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NON-OIL TAXATION AND GOVERNMENT EXPENDITURE IN NIGERIA: FEEDBACK FROM CO-INTEGRATION ANALYSIS

Sequel to the paucity of government revenue to fulfill fiscal responsibilities because of downplayed oil revenue from world market, Nigeria government invariably veered to nonoil taxation as a pertinent source of revenue to actualize government expenditure. Therefore, this study appraised nonoil taxation effect on government expenditure from 1981 to 2019 in Nigeria. This study further assessed the bearing of causality amid Government Expenditure, Value Added Tax, Company Income Tax, Custom and Excise Duties and Education Tax, enthusiastically hiring VECM, Johansen co-integration, Units root, and Granger causality tests. Outcomes bared that Value Added Tax has positive significant effect on Government Expenditure. Furthermore, Value Added Tax granger- cause government Expenditure, also government Expenditure granger- cause Value Added Tax. It is also exposed that Company Income Tax had long run and short run positive significant outcome on government Expenditure. More so, Custom and Excise Duties and Education Tax upsurges government Expenditure positively and significantly. Conclusively, nonoil taxation enhanced government expenditure positively, strongly and significantly. This revealed that economic benefits that accrued from nonoil taxation income have effectively expended on government expenditure in terms of fulfilling both the current and capital expenditure as expected. It is advocated that government should expedite more nonoil taxes collection devices to avail more income which can be empathically, judiciously, effectively and prudently expended on government expenditure for more anticipated civil responsibilities from the populace.

Key words: Value Added Tax, Custom and Excise Duties, Education Tax, Company Income Tax, Government Expenditure.

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Нигериядағы мұнайлық емес салықтар мен мемлекеттік шығындар: коинтеграциялық талдау

Әлемдік нарықтағы мұнай кірістерінің төмендеуіне байланысты қаржылық міндеттемелерді орындау үшін мемлекеттік кірістердің жетіспеушілігінен Нигерия үкіметі мемлекеттік шығыстарды жаңарту үшін қолайлы кіріс көзі ретінде мұнай емес салық салуға көшті. Осылайша, бұл зерттеу Нигериядағы 1981 жылдан 2019 жылға дейінгі мемлекеттік шығындарға мұнайға байланысты емес салық салудың әсерін бағалады. Бұл зерттеу VECM, Johansen, units root және Granger бірлескен интеграциясын қолдана отырып, мемлекеттік шығындар, қосылған құн салығы, компаниялардың табыс салығы, кедендік және акциздік алымдар мен білім салығы арасындағы себептік байланыстың әсерін бағалады. Нәтижелер қосылған құн салығы мемлекеттік шығындарға айтарлықтай оң әсер ететіндігін көрсетті. Сонымен қатар, қосылған құн салығы мемлекеттік шығыстардың себебі және мемлекеттік шығыстардың себебі қосылған құн салығы болып табылады. Сондай-ақ, компаниялардың табыс салығы ұзақ мерзімді және қысқа мерзімді перспективада мемлекеттік шығындарға оң әсер еткені белгілі болды. Сонымен қатар, кедендік және акциздік алымдар мен білім салығы мемлекеттік шығындарды оң және айтарлықтай арттырады. Әрине, мұнайға жатпайтын салық салу оң, айтарлықтай және мемлекеттік шығындарды едәуір арттырды. Бұл мұнайға байланысты емес салық салу кірістерінен алынған экономикалық пайда іс жүзінде ағымдағы және күрделі шығындарды орындау тұрғысынан мемлекеттік шығындарға жұмсалғанын көрсетті. Үкімет халықтың күтілетін азаматтық міндеттерін орындау үшін мемлекет шығындарына жанашырлықпен, ақылға қонымды, тиімді және сақтықпен жұмсауға болатын үлкен кіріс алу үшін мұнай емес салықтарды жинаудың көп тетіктерін қолдануды тездетуі керек деп санайды.

Түйін сөздер: қосылған құн салығы, кедендік және акциздік алымдар, білім салығы, компаниялардың пайдасына салынатын салық, мемлекеттік шығындар.

