

Assessment of Non-oil Revenue and Economic Development in Nigeria

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Abstract: Faced with dwindling oil revenue, the Federal Government of Nigeria could not adequately fund public tertiary institutions. This led to infrastructural decay and low level of research and consequent decline in quality of tertiary education. To reverse the trend, Federal Government of Nigeria introduced education tax payable by all companies incorporated in Nigeria. This study empirically investigated the effect of education tax revenue (EDT) on economic development of Nigeria as well as the moderating effect of inflation. The study, anchored on Benefit Theory of Taxation, built a data set of 33year observations extracted from the Statistical Bulletin of the Central Bank of Nigeria, report of National Bureau of Statistics, Report of United Nation Development Programme. It measured economic development (ED) as the sum of natural logarithm of gross domestic product and human development index. The study employed autoregressive distributed lag technique to test the formulated hypotheses. Findings revealed that current EDT (lagged EDT) has a statistically negative (positive) effect on ED. It was also found that inflation has no moderating effect on the EDT-ED relationship. The study recommended that the Federal Government of Nigeria should sustain collection of EDT to fund public tertiary education in Nigeria.

Keywords: Autoregressive distributed lag, economic development, education tax revenue, Nigeria, tertiary education.

1.1 Background of the Study

The economic growth of any country is dependent mostly on the amount of revenue generated and utilized towards the development of the country. Since early 1970s, revenue from the oil and sector has remained the main source of revenue of the Federal Government of Nigeria (Ude & Agodi, 2014). Unfortunately, the revenue has not been inadequate for government to sufficiently meet its rising financial obligations to promote the desired economic development in the face of rapid growth in population and inflation (Nimenibo, Samuel, Eyo & Friday, 2018). The situation is exacerbated by the vagaries in international oil prices and militancy in the Niger Delta region of Nigeria after the return to democracy in 1999 leading to worrisome decline in oil exploration and production activities and consequent decline in oil revenue (Igwe, Edeh & Ukpere, 2015). The insufficiency in revenue leads to infrastructural decay especially in the education sector and

compelled the Federal Government of Nigeria to explore alternative but complementary sources of generating revenue. The non-oil revenue sector appears to be the only available alternative to oil revenue sector. Non-oil revenue refers to revenue derived from economic activities other than the petroleum and gas industry which forms a crucial sector of Nigeria economy (Ude & Agodi, 2014). According to Onwualu (2012), non-oil revenue sectors was comprised of construction sector (building), telecommunication services, financial sector (banking and insurance) services, tourism services (hotels, restaurants, parks, carnivals, movies), wholesale and retail trade, health services, export trade, agricultural sector, mineral activities, power sector (conventional and renewable), transportation services (road transportation, rail transportation, water transportation, air transportation, and post and courier services), manufacturing sector, cleaning, waste collection and recycling services, research and development activities, information and communication technology and environmental sector.

One of the most reliable sources of non-oil revenue is taxation (Asaolu, Olabisi, Akinbode & Alebiosu, 2018; Ayuba, 2014; Okafor, 2012). Tax is a compulsory levy on a tax payer or upon his/her estate by the sovereign institution to generate revenue required for provision of social amenities, security and favourable conditions for the economic welfare of the citizens (Adeusi, Uniamikogbo, Erah, & Aggreh, 2020). It is a compulsory levy that is imposed on a product, income or activity by the government. Government imposes tax on her citizens for the purposes of revenue generation to finance her expenditures, redistribution of income and wealth to reduce income inequalities, protection of weak or infant industry, regulation of macro-economy and curb inflation (Igwe *et al.*, 2015) and create an environment conducive for the promotion of economic growth (Akwe, 2014).

1.2 Statement of the Problem

In spite of the rise in revenue generation during the oil boom of the 1970s, the Nigerian economy is still suffering from economic underdevelopment, attributable to low investment in education to enhance human development. The low investment in education is more pronounced following the fluctuation in oil prices in the international oil market and militancy in the Niger Delta oil-rich region of Nigeria. To boost revenue, the Federal Government of Nigeria enacted the Education Trust Fund Act mandating companies incorporated in Nigeria to pay 3% on their assessable profits as education tax.

