

The Dynamics of Increase in Value Added Tax (VAT) Rate and Economic Growth: Evidence from Nigeria

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Abstract:- The chargeable rate of Value Added Tax (VAT) in Nigeria has remained at 5% since its inception, despite an unsuccessful attempt to raise it to 10% due to social and political factors. This research paper investigates the impact of VAT rate hikes on Economic Growth in Nigeria during the period 2018-2021, specifically analyzing two years before the VAT hike (5%) and two years after (7.5%) using an ex-post facto research design. The research makes use of descriptive analysis, regression, and paired sample T-Test to examine the collected data. The findings indicate that a 5% value added tax has a positive yet insignificant effect on gross domestic product, with a p-value of 0.229, greater than the significance level of 0.05, and a coefficient of 0.152, suggesting a 15% improvement in GDP. Similarly, a 7.5% value added tax has a positive and insignificant effect on gross domestic product, with a p-value of 0.266, also greater than 0.05, and a coefficient of 0.236, indicating an almost 24% improvement in GDP. The paired sample T-Test demonstrates a significant p-value of 0.031, lower than the 5% significance level, and a t-statistic of -2.685, revealing a difference between the mean value added tax at 5% and 7.5%. The study recommends that in addition to adjusting the tax rate, the government should address issues concerning the management and utilization of VAT proceeds, to enhance the positive effects of VAT on economic growth.

Keywords:- Value Added Tax (VAT), Chargeable Rate, Economic Growth.

I. INTRODUCTION

During the late 1950s, France pioneered the notion of Value Added Tax (VAT). It was first used in the French colony of Côte d'Ivoire before a more complete version was officially adopted in Brazil in 1967. Since then, VAT has gained widespread acceptance among affluent nations. Furthermore, starting from the 1980s, it has also been extensively adopted by low- and middle-income countries (Progressive taxation policy brief, 2018). Value Added Tax

(VAT), is an indirect tax, that is imposed on the value added by service providers, suppliers, and producers at various stages of a supply chain. Typically, the burden of this tax is ultimately borne by the consumer. While some countries utilize a goods and services tax (GST) instead, the overall structure and purpose of the tax remain similar.

The Nigerian Federal Military Government implemented the Value Added Tax (VAT) in 1993. Prior to this, sales tax was administered by the States and was generally poorly managed, contributing only marginally to revenue (Sanni, 2012). The decision to introduce VAT came from a recommendation by the Study Group created by the Federal Government in 1991 to assess the Federation's tax system. It was intended to replace the Sales Tax. Following thorough discussions and consultations, VAT was officially implemented in August, 24, 1993, as a federal tax through the enactment of the Value Added Tax Decree. Surpassing the expectations of skeptics, including the International Monetary Fund (IMF), VAT has proven to be a significant source of revenue for governments at all levels in Nigeria. The objective was to gradually lower the income tax rate while focusing on indirect taxes, notably VAT.

Based on the information provided in the Document Outlining National Tax Policy: "It is proposed to have a shift from direct to indirect taxation within the non-oil sector in order to stimulate economic growth in the sectors, whilst still meeting revenue requirements. This is particularly necessary, given that oil revenues are no longer viewed as a sustainable source of revenue and there is the urgent necessity to diversify tax revenue. In this regard, it is proposed that there should be lower rates of direct taxes such as Companies' Income and Personal Income tax to reduce the cost of doing business in Nigeria by increasing cash flow and disposable income for corporate entities and individuals alike."

Regarding the calculation of the chargeable rate of VAT in Nigeria, Decree 102, section 4 stipulates that "The tax shall be computed at the rate, specified in column B of the Schedule 1 and 2 of this Decree, of the value of all

taxable goods and services as determined under sections 5 and 6 of this Decree." The Decree's Schedules 1 and 2 outlined goods and services that are taxed, along with the uniform tax rate of 5 percent. However, on October 23, 1996, under the administration of General Sani Abacha, The Federal Military Government issued Decree No. 31, Finance (Miscellaneous Taxation Provisions) (No. 2), which revised section 4 of Decree No. 102. Section 27 of Decree No. 31 states that the tax should be assessed at a rate of 5% depending on the value of taxable goods and services as defined by sections 5 and 6 of this Decree. Despite further revisions to the VAT Decree, such as the Finance (Miscellaneous Taxation Provisions) (No. 3) Decree 1996, Decree No. 32, the chargeable rate remained at 5%. This rate remained constant until Nigeria's transition from military to democratic administration in 1999. The extant military decrees were deemed to be laws that might be passed by the National Assembly under Section 315 of the Constitution of the Federal Republic of Nigeria, 1999. As a result, the Value Added Tax Decree was replaced by the Value Added Tax Act of 1993, with a chargeable rate of 5%.