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Ненефтяные налоги и государственные расходы в Нигерии: коинтеграционный анализ

Вследствие нехватки государственных доходов для выполнения финансовых обязательств из-за заниженных доходов от нефти на мировом рынке правительство Нигерии неизменно переходило на ненефтяное налогообложение в качестве подходящего источника доходов для актуализации государственных расходов. Таким образом, в этом исследовании оценивалось влияние налогообложения, не связанного с нефтью, на государственные расходы с 1981 по 2019 год в Нигерии. Это исследование дополнительно оценило влияние причинно-следственной связи между государственными расходами, налогом на добавленную стоимость, подоходным налогом с компаний, таможенными и акцизными сборами и налогом на образование, применяя тесты VECM, совместной интеграции Johansen, Units root и Granger. Результаты показали, что налог на добавленную стоимость оказывает существенное положительное влияние на государственные расходы. Кроме того, налог на добавленную стоимость является причиной государственных расходов, а также государственных расходов – причиной налога на добавленную стоимость. Также выясняется, что налог на прибыль компаний оказал положительное влияние на государственные расходы как в долгосрочной, так и в краткосрочной перспективе. Более того, таможенные и акцизные сборы и налог на образование положительно и значительно увеличивают государственные расходы. Безусловно, ненефтяное налогообложение положительно, сильно и значительно увеличило государственные расходы. Это показало, что экономические выгоды, полученные от доходов от налогообложения, не связанных с нефтью, фактически были израсходованы на государственные расходы с точки зрения выполнения как текущих, так и капитальных затрат. Отстаивается, что правительство должно ускорить использование большего количества механизмов сбора ненефтяных налогов, чтобы получить больший доход, который можно было бы сочувственно, разумно, эффективно и осмотрительно тратить на государственные расходы для выполнения более ожидаемых гражданских обязанностей со стороны населения.

Ключевые слова: налог на добавленную стоимость, таможенные и акцизные сборы, налог на образование, налог на прибыль компаний, государственные расходы.

Introduction

Government expenditure of any country are born to satisfy the populace in' terms of employment creation, payment of salaries, building and renovation of roads, establishment of companies, scholarship for unprivileged students, community development, electrification installation, essential services provision, and other responsibilities fulfillment which are the subset of both recurrent and capital expenditure. To fulfill these, the pertinent responsibilities of rational and lovable citizen government are to garner resources for actualization of these responsibilities through pleasant and palatable channel which is nonoil taxation. These are the tax obviously and forcefully garnered through VAT, company income tax, education tax, and custom and duties. Expenditures cannot be actualized without cash inflow on the part of the government to fulfill and upset both recurrent and capital expenditure. Recurrent expenditure refers as expenditure occurred persistently such as wages and salaries, subsidies, transfers, drugs purchases, interest fulfillment, and goods purchased for effective running of affairs. Capital expenditure

refers to payments for fixed capital acquisition, road constructions and maintenance, schools buildings, hospital buildings and others intangible assets.

Government must be conversant with the expenditure both capital and recurrent in order to actualize political promises for the populace. This can only be effectively done through efficient monitoring on non-oil taxation revenue. This non-oil taxation revenue is revenues realized from other taxes apart from petroleum profit tax. It is however, used to finance germane public services and goods that are vivacious to the suitable functioning of economy through infrastructural development, hospital, schools, defense, investment, road rehabilitation, transportation systems maintenance waste-water treatment expenditures, and others pertinent expenditures which increases standard of living. However, nonoil tax revenue as a percentage of total government income was relatively unstable during the period. Reduced nonoil tax collection according to Osoro (1997) generated persistent and high deficits when actualizes promises through government expenditure. Such high deficits can only be substantially reduced or eliminated by devising policies that

can upsurge more tax incomes or increase tax collection through this nonoil taxation. The efforts of this income realized channel should be felt on the government expenditure to segregate it from other income. With this, it is pertinent to investigate the gravity of non-oil taxation revenue on government expenditure in Nigeria.

Literature Review

Taxation and Government Expenditure

Taxation is to elevate the necessary resources for public expenditure, redistribute wealth, steady the economy, overwhelmed externalities, encourage equally allocation of incomes, and be a wheelchair to government expenditure and economic growth. The disposition of efficient and progressive taxation is to attain anticipated fiscal objectives effectively and productively. The efficacy of taxation particularly, tax structure displays significant role in attaining economic growth through effective utilization of the income realized for efficient capital and recurrent expenditure. Tax revenue which is a percentage of GDP augmented at the commencement of the period, reduced for the larger part before increasing slightly at the end of the period and generally formed the utmost subset of government revenue.

