LST	-3.576119	-3.576119	-3.533083	*I*(1)	Stationary
CIT	-6.000389	-6.000389	-4.219126	*I*(1)	Stationary
CED	-5.924867	-5.924466	-4.219126	*I*(1)	Stationary
PPT	-5.321926	-5.31743	-4.219126	*I*(1)	Stationary

Source: Author's Computation with EViews 12

Table 4. Post estimation diagnostic test results

Tests	Test Stat. [Prob.]	Decision
Jarque-Bera Normality Test	5.03 [0.08]	Residual Distributed Normally
Breusch-Godfrey Serial Correlation (LM)	0.43 [0.66]	Residual Not Serially Correlated
Breusch-Pagan-Godfrey Heteroscedasticity	0.40 [0.91]	Homoscedasticity confirmed

Source: Author's Computation with EViews 12

4.2 Cointegration Test for Variables in LST Model

The order of integration evident among the time series is generally the *I*(1). With an *I*(1) order of integration, the Johansen Cointegration test is adopted. Under the Johansen test, this study tested the null hypothesis based on the Trace and Max-Eigen test statistics at 5% critical value.

Table 5 above shows both the Trace and Max-Eigen test statistics and their respective 5% critical value. From the result of the Trace test, we observed that there exist four (4) cointegrating equations at 0.05 level. More so, the Max-Eigen test provided us with three (3) cointegrating equations at 0.05 level. Though there exist a slight variation in the results from both tests, each of the test met the minimum requirement (i.e., at least one cointegration equation) for concluding that a long run relationship exist between the time series. Hence, we conclude that a long run relationship exists among the variables in the Life Sustenance model.

The above shows both the Trace and Max-Eigen test statistics and their respective 5% critical value. From the result of the Trace test, we observed that there exist four (4) cointegrating equations at 0.05 level. Moreso, the Max-Eigen test also provided us with four (4) cointegrating equations at 0.05 level.

4.3 Parsimonious ECM for Life Sustenance Model

Having established that the variables in the life sustenance model are cointegrated (having long run relationship), we estimate the error correction model aimed at reconciling short run deviations away from the long run path that might occasionally arise. This was done using general-to-specific modelling procedure.

Table 7 shows the error correction model for Life Sustenance model. The one-period and two-period lags of the dependent variable (LST) are positively related to the contemporaneous component of life sustenance as shown by their respective coefficients but only two-period lag is significant at 5% significance level.

4.4 Parsimonious ECM for Basic School Enrolment Model

Having established that the variables in the Basic School Enrolment model are cointegrated (having long run relationship), we estimate the error correction model aimed at reconciling short run deviations away from the long run path that might occasionally arise. This was done using general-to-specific modelling procedure.

Table 8 shows the error correction model for Basic School Enrolment model. The one-period and two-period lags of the dependent variable (BSE) are positively related to the contemporaneous component of basic school enrolment as shown by their respective coefficients and none is significant at 5% significance level.

Dynamics of Revenue from Custom and Excise Duties on Life Sustenance and Basic School Enrolment in Nigeria: The coefficient of one-period lag of revenue from custom and

Table 5 . Cointegration Result for Life Sustenance (LST) model

Unrestricted Cointegration Rank Test (Trace)			Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value
None *	84.39190	47.85613	None *	45.55463	27.58434
At most 1 *	38.83727	29.79707	At most 1 *	21.79843	21.13162
At most 2 *	17.03884	15.49471	At most 2	11.95329	14.26460
At most 3 *	5.085555	3.841465	At most 3 *	5.085555	3.841465

Source: Author's Computation with EViews 12

Table 6 . Cointegration Result for Basic School Enrolment (BSE) model

Unrestricted Cointegration Rank Test (Trace)			Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Hypothesized No. of CE(s)	Max-Eigen Statistic	0.05 Critical Value
None *	99.13595	47.85613	None *	57.49518	27.58434
At most 1 *	41.64076	29.79707	At most 1 *	23.25721	21.13162
At most 2 *	18.38356	15.49471	At most 2*	14.44811	14.26460
At most 3 *	3.935447	3.841465	At most 3 *	3.935447	3.841465

Source: Author's Computation with EViews 12

Table 7. Parsimonious ECM Life Sustenance (LST) model

Dependent Variable: D(LST)

Predictors	Coefficients	t-Statistic	Probability
C	1.434639	0.853463	0.4006
D(LST(-1))	0.278467	1.942434	0.0622
D(LST(-2))	0.383806*	2.488099	0.0191
D(CED(-1))	-0.037041	-1.220335	0.2325
D(CIT)	0.047598**	3.553498	0.0014
D(CIT(-2))	-0.021983	-1.440947	0.1607
D(PPT)	0.003475	1.164232	0.2542
D(PPT(-1))	-0.003223	-1.011644	0.3204
ECT(-1)	-0.256805*	-2.411474	0.0227
R-squared = 0.5322	F-statistic = 3.98	Prob (F-statistic) = 0.00	

*NB: **&* represent rejection of null hypothesis at 1% & 5% respectively.*
Source: Author's Computation with EViews 12

Table 8. Parsimonious ECM Basic School Enrolment (BSE) model

Dependent Variable: D(BSE)