Enhanced funding using education tax revenue is expected to enable tertiary institutions to conduct cutting-edge research, promote technological advancements and equip students with critical thinking and problem-solving skills essential for driving economic development in Nigeria. The extent to which education tax revenue has contributed to economic development in Nigeria remains an empirical question. There is paucity of empirical studies on the effect of education tax on economic development in Nigeria though there are several studies conducted on the effect of non-oil revenue on the economic growth in Nigeria (Omesu, Ngoke & Ordu, 2020; Kawai, 2017; Anthony, Edeh & Ukpere, 2015). Empirical evidence also shows that literature on non-oil revenue focused mostly on economic growth and not economic development in Nigeria. The objective of this study therefore is to fill the observed gap by focusing on the effect of education tax revenue on economic development in Nigeria instead of economic growth as previously done by other researchers.

1.3 Objective of the Study

The main objective of this was to assess empirically the effect of non-oil revenue on economic development in Nigeria. The specific objectives of the study were to;

- i. Determine the effect of education tax revenue on economic development in Nigeria.
- ii. Ascertain the moderating influence of inflation on the relationship between education tax revenue and economic development in Nigeria.

1.4 Research Questions

- i. What is the effect of education tax revenue on economic development in Nigeria?
- ii. What is the moderating influence of inflation on the relationship between education tax revenue and economic development in Nigeria?

1.4 Research Hypotheses

H₀₁: Education tax revenue has no significant effect on economic development in Nigeria,

H₀₂: Inflation has no significant moderating effect on the relationship between education tax revenue and economic development in Nigeria

The rest of the paper proceeds as follows: Section 2 presents the review of related literature. Section 3 describes the methodology. Section 4 analyzes the results of test of hypotheses. Section 5 concludes the study.

2 Review of Related Literature.

2.1 Conceptual Review

Education Tax Revenue.

This is a revenue derivable from the implementation of Tertiary Education Trust Fund ACT, 2020, formerly known as Tertiary Education Trust Fund (Establishment, Etc.) Act No 16, of 2011. Tertiary Education Trust Fund (Establishment, Etc.) Act No 16, of 2011 has its root in Education Tax Act, 1993. It imposes an education tax at a rate of 3% on the assessable profits of companies incorporated in Nigeria. The Federal Inland Revenue Service is charged with the responsibility for the assessment and collection of this tax. The primary objective of the education tax is to achieve restoration, rehabilitation, consolidation and development of public tertiary education in Nigeria. Tertiary Education Trust Fund ACT, 2020 establishes Tertiary Education Trust Fund (TETFund) as an intervention agency and charges it with the responsibility for managing, disbursing and monitoring the education tax revenue to public tertiary institutions in Nigeria. In specific terms, TETFund administers and disburses the amount in the Fund to the Federal and State tertiary educational institutions for the provision and maintenance of the following: Essential physical infrastructure for teaching and learning, Instructional materials and equipment, Research and publication, Academic staff training and development, Library Development and any other need which, in the opinion of the Board of Trustees, is critical and essential for the improvement of quality and maintenance of standards in the higher educational institutions. TETFUND ensures that funds provided from education tax are used to improve the quality of education in Nigeria without direct award of contract. Beneficiary institutions submit their respective proposed projects

to TETFund for evaluation and approval. Funds are released in tranches to designated bank accounts of the beneficiary institutions which then award the contract in line with the Procurement Act, 2007.

Education tax revenue is meant for improving the quality of tertiary education. Ogunode, Ayeni and Ogwuche (2024) state that tertiary education encompasses post-basic and secondary school education, focusing on advanced teaching, research and community service. The focus of tertiary education is to promote capacity building and national transformation and development through the provision of quality teaching, research and community service. In Nigeria, it is usually offered in institutions accredited by the National Universities Commission, the National Board for Technical Education and the National Commission for Colleges of Education.

Economic Development

Economic development borders on improvement in the quality of life of the citizens of the country through the introduction of new goods and services by using modern technology, infrastructural development, reduction of risk and dynamics of innovation and entrepreneurship (Arnold 2013). It can be summarized as existing where there is increase in the standard of living of the citizens, improvement in self-esteem needs and freedom from oppression as well as citizens having a greater choice available to them (Amadoe, 2018).