Government expenditure (GOVEXPD) are the expenditure expended or exhausted on the betterment of the populace by the government. It is bifurcated into recurrent and capital expenditure. Recurrent expenditure refers as expenditure occurred persistently such as wages and salaries, subsidies, transfers, drugs purchases, interest fulfillment, and goods purchased for effective running of affairs. Capital expenditure refers to payments for fixed capital acquisition, road constructions and maintenance, schools buildings, hospital buildings and others intangible assets. Government expended part of this revenue on human capital investment through education, training, empowerment, seminars, workshop which in the long run affect the country favorably and productively. If government expended taxation income on government expenditure through this capital expenditure, jobs can be created which can subsequently increases level of income levels of all the employees which can invariably emit tax income for government. Government expenditure is a function of Taxation income.

Value Added Tax (VATAXX)

This is one of the component of nonoil tax which is collected at every stages of production by the government. It is 5% before last year 2019 but currently at 7.5%. The rate was upsurged from 5%

to 7.5% to cater for the wellbeing of Nigerian by providing certain services through her expenditure. VATAXX is also forcefully garnered to protect infant industries, employment generation and fulfillment of government promises in term of economic stability. VATAXX is expected to upsurge and effectively contribute towards augmenting revenue generated by government. VATAXX importance on revenue generated in any nation especially Nigeria cannot be underrated. VATAXX Revenue are the bedrock of government efficiency. The VATAXX benefit over other taxes is very hard to circumvent because is levied on all steps of supply chain.

Company Income Tax (CITAX)

CITAX is a tax forcefully collected on Nigeria registered companies which is superintended by FIRS. The subset of this tax includes the tax levied on foreign companies' profits operating in Nigeria, limited liability companies' profit tax which is synonymous to corporate tax. CITAX is based on accounting profits adjusted for tax purposes. CITAX Acts legalizes Nigeria companies' taxation. CITAX is currently levied at 30% for establishments with one hundred Million turnover and above, 20% is actually levied on establishments with twenty five Million and above but below one hundred Million turnover. It is estimated on a year preceding basis that is tax is levied on annual accounting profits based on the previous year of assessment. But any establishment with less than twenty five Million are exempted from CITAX payment in order to protect and enhance infant establishments. It is generally acceptable by government as an avenue for raising revenue to fulfill government promises in terms of government expenditure, and to superintend economy. CITAX has been exposed to condemnation on equity, monitoring, and efficiency because it is coordinated and superintended by federal government instead of state government.

Education Tax (EDUTAZ)

EDUTAZ is compulsory changed at 2% on assessable profit of registered companies which is superintend by FIRS, and income realized from education tax is domiciled with Education Tax Fund (ETF) for effective disbursement on education in Nigeria. It expected to provide quality education for Nigerian teachers in term of grants, bursaries, and scholarships for their improvement and development. It also established to provide support for secondary and primary schools' libraries. Adegbite (2016) advocated that EDUTAZ enhanced human capital development in Nigeria. According to him, it provides resources for the development of teacher education in Universities, polytechnics, and Colleges of Edu-

cation which invariably triggered economic growth. Through this tax, the funds can be available to all tiers of government for procurement and supply of teaching/learning equipment, and classrooms renovation (Adegbite 2016).

Customs and Excise Duties (CEDTY)

Customs Duties are tax forcefully imposed on imported and exported goods. The rates are based on the worth of goods. It is also charged when goods are moved across the borders among countries while Excise duty is also forcefully imposed on goods domestically manufactured in the country which are beneficial for enormous and germane reasons like economic stability, environment development, and jobs provision, among others. Customs Duties controls the flow of goods to and fro in the country so as to protect infant industries. Hence, this is hypothesized as

H1: Non-oil taxation revenue upsurge government expenditure favorably and significantly in Nigeria;

H2: Long run non-oil taxation revenue effects existed on government expenditure;

H3: Causal associations existed amid non-oil taxation and GOVEXPD in Nigeria.