Predictors	Coefficients	t-Statistic	Probability
C	-0.103066	-0.610641	0.5495
D(BSE(-1))	0.300674	1.662489	0.1147
D(BSE(-2))	0.193976	1.070358	0.2994
D(CED)	-0.011009	-1.611775	0.1254
D(CED(-2))	0.013513**	2.948244	0.0090
D(CIT)	-0.010086**	-3.233786	0.0049
D(CIT(-2))	0.018101**	2.884269	0.0103
D(PPT(-1))	0.000675	2.019163	0.0595
ECT(-1)	-0.299813*	-2.159717	0.0454
R-squared = 0.7071	F-statistic = 5.13	Prob (F-statistic) = 0.00	

*NB: **&* represent rejection of null hypothesis at 1% & 5% respectively.*
Source: Author's Computation with EViews 12

excise duties appeared with a negative sign. This implies that one-period lag of revenue from custom and excise duties had a negative effect on life sustenance in Nigeria during the period 1981-2020. This negative sign does not conform to *apriori*. However, one-period lag of revenue from custom and excise duties had no significant effect on life sustenance. Also, the coefficient of revenue from custom and excise duties at level appeared with a negative sign. This implies that revenue from custom and excise duties at level had a negative effect on basic school enrolment in Nigeria during the period 1981-2020. This negative sign does not conform to the *apriori*. However, we can state that revenue from custom and excise duties at level had no significant effect on basic school enrolment.

Moreover, the coefficient of two-period lag of revenue from custom and excise duties appeared with a positive sign. This implies that two-period lag of revenue from custom and excise duties had a positive effect on basic

school enrolment in Nigeria during the period 1981-2020. This positive sign conforms to *apriori*. However, we can state that two-period lag of revenue from custom and excise duties had significant effect on basic school enrolment at 1%.

Dynamics of Revenue from Company Income Tax on Life Sustenance and Basic School Enrolment in Nigeria: First, the coefficient of revenue from company income tax at level appeared with a positive sign. This implies that revenue from company income tax at level had a positive effect on life sustenance in Nigeria during the period 1981-2020. This positive sign conforms to *apriori*. However, revenue from company income tax had significant effect on life sustenance at 1% level. Hence, revenue from company income tax at level had positive and significant effect on life sustenance in Nigeria during the period 1981-2020. Moreover, the coefficient of two-period lag of revenue from company income tax appeared with a negative

sign. Against apriori, this implies that two-period lag of revenue from company income tax had a negative effect on life sustenance in Nigeria during the period 1981-2020. However, the two-period lag of revenue from company income tax had no significant effect on life sustenance.

First, against *apriori*, the coefficient of revenue from company income tax at level appeared with a negative sign. This implies that revenue from company income tax at level had a negative effect on basic school enrolment in Nigeria. However, revenue from company income tax at level had significant effect on basic school enrolment at 1% level. In line with *aprori*, the coefficient of two-period lag of revenue from company income tax appeared with a positive sign. This implies that two-period lag of revenue from company income tax had a positive effect on basic school enrolment in Nigeria during the period 1981-2020. However, the two-period lag of revenue from company income tax had significant impact on basic school enrolment.

Dynamics of Revenue from Petroleum Profit Tax on Life Sustenance and Basic School Enrolment in Nigeria: In line with *apriori*, the coefficient of revenue from petroleum profit tax at level appeared with a positive sign on life sustenance in Nigeria. However, revenue from petroleum profit tax had positive but insignificant effect on life sustenance in Nigeria.

Whereas, against *apriori*, the coefficient of one-period lag of revenue from petroleum profit tax appeared with a negative sign. This implies that one-period lag of revenue from petroleum profit tax had a negative effect on life sustenance in Nigeria. However, it is evident that a one-period lag of revenue from petroleum profit tax had no significant effect on life sustenance.

More so, the error correction term which measures the speed of adjustment is negatively signed and significant given its probability value which is less than 5% significance level. This shows that the life sustenance model has about 25% speed of adjustment. That is, deviations from equilibrium path are reconciled at a speed of 25%. The coefficient of one-period lag of revenue from petroleum profit tax appeared with a positive sign. This implies that one-period lag of revenue from petroleum profit tax had a positive effect on basic school enrolment. This positive sign conforms to the *apriori* expectations.

5. CONCLUSION

The study examines the impact of tax revenue on selected socio-economic indicators namely life sustenance and Basic School Enrolment using extensive econometric tools of analysis. Based on the results and findings enumerated, the study also infers that company income tax and petroleum profit tax were positively related to life sustenance hence improved living conditions of Nigerians in the long run. This is in tandem with theoretical expectation. Increased company income and petroleum profit taxes has enabled government to provide basic social overhead capitals needed for increased production of goods and services (output) which has necessitated increased output per heard in Nigeria over the study period. Thus, tax revenue has improved living standards in Nigeria in the long run while in the short run, tax revenue could not influence living standards of Nigerians.

Company income tax, custom and excise duty and petroleum profit tax are positively related to Basic School Enrolment. This is in consonance with theoretical expectations. Increased tax revenue is accompanied by increased government expenditure in the educational sector. This would enable building and renovation of schools, training and employment of qualified teachers, among others. This would translate to more children having access to basic education. It is therefore recommended that an improvement in revenue collection in company income taxes that would translate to more resources available to finance government activities such as provision of more infrastructure that will trickle down to improve livelihood and education enrolment in Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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