Though economic growth and economic development are used interchangeably, there is a difference between them. Economic growth is a narrower concept than economic development. It refers to increase in amount of goods and services produced over specific time (Arnold, 2013; Ofoegbu, Akwu & Oliver, 2016) while economic development reflects improvements in people's living standards, education, transport systems, health, water supply, drainage, and sanitation over a long time (Ofoegbu *et al.* (2016).

Measures of economic development include Gross Domestic Product, Per Capital Income, Human Development Index, real gross domestic product, Index of Industrial Production, Composite Leading Indicators (Appah, Eburunobi & Brown, 2023; Ogbodo & Nweze, 2021; Adegbe, Nwaobia and Osinowo (2020); Ordu & Nkwoji 2019; Okonkwo & Chukwu, 2019; Ofoegbu *et al.*, 2016; United Nations Development Programme (UNDP), 2014).

Inflation

Inflation refers to the rate at which the value of the currency of a country is falling and this manifests in rise in the average price level of goods and services in an economy over some period of time. This means that a unit of currency effectively buys less goods and services than it did in prior periods. Inflation is commonly measured by the Consumer Price Index and the Wholesale Price Index. Inflation compels contractors to seek upward variations in contract sum and contributes to delay in timely project completion thereby affecting economic development.

2.2 Theoretical Review

The Benefit Theory of Taxation

Otu and Theophilus (2013) state that the benefit theory of taxation was developed by Thomas Hobbes (1588-1679), John Locke (1632-1704) both of whom were English philosophers and Hugo Grotius (1583-1645), a Dutch jurist in the seventeenth century. The theory posits that individuals should pay tax in proportion to the benefits to be received from the governments in public services. Consistent with Section 16(1b) of the 1999 Constitution of the Federal Republic of Nigeria as amended, the government has the responsibility of ensuring the maximum welfare, freedom and happiness of its citizens. To effectively discharge its primary function and other subsidiary functions, governments need adequate funding. In line with the existing mutual relationship between the state and the taxpayers, the taxpayers perform their civic responsibility by paying their taxes, and government as the chief administrator of funds contributed by taxpayers, must use tax revenue for the benefit of the payers. This study considers this theory relevant since education tax revenue is designed to provide funding for the improvement of quality and maintenance of standards in the public higher educational institutions for the benefit of taxpayers.

2.3 Empirical Review

Utilizing the documentary research method and a Systematic Literature Review, Ogunode and Agbor (2024) assessed the impact of the Tertiary Education Trust Fund (TETFund) on infrastructural facilities development in tertiary institutions in Nigeria and concluded that the Tertiary Education Trust Fund (TETFund) has positively influenced the development of infrastructure facilities in the tertiary institutions in Nigeria.

Omodero, Adeyemo, Ekundayo, Omesue, Eriabie and Lawrence (2023) assessed the effectiveness of tertiary education tax and information technology development levy in providing the needed funds for schools for period from 2010 to 2021. The result of multiple regression analysis reveals that while tertiary education tax has a positive but insignificant effect on education funding in Nigeria, information technology development levy exerts a considerable impact on education financing.

Olaoye, Yunus and Opefolu (2023) conducted an empirically evaluated effect of tax revenue on the economic development in Nigeria from 2003-2020. The study which obtained data from the publication of Federal Inland Revenue service, Central Bank of Nigeria Annual Statistical Bulletin, and the National Bureau of Statistics measured economic development in terms of Human development Index and adopted an ex-post facto research design. The result of a simple ordinary least square regression indicated that tax revenue from Education Tax has a positive and significant effect on economic development of Nigeria. In contrast, the results of multivariate analysis showed on significant effect on economic development of Nigeria.