Empirical Review of Related studies

The relationship amid taxation and expenditure in European Union has been study by Krogstrup (2002). The study after thorough analysis through panel data discovered relationship amid public debt and tax; proportional debt. According to the study an increased debt invariably trigger higher taxes when compared with situation of other states with fewer debts. The study of Emelogu and Uche (2010) exposed the connection between Nigeria government revenue and government with reference to taxa income engaging time series raw data ignited between 1970 and 2007. Granger causality, Johansen co-integration method and ECM test detected a long-run connection amid government revenue (tax income) and Nigeria government expenditure.

The relationship between total government expenditure and total revenue in Nigeria has been examined by Nwosu and Okafor (2014) between 1970 and 2011. The results generated from VAR and Co-integration tests indicated the presence of long run equilibrium connections amid variables of government expenditure and variables of revenues. VAR results further display that government expenditure, recurrent and capital expenditures have unidirectional connections with total revenue, oil and non-oil revenue variables as well as unidirectional causalities running from expenditures to revenue variables.

Adegbite (2016) statistically examined education tax effect on human capital development in Nigeria from 2000 to 2017. The results from co-integration and Granger causality tests analysed on data generated from CBN statistical reports revealed that education tax positively and significantly connected with development of human capital in Nigeria. But this study mainly focused human capital development and education tax which is not stretched to government expenditure.

Alawneh (2017) in his research estimated Jordan capital and current expenditure impact on taxes from period 2001 to 2014. The result of Multiple regression was adopted ultimately exhibited a statistical, significant and positive capital and current expenditure effects on taxes in Jordan. Kithinji (2019) established taxation effect on Kenya government expenditure. Data were obtained and analyzed through National Bureau of Statistics and regression model respectively. The study revealed that revenue of government influences expenditure of government positively and significantly. The study through the outcome suggested that recurrent expenditures must be reduced, and tax revenue must be increased to be compatible with the existing recurrent expenditures. This study is for Jordan, the end results of the research cannot be implemented in Nigeria.

Osho et al. (2019) investigated tax revenue influence on Nigeria government expenditure and economic growth from 2009 to 2018. Data were extracted CBN statistical bulletins. The outcome of T-Test, multiple regression, F-test, DW-test and Johansen's co-integration test advocated that CITAX had a positive connection with capital expenditure; Petroleum profit tax (PPT) had a negative effect on the financing of government development project; VATAXX is insignificant related with government capital expenditure. It was concluded that tax income does not influence capital expenditure. In contrary, Yahaya and Yusuf (2019) critically examined non-oil tax revenue impact on Nigeria economic growth. This study critically covered non-oil taxation such as CITAX, VATAXX, CEDTY and Nigeria Real Gross Domestic Product. Data collected from Federal Inland Revenue Services and Central Bank of Nigeria were determined and analyzed through ARDL which was subjected to series of tests such as unit root and cointegration. The outcome disclosed that nonoil tax revenue positively and significantly connected with enhancement of Nigeria economy. Nevertheless, the results engendered is restricted to economic growth which is not translated to government expenditure.

Adegbite and Agboola (2019) in their study surveyed taxation effect on Nigeria government expenditure between 1994 and 2015. Relevant data were acquired through CBN Statistical Bulletins of relevant years which were analysed by PPMC and Regression analysis technique. Results of the analysis divulged that taxation is positively, significantly and effectively impacted Public expenditure. But this study employed only regression and PPMC to generate conclusions, and was restricted to 2015 which cannot be stretched to 2018.

Adegbite (2020a) judgmentally studied taxation effects on Nigeria economic growth (GDP) in Nigeria. It also substantiated causal direction between taxation and economic growth adopting Granger causality and Johansen co-integration tests to analyse collected data from statistical bulletin of CBN between 1970 and 2018. Results revealed that petroleum profit tax (PPTAX), company income tax (CITAX), and Value added tax (VATAXX) positively and significantly influence on GDP. But Custom and Excise duties (CEDTY), has short run and long run positive insignificant influence on GDP. Components of taxation examined have bidirectional causality with GDP in Nigeria. However, this research was streamlined to economic growth not government expenditure.

Adegbite (2020b) investigated non-oil taxation income effect on ten selected West African countries' economic growth adopting panel data of World Bank between 1999 and 2018. The study purposefully selected five Anglophone and five franco-phone countries. The Panel data results advocated that nonoil taxation income positively enhanced economic growth of selected nations in West Africa. Non-oil taxation researched in this study employed panel data because it was cross sectional study of many countries in West Africa, therefore, the output results are meaningless to a sole country.

The extant researchers streamlined their study to economic growth which adopting regression, panel data, and PPMC as data analysis techniques. Nonoil taxation effects on government expenditure has not been researched with the current scope in Nigeria. This study is also distinct and unique from extant researches because of econometric model and data analysis employed to determine nonoil taxation effects on government expenditure in Nigeria.

Theoretical Review

The Socio- Political theory

Adolph Wagner advocated that social and political objectives should be the determining factors in selecting taxes. According to this theory, economic

problem such as unemployment, economic instability, insurgency, inflation, inequalities should be observed in selecting taxes. The society contained multiples of individuals, which is more than aggregate of the individual members. The political campaign of any reliable and responsible government are employment provision, economic stabilities, inequalities eradication, and to provide other devices for betterment of the populace. This can be achieved through effective tax collection. Any tax that confuses or dejects economic activity or exploits economic growth is dishearten, inimical and repulsive.

Benefit Received (BR) theory

With this principle, taxation burden should fall on taxpayers based on benefit derived through the state. That is the benefit accrued by the taxpayers should be the yardstick for determine the appropriate tax to be subscribed to the state. The benefits in terms of employment generation, economic stabilities, infrastructural facilities, and other public goods provisions which can be done through government expenditure. Every citizen must be compelled to pay taxes in proportion to benefits accrued from government services. Taxpayers pay according to the benefits realized from the government services. Therefore, this study is harnessed on socio- political theory and benefit received theory

Methodology

This research examined the effect of non-oil taxation on government expenditure in Nigeria from 1981 to 2019. The data sourced from CBN statistical bulletin and FIRS publications from 1981 to 2019 such as GOVEXPD, VATAXX, CITAX, CEDTY, and EDUTAZ were analyzed employing Co integration, analysis, VECM and granger causality test to gauge non-oil taxation effects on government expenditure (GOVEXP) in Nigeria.

Model Specification

To survey non-oil taxation effect on GOVEXPD in Nigeria. GOVEXPD is employed as a dependent variable. VATAXX, CITAX, CEDTY, and EDUTAZ which are the taxation components are represented as independent variables. The regression models are:

$$GOVEXPD = f(VATAXX, CITAX, CEDTY, RDUTAZ, \mu) \quad (1)$$

$$GOVEXPD = a_0 + a_1VATAXX + a_2CITAX + a_3CEDTY + a_4RDUTAZ + \mu_1 \quad (2)$$

Results and Discussion

The Table 1 examined Non-oil taxation effect on government expenditure (GOVEXPD) in Nigeria. A percent ascends in VATAXX upsurges GOVEXPD with 16.2%. Also, a percent ascends in CITAX upsurges GOVEXPD with 2.65% favourably. Thus, it exposed a positive significance of CITAX on GOVEXPD. A percent climb in CEDTY upsurges GOVEXPD with 16.4%, this is also exposed a significant and favourable effect of CEDTY on GOVEXPD. In addition, A percent climb in EDUTAZ upsurges GOVEXPD with 1.71%, this is also exposed a significant and

favourable effect of EDUTAZ on GOVEXPD. The stated R-squared and Adjusted R-squared as 68.4% (0.6844) and 67% (67%) predicted that incorporated model is fit and sufficient to explain non-oil taxation effects on GOVEXPD advocated by Prob > F = 0.0000.

To verify the stationarity of the involved variables, DF-GLS TAU Test Statistic were engaged, it was discovered that all the variables have first difference stationary which exposed the long run relationship amid the involved variables because DF-GLS tau Test Statistic are greater than 1%, 5% and 10% Critical Value -3.770, -3.509 and -3.100 respectively.