Ibiene and Nwakudu (2023) established through analysis of responses of 545 lectures in three public universities in Rivers State that the extent of TETFund ownership and funding of construction of classroom blocks, lecturers' offices, library blocks, conference/seminar halls and computers/ICT gadgets was high, while that of furnishing lecturers' offices, furnishing of libraries with adequate books/facilities, furnishing of technical workshops among others was moderate. In

terms of manpower development, the study revealed that the extant funding for academics for higher degrees and non-academics for in-service and ICT training was moderate.

Appah *et al.* (2023) investigated the moderating role of inflation on relationship between direct taxes and economic development in Nigeria. Findings did not reveal any moderating effect.

Mignamissi, Minkoé Bikoula and Thioune (2023) revisited the non-linearity of the inflation-growth relationship in Sub-Saharan Africa over the period 2002–2015. The study validated the inflation-growth non-linearity and established that the optimal inflation threshold was 12.23%. It also found that in Sub-Saharan Africa the inflation-growth relationship was positive (negative) for any level of inflation below (above) this threshold.

Egbuhuzor and Tomquin (2021) examined the effect of indirect taxes on economic growth in Nigeria from 2003 to 2018. Gross domestic product and human development index were the measures for economic growth. The study adopted ex-post facto research design and extracted secondary data from the Central Bank of Nigeria Statistical Bulletin from 2003 to 2018. The study discovered that revenue from non-oil taxes such custom and excise duties, capital gains tax, company income tax, tertiary education tax and value added tax have significant effect on economic growth. Further results of multiple regressions revealed a negative and insignificant effect of value added tax on gross domestic product but a positive and significant effect on human development index.

Adegbie *et al.* (2020) investigated the effect of non-oil taxes on economic growth and development of Nigeria employing ex post facto research design. Macro data for the period 1994Q1 2017Q4 representing seventy-six (76) observations were obtained from CBN statistical bulletin and National Bureau of Statistics. The study discovered that revenues from custom and excise duties, capital gain tax, company income tax, tertiary education tax and value added tax have significant effect on economic growth.

Adaramola and Dada (2020) indicated that inflation and real exchange rate exerted a significant negative impact on economic growth (real gross domestic product) in Nigeria in the period 1980–2018. Ehigiamusoe, Lean and Lee (2019) found that inflation has a negative moderating effect on financial development- growth nexus in West African countries.

Okonkwo and Chukwu (2019) carried out a study on government tax revenue and economic development in Nigeria between 1996 and 2017 using Vector Autoregressive Estimates. The study showed that petroleum profit tax revenue and total tax revenue had positive relationship with the human development index (HDI) while education tax and companies income tax maintained negative relationship with HDI. The present study has a longer study period and more robust measure of economic development.

Ordu and Nkwoji (2019) looked into the impact of education tax revenue, an important source of governmental fund raising, on Nigeria's industrial prosperity from 2006 to 2017. The results suggested that government income from education tax had a major effect on economic expansion. Education tax revenue had a strong and positive connection with economic and social development, measured by gross domestic products (GDP) and HDI.

Zabbey and Micah (2019) tested the relationship between post-secondary financial assets and higher institutions expansion in Nigeria between 2009 and 2017. The observations showed a favorable and significant relationship between tertiary trust funds and capacity building. However,

the positive relationship between higher education trust funds and program management, scientific studies and article publications in journals, and academic libraries improvement was not significant.

Uzoka and Chinedu (2018) assessed the effect of tax revenue on economic growth of Nigeria between 1997 -2016. The tax revenue assessed included revenue from Company Income Tax (CIT), Custom and Excise Duties (CED), Capital Gains Tax (CGT), Petroleum Profit Tax (PPTA), Value Added Tax (VAT), and Education Tax. The results of the analysis of the times series data obtained from Central Bank of Nigeria Statical Bulletin and Federal Inland Revenue Service revealed that revenue from CGT and Education Tax have no significant effect on economic growth while revenue from petroleum profit tax, company income tax, value added tax and custom and excise duties have significant effect on the economic growth in Nigeria.

Fave and Dabari (2017) assessed tax revenue collection by the Federal government in Nigeria employing the secondary data got from Federal Inland Revenue Service for the period of 2011-2015. The total tax revenue collected was derived from the oil and non-oil taxes. Findings revealed that Capital Gains Tax, Stamp Duty, Education Tax and Petroleum Profit Tax have positive and significant effect on economic growth while revenues from Companies Income Tax and Value Added Tax have no significant effect.

Ugwuanyi (2014) conducted an analysis of the contribution of the Education Tax Fund (ETF) to the academic reform of Nigerian tertiary institutions. The study covered an eleven-year survey of the operations of TETFund and discovered that the education tax revenue had a substantial optimistic contribution to the Nigeria's education sector by building various intrusion initiatives and improving the teaching and learning conditions of both students and lecturers, and that each tertiary institution has its own criteria (subject to TETFund directives) for determining project priority.

3 Methodology

The study, covering a period of 33 years (1990-2022), adopted ex post facto research design and used a data set of 33 year-observations extracted from the Statistical Bulletin of the Central Bank of Nigeria, Reports of the National Bureau of Statistics, World Bank Economic Indicators, and United Nations Development Programme Reports.

To test the formulated hypotheses, the study stipulated the empirical model in functional form as follows:

$$ED = f(\text{CED}, \text{IFR}, \text{EDT} * \text{IFR})$$

Where;

ED = Economic Development.

EDT = Education Tax Revenue

For purposes of estimation, the Model was specified thus:

$$ED_t = \beta_0 + \beta_1 \text{EDT}_t + \beta_2 \text{IFR}_t + \varepsilon_t \dots \dots \dots (1)$$

$$ED = \alpha_0 + \alpha_1 \text{EDT}_t + \alpha_2 \text{IFR}_t + \alpha_3 \text{EDT} * \text{IFR}_t + \varepsilon_t \dots \dots \dots (2)$$

Where:

t captures period in years.

β_0 and α_0 are regression intercepts.

β_1 and β_2 are regression parameters for model (1).

$\alpha_1, \alpha_2, \alpha_3$ are regression parameters for model (2)

EDT*IFR is an interaction between EDT and IFR to capture the moderating effect of IFR.

Measurement of variables

The study adopted gross domestic product and human development index as a measure of economic development in Nigeria. According to the Central Bank of Nigeria (2018), Gross Domestic Product is defined as the monetary value of goods and services produced within a period of time in an economy irrespective of the ethnic nationality of those who produce the goods and services. Human Development Index measures long-term progress in three basic areas of human development namely: access to safe and healthy life, access to education, and a decent living standard (United Nations Development Programme, 2014). Human Development Index (HDI) is the value allocated by United Nations to Nigeria based on the human capital developmental activities that are visibly evident in Nigerian nation amongst its population. The study used inflation both as a control variable and moderating variable. It measured inflation as consumer price index, expressed in percentage.

4 Data Analysis and Results

The study adopted descriptive statistics and inferential statistics. To test the postulated null hypotheses, the study adopted autoregressive distributed lag (ARDL) model. STATA 12 was used to facilitate the analysis. Table 1 presents the descriptive statistics of the study.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ed	33	10.79665	1.244149	9.085807	14.20011
edt (Nbillon)	33	124788.2	77006.45	7528.7	328674
ifr	33	0.1808296	0.1611056	0.05388	0.72855

Source: Authors' Computation, 2025

Table 2: Correlation Matrix

	ed	edt	ifr	edt*ifr
ed	1.0000			
edt	-0.6021*	1.0000		
ifr	0.0391	-0.2318	1.0000	
edt*ifr	-0.0024	-0.1652	0.9973*	1.0000

Source: Authors' Computation, 2025

The data of this study are a time series in nature. Time series data usually exhibit unit root. To test for unit root, the study employed Augmented Dickey-Fuller. It is the standard practice to include the lagged values of the dependent as well as independent variables While running the regression for time series data since, for instance, last year's dependent variable may be correlated to this year's dependent variable. The first step is to perform lag selection criteria to select the optimal lag.