Table 1 – Effect of Non-oil Taxation on Government Expenditure in Nigeria

Dependent Variable	Independent Variables	Coef.	Std Err	T	P> t	95% Conf. Interval]
GOVEXPD	VATAXX	16.2233	2.395024	6.77	0.000	11.21045 21.23614
	CITAX	2.655988	0.57488	4.62	0.002	-11.57432 6.262341
	CEDTY	16.44372	2.782355	5.91	0.000	-54.37611 21.48867
	EDUTAZ	1.714802	0.558567	3.07	0.005	-48.39071 51.82031
	CONSTANT	553.1532	1 81.5103	3.05	0.007	173.2479 933.0585
R-squared = 0.6844	Adj R-squared = 0.6702	Prob > F = 0.0000	Root MSB = 291.8			F(5, 19) = 239.14
Note – compiled by the author						

Table 2 – Test of Unit Roots

Variable	DF-GLS Tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Order of Integration	Remarks
GOVEXPD	4.786	-3.770	-3.509	-3.100	I{1}	Stationary
VATAXX	3.779	-3.770	-3.509	-3.100	I{1}	Stationary
CITAX	3.697	-3.770	-3.509	-3.100	I{1}	Stationary
CEDTY	3.971	-3.770	-3.509	-3.100	I{1}	Stationary
EDUTAZ	3.818	-3.770	-3.509	-3.100	I{1}	Stationary
Note – compiled by the author						

Table 3 – Selection of Order Test (SOT)

lag	LL	LR	Df	P	FPE	AIC	HQIC	SBIC
0	-651.434				2.7e+17	57.1682	57.2427	57.4644
1	-539.837	223.19	36	0.000	4.3e+14	50.5945	51.116	52.6681
2	-358.499	362.68*	36	0.000	3.0e+09*	37.9564*	38.9249*	41.8072*

Note – compiled by the author

To gauge the appropriate and necessary number of Lag to involve, selection order test was done, AIC, FPE, HQIC and SBIC advocated Lag 2 as the chosen lags for the study.

To uphold the SOT output, VAR test was ignited. The VAR outcome exposed that the chosen and meaningful Lag is Lag 2 because AIC, HQIC and SBIC in VAR output supported SOT with identical output of 37.95644, 38.92491 and 41.80725 respectively. Therefore, Lag 2 is upheld by both SOT and VAR.

Table 5 and 6 unhidden the long run non-oil tax effects on GOVEXPD. A percent ascends in VATAXX upsurges GOVEXPD with 3.64%. This explained the long run significant and favourable

VATAXX effect on GOVEXPD. Also, a percent ascends in CITAX upsurges GOVEXPD with 1.13% favourably. Thus, it exposed a positive significance of CITAX on GOVEXPD. A percent climb in CEDTY upsurges GOVEXPD with 1.29%, this is also exposed a significant and favourable long run effect of CITAX on GOVEXPD. In addition, a percent climb in EDUTAZ upsurges GOVEXPD with 1.17%, this is also exposed long run significant and favourable effect of EDUTAZ on GOVEXPD. The existence of $P > |z|$ which is 0.000 but below 0.005 significant threshold, it unhidden that long run connection occurred amid non-oil tax and GOVEXPD which ultimately discarded the null hypothesis.

Table 4 – Outcome of Vector Autoregression (VAR)

Equation	Parms	RMSE	R-sq	chi2	P>chi2
GOVEXPD	13	492.08	0.9742	868.157	0.0000
VATAXX	13	25.9182	0.9880	1890.679	0.0000
CITAX	13	16.0636	0.9921	2886.637	0.0000
CEDTY	13	3.30123	0.9866	1694.195	0.0000
EDUTAZ	13	1.42624	0.9974	8952.112	0.0000
Log likelihood = -358.4991	Det (Sigma_ml) = 1392442	AIC = 37.95644	HQIC = 38.92491	SBIC = 41.80725	

Note – compiled by the author

Table 5 – Vector Error-Correction Model (VECM)

Equation	Parms	RMSE	R-sq	chi2	P>chi2
D_GOVEXPD	8	514.982	0.4641	12.9878	0.1123
D_VATAXX	8	25.8433	0.6395	26.60834	0.0008
D_CITAX	8	19.8445	0.8128	65.1419	0.0000
D_CEDTY	8	19.8903	0.6570	28.73357	0.0004
D_EDUTAZ	8	2.32767	0.8886	119.5936	0.0000
Log likelihood = -437.514	Det (Sigma_ml) = 1.34e+09	AIC: 42.65339	HQIC: 42.65339	SBIC = 45.26996	

Note – compiled by the author

Table 6 – Output of Johansen Normalization Restriction Test (JNRT)

Beta	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]
_cel GOVEXP	1				
VATAXX	3.64.4389	1.402355	259.88	0.000	361.6903 367.1874
CITAX	1.13.2082	1.899135	-59.61	0.000	-116.9304 -109.486
CEDTY	1.297.989	9.57575	-135.55	0.000	-1316.757 -1279.22
EDUTAZ	1.176.784	10.61602	-110.85	0.000	-1197.591 -1155.977
_cons	22372.97				

Note – compiled by the author

Table 7 – Tests of Granger Causality Wald

Equation	Excluded	chi2	df	Prob>chi2	Decision
GOVEXPD	VATAXX GOVEXPD	35.515	2	0.000	VATAXX granger-cause GOVEXPD
CITAX GOVEXPD	CEDTY GOVEXPD	56.701	2	0.007	granger-cause GOVEXPD CEDTY. granger-cause
EDUTAZ GOVEXPD	ALL	43.502	2	0.014	GOVEXPD EDUTAZ granger-cause GOVEXPD
		78.881	2	0.000	All jointly granger cause GOVEXPD
		320.86	10	0.000	
VATAXX	GOVEXPD	6.7413	2	0.034	GOVEXPD granger-cause VATAXX
VATAXX	CITAX	2.0236	2	0.364	granger-cause not VATAXX
VATAXX	CEDTY	3.6354	2	0.162	CEDTY granger-cause not VATAXX
VATAXX	EDUTAZ	2.8378	2	0.242	EDUTAZ granger-cause not VATAXX
VATAXX	ALL	24.169	10	0.007	All jointly granger cause VATAXX
CITAX	GOVEXPD	9.6026	2	0.040	GOVEXPD granger-cause CITAX
CITAX	VATAXX	2.8188	2	0.244	VATAXX granger-cause not CITAX
CITAX	CEDTY	5.2429	2	0.073	CEDTY granger-cause CITAX
CITAX	EDUTAZ	20.344	2	0.000	EDUTAZ granger-cause CITAX
CITAX	ALL	232.76	10	0.000	All jointly granger cause CITAX
CEDTY	GOVEXPD	5.6958	2	0.044	GOVEXPD granger-cause CEDTY
CEDTY	VATAXX	4.3484	2	0.114	VATAXX granger-cause not CEDTY
CEDTY	CITAX	10.232	2	0.006	CITAX granger-cause CEDTY
CEDTY	EDUTAZ	7.6983	2	0.021	EDUTAZ granger-cause CEDTY
CEDTY	ALL	72.409	10	0.000	All jointly granger cause CEDTY
EDUTAZ	GOVEXPD EDUTAZ	39.905	2	0.000	GOVEXPD granger-cause EDUTAZ
VATAXX		52.612	2	0.000	VATAXX granger-cause EDUTAZ
EDUTAZ	CITAX	33.512	2	0.000	CITAX granger-cause EDUTAZ
EDUTAZ	CEDTY	44.533	2	0.000	CEDTY granger-cause EDUTAZ
EDUTAZ	ALL	665.53	10	0.000	All jointly granger cause EDUTAZ

Note – compiled by the author

Table 7 unhidden causal associations amid the variables surveyed. This null hypothesis is expulsed because Prob > chi2 of variables inspected VATAXX, CITAX, CEDTY and EDUTAZ is 0.000, which jointly and wholly Granger-cause GOVEXPD. The findings demonstrated bidirectional causal as-

sociation existence amid VATAXX and GOVEXPD because causal association existed from VATAXX to GOVEXPD, and GOVEXPD to VATAXX. Still, the findings naked that the causal association also ignited from CITAX to GOVEXPD, and GOVEXPD also triggered CITAX. This result naked bidirectional

causality association amid CITAX and GOVEXPD. Furthermore, CEDTY and EDUTAZ activated causal associations with GOVEXPD. Decisively, taxation

and GOVEXPD generated bi-directional causality. Hence, causal associations existed amid nonoil taxation and GOVEXPD in Nigeria.