Table 3: Selection-order criteria

Var	Sample: 1994 - 2022				Number of obs = 29				
	lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
ed	1	-36.442	21.563*	1	0.000	0.830*	2.651*	2.681*	2.746*
edt	1	-28.751	18.397*	1	0.000	0.488	2.121	2.150*	2.215*

ifr	1	29.123	27.343	1	0.000	0.009	-1.871	-1.841*	-1.776*
edt*ifr	1	-40.562	25.685	1	0.000	1.103	2.935	2.965*	3.030*

* indicates lag order selected by the criterion

Source: Authors' Computation, 2025

Note: AIC: Akaike Information Criterion, Df = Degree of Freedom, LL = Log likelihood

LR: Likelihood Ratio, P = P-Value, FPE: Final Prediction Error, SBIC: Schwartz-Bayesian Information Criterion, HQIC: Hannan-Quinn Information Criterion

Table 3 shows Selection order Criteria indicating the optimal lag of 1 based on Schwartz-Bayesian information criterion (SBIC). This implies that it would take one (1) year before the impact of the independent variables could be felt on the dependent variable. This is only applicable when estimating the short-run model because every shock in the short run will converge in the long run.

Table 4: Results of Augmented Dickey-Fuller Test for Unit Root

Variable	No of Obs	Test Statistic Z(t)	1%	5%	10%	MacKinnon p-value
			Critical Value	Critical Value	Critical Value	
ed	31	-2.064	-3.709	-2.983	-2.623	0.2592
edt	31	-1.762	-3.709	-2.983	-2.623	0.3993
ifr	31	-2.669	-3.709	-2.983	-2.623	0.0795
edt*ifr	31	-2.720	-3.709	-2.983	-2.623	0.0707
After First Difference						
ed	30	-4.162	-3.716	-2.986	-2.624	0.0008
edt	30	-3.581	-3.716	-2.986	-2.624	0.0061
ifr	30	-4.301	-3.716	-2.986	-2.624	0.0004
edt*ifr	30	-4.246	-3.716	-2.986	-2.624	0.0006

Source: Authors' Computation, 2025

Table 4 presents the result of Augmented Dickey-Fuller Test for Unit Root. The null hypothesis is that the series has a unit root (not stationary). The decision rule is to reject the null hypothesis if the MacKinnon p-value of test statistic does not exceed 0.05. Table 4 reveals that the p-values of test statistics of all the variables at level exceed 0.05 thereby accepting no stationarity. After first difference, the p-values are individually less than 0.05, suggesting existence of stationarity. Consequently, the study proceeded to test for co-integration using ARDL Bound Test. The test sought to ascertain whether there is a long run relationship or not. Table 5 and Table 6 present the results of ARDL Bound Test for Model 1 and Model 2 based on Pesaran, Shin & Smith (2001).

Table 5: Results of ARDL Bounds Test - Model 1

H0: no levels relationship	F = 3.199							
	t = -2.493							
Critical Values (0.1-0.01), F-statistic, Case 3								
	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_2	3.17	4.14	3.79	4.85	4.41	5.52	5.15	6.36
Based on t statistic								
	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_2a	-2.57	-3.21	-2.86	-3.53	-3.13	-3.80	-3.43	-4.10

Source: Authors' Computation, 2025

Table 6: Results of ARDL Bounds Test - Model 2

H0: no levels relationship	F = 2.825							
	t = -1.920							
Critical Values (0.1-0.01), F-statistic								
	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_3	2.72	3.77	3.23	4.35	3.69	4.89	4.29	5.61
Critical Values (0.1-0.01), t-statistic								
	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]	[I_0]	[I_1]
	L_1	L_1	L_05	L_05	L_025	L_025	L_01	L_01
k_3a	-2.57	-3.46	-2.86	-3.78	-3.13	-4.05	-3.43	-4.37

Source: Authors' Computation, 2025

The decision rule is to reject the null hypothesis of no co-integration among the variables if the value of the F-statistic (t-statistic) is greater (less) than any of the I_O bounds, that is the K_2 (K_2a) row in Table 5 and K_3 (K_3a) row in Table 6 respectively. The rejection of the null hypothesis leads to conclusion of co-integration among the variables. Conversely, accepting the null hypothesis, suggests no long run effect.

From the results in Table 5 and Table 6, it was found that the values of F-statistic (t-statistic) were quite greater (less) than the values on the K_2 (K_2a) and K_3 (K_3a) rows respectively. Therefore, the study accepts the null hypothesis of no co-integration among the variables and concludes that there is no long run relationship. Since no long run relationship exists among the variable, the study did not conduct Vector error correction model but rather focused on short run analysis.

Table 7: Results of ARDL Regression Analysis

ed	Model 1				Model 2			
	Coef.	Std. Err.	t	p-value	Coef.	Std. Err.	t	p-value
ed -L1.	0.6222	0.1515	4.11	0.000	0.6920	0.1604	4.31	0.000
edt	-0.9153	0.2198	-4.16	0.000	-0.4731	0.4196	-1.13	0.270
edt -L1.	0.6694	0.2414	2.77	0.010	0.8106	0.2651	3.06	0.005
ifr	0.5509	0.9832	0.56	0.580	41.0521	32.8733	1.25	0.223

edt*ifr					-3.7182	3.0166	-1.23	0.229
cons	6.8729	4.0812	1.68	0.104	-3.175	7.0974	-0.04	0.965
Number of obs		32				32		
F (4, 27)		14.94						
F(5, 26)						12.49		
Prob > F		0.0000				0.0000		
R-squared		0.6889				0.7060		
Adj R-squared		0.6428				0.6495		

Source: Authors' Computation, 2025

Table 7 depicts the results of estimating Model 1 and Model 2 using ARDL. The p-value of F-statistic in Model 1 and Model 2 of Table 7 imply that each Model has a goodness fit. The R-squared statistic suggests that EDT and IFR jointly explained 69% and 71% variations in economic development in Model 1 and Model 2 respectively. This implies that EDT and IFR in the models can be used to predict economic development.

Model 1 in Table 7 shows that the coefficient of the lagged value of economic development is 0.6222, meaning that 1 percent increase in the lagged economic development will increase the current value of economic development by 0.6222. The coefficient on current EDT is -0.9153 and the p-value is 0.000. This suggests that a unit increase in EDT is associated with a 0.92 unit decline in economic development, all else held constant. This finding is in line with the work of Okonkwo and Chukwu (2019). The economic implication of this is that, any additional increase in education tax revenue will result in decrease in economic development. The coefficient of the lagged value of education tax revenue (EDT) is 0.6694. This implies that one unit increase in lagged education tax revenue (EDT) will increase current economic development by 0.67 unit, all held constant. This is significant at the 1% level. This could be because preceding year EDT is usually disbursed in the subsequent year. For instance, TETFund disbursed year 2023 EDT in year 2024 and the effect would manifest in year 2024 and beyond. On this basis, it can be concluded that EDT contributes positively to ED. This supports the evidence of Olaoye *et al.* (2023), Ordu and Nkwoji (2019) and Fave and Dabari (2017) who found that EDT has a positive and significant effect on economic development in Nigeria.

Model 2 in Table 7 reveals a negative coefficient on EDT*IFR ($\alpha_3 = -3.7182$) and a p-value of 0.229. This implies that IFR has no moderating effect on the relationship between EDT and ED, all else held constant. The finding corroborates the finding of Appah *et al.* (2023). Appah *et al.* (2023) studied the moderating role of inflation on the relationship between direct taxes and economic development in Nigeria and found no significant moderating effect.

5.0 Conclusions

The study investigated the effect of education tax revenue on economic development in Nigeria. It also explored the moderating effect on the relationship between education tax revenue and economic development in Nigeria. The study spanning 1991 and 2022 estimated empirical models using ARDL technique. The findings revealed that while current EDT has a negative and statically significant effect on economic development in Nigeria, lagged EDT has a positive and statically significant effect on economic development in Nigeria. The implication of this finding is that EDT has helped to enhance economic development in Nigeria. The effect of EDT on ED was not moderated by inflation.

5.1 Recommendations

Based on the findings of this study, the study made the following recommendations;

- i The Federal Government of Nigeria should sustain collection of education tax revenue and deploy same to complement funding tertiary education. This can be done by strengthening the collection machinery and oversight on TETFund projects in beneficiary institutions.
- ii The Federal Government should take into consideration inflation in the design and implementation of fiscal policies in Nigeria.

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