Table 8 – Causality Direction amid Government Expenditure and Nonoil Taxation

Equation	Excluded	chi2	Df	Prob>	chi2	Decision	Causality Direction		
GOVEXPD VATAXX	VATAXX GOVEXPD	35.515	2	0.000	6.7413	2	0.034	VATAXX granger cause GOVEXPD GOVEXPD granger cause VATAXX	VATAXX→GOVEXPD GOVEXPD→VATAXX
GOVEXPD CITAX	CITAX GOVEXPD	56.701	2	0.007	9.6026	2	0.040	CITAX granger cause GOVEXPD GOVEXPD granger cause CITAX	CITAX → GOVEXPD GOVEXPD → CITAX
GOVEXPD CEDTY	CEDTY GOVEXPD	43.502	2	0.014	5.6958	2	0.044	CEDTY granger cause GOVEXPD GOVEXPD granger cause CEDTY	CEDTY→ GOVEXPD GOVEXPD → CEDTY
GOVEXPD EDUTAZ	EDUTAZ GOVEXPD	78.881	2	0.000	39.905	2	0.000	EDUTAZ granger cause GOVEXPD GOVEXPD granger- cause EDUTAZ	EDUTAZ → GOVEXPD GOVEXPD → EDUTAZ

Note – compiled by the author

Table 8 exhibited the demeanor of causal friendship amid GOVEXPD, VATAXX, CITAX, CEDTY, and EDUTAZ. The discoveries divulged bidirectional causal link amid VATAXX and GOVEXPD because causality association ignited from VATAXX to GOVEXPD, and GOVEXPD to VATAXX versa. Furthermore, the outcomes exposed that the causal association ignited from CITAX to GOVEXPD, and GOVEXPD also triggered CITAX. This result uncovered bidirectional causality between CITAX and GOVEXPD. Also, EDUTAZ ignited causal association with GOVEXPD. Convincingly, nonoil taxation and government expenditure had bidirectional causality as hypothesized in Table 7.

This study appraised nonoil taxation effect on government expenditure from 1981 to 2019 in Nigeria. This outcome exposed a positive significance of CITAX on GOVEXPD. This translated that the volume of income aggregated from this CITAX is responsible for the effective disbursement on both capital and government expenditure, this in tandem with the advocacy of Adegbite and Agboola (2019). That is CITAX has been spending on government expenditure such as road construction, salaries and wages fulfillment. In addition, CEDTY also emits an improvement to government expenditure as displayed by the outcome of the analysis that a unit increment in CEDTY upsurges GOVEXPD positively as also supported by Kithinji (2019). It was garnered

also that VATAXX and EDUTAZ upsurged GOVEXPD. This exposed that the money garnered from these taxes were utilized enormously and extensively on government expenditure through salaries payment, security provision, road construction, education provision, law maintenances, and provision of other imperative and germane services which are significant to the existence and improvement of populace standard of living as concurred to Nwosu and Okafor (2014), Krogstrup and Signe (2002), Adegbite and Agboola (2019), Kithinji (2019), and Adegbite (2020a).

All taxation components examined (CITAX, VATAXX, CEDTY and EDUTAZ) have bi-directional causality with GOVEXPD. Taxation components triggered the existence of government expenditure, and government dispositions through government expenditure triggered tax collection. In addition, the social amenities provision and other life maintenance devices by the government ignited the effective collection of nonoil taxation so that the government promises would be fulfilled.

Conclusion

This study appraised nonoil taxation effect on government expenditure from 1981 to 2019 in Nigeria. This study further assessed the bearing of causality amid GOVEXPD, VATAXX, CITAX, CEDTY and EDUTAZ, enthusiastically hiring VECM,

Johansen co-integration, Units root, and Granger causality tests. Outcomes bared that VATAXX has positive significant effect on GOVEXPD. Furthermore, VATAXX granger-cause GOVEXPD, GOVEXPD granger-cause VATAXX. It is also exposed that CITAX had longrun and short run positive significant outcome on GOVEXPD. More so, CEDTY and EDUTAZ upsurges GOVEXPD positively and significantly.

Conclusively, nonoil taxation enhanced government expenditure positively, strongly and sig-

nificantly. This revealed that economic benefits that accrued from nonoil taxation income have effectively expended on government expenditure in terms of fulfilling both the current and capital expenditure as expected. It is advocated that government should-expedite more nonoil taxes collection devices to avail more income which can be empathically, judiciously, effectively and prudently expended on government expenditure for more anticipated civil responsibilities from the populace.

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