Although the chargeable rate of VAT had predominantly remained at 5 percent since its introduction, during the democratic era, two Ministers attempted to exercise their authority under section 38 of the VAT Act to raise the chargeable rate to 10 percent. However, their efforts were unsuccessful due to prevailing social and political circumstances. Opponents of the rate increment have consistently argued that the Federal Inland Revenue Service (FIRS) should focus on expanding the VAT coverage to include those who are currently not part of the tax system and work towards enhancing overall compliance levels (Sanni, 2012).

Effective from February 1, 2020, the VAT rate was raised from 5 percent to 7.5 percent, and since then, there has been significant success in terms of compliance. The Minister of Finance, Zainab Ahmed, released a statement outlining that the increased VAT rate is anticipated to bolster the revenue of the Federal Government. The additional revenue is intended to be allocated towards funding the health and education sectors, as well as infrastructure projects.

However, the critiques of the hike believe that Federal Government is not sincere, that the 5% rate can go a long way to turn the economy around if leakages, corruption and impunity in the country are strictly addressed. (Matthew et al., 2021) posits that Value Added Tax (VAT) in Nigeria encounters numerous challenges, such as intricate tax regulations, insufficient and ineffective administration due to the perception that VAT lacks advantageous attributes, inadequate funding for revenue services, absence of VAT-related tribunals, and the pervasive issue of tax avoidance and evasion, which poses the most formidable obstacle to realizing the benefits of VAT. These contrasting viewpoints prompted the researcher to assess the impact of the increase in the Value Added Tax rate on Nigeria's economic growth.

Ogunrinde (2013) observed that in 1991, the limits of the Sales Tax controlled by the states and the Federal Government prompted the formation of a study group to analyze Nigeria's overall tax structure. The objective was to enhance efficiency in tax administration and increase revenue for the lower tiers of government. The introduction of value-added tax aimed to shift the focus from direct to indirect taxation, as highlighted in section 3.3 of the National Tax Policy, in order to reduce dependence on oil revenue. Obaretin and Uwaifo (2020) explained that VAT is a tax paid by individuals, government entities, and corporate organizations on the consumption of goods and services. Unlike sales tax, VAT is an indirect tax levied at each stage of production, avoiding the double taxation effect, which contributed to its greater popularity. VAT is a consumption tax that is relatively straightforward to administer and difficult to avoid, making it appealing as a revenue-generating mechanism to many governments (Abiola and Asiweh, 2012). It serves as a prime example of an indirect tax, where the government receives an amount equal to what the final consumer pays through all the intermediate suppliers in the production and distribution chain (Anojan, 2013). This process is built into every stage of the consumption chain and is ultimately carried by the final consumer (Sowole & Adekoyejo, 2019). Olaoye (2009) identified poor VAT administration as one of the challenges facing VAT in Nigeria.

According to the Department for International Development (DFID), economic growth plays an important role in decreasing poverty and increasing life quality in developing countries. Extensive research, including cross-country studies and country-specific cases, overwhelmingly demonstrates that rapid and sustained growth is vital for making significant progress towards the Millennium Development Goals, beyond just the goal of halving global poverty. The Reserve Bank of Australia defines economic growth as the long-term increase of a country's economy, as measured by gross domestic product (GDP). Economic growth entails the increase in size of national economies. as indicated by macroeconomic factors such as GDP per capita, progressing in an upward trajectory with benefits to the economic and social sectors. Development, on the other hand, reveals how growth influences society by raising living standards (Haller, 2012). While economic growth primarily focuses on measuring a country's output, economic development is a broader concept that encompasses social and political advancements for the well-being of its people (Obaretin & Uwaifo, 2020). Rebic and Sarenac (2014) suggest that economic growth refers to changes in material production over a relatively short period of time, often one year. In economic theory, growth is defined as an annual increase in material production expressed in value, as shown in the GDP or national income growth rate. However, growth alone does not guarantee economic development, as development encompasses a broader trajectory for the economy, including direction, social necessity, and government regulation (Poliduts & Kapkaev, 2015). The Reserve Bank of Australia further explains that economic growth can be measured in nominal or real terms. Nominal economic growth is defined as the

rise in the dollar value of output over time, taking into account changes in both output volume and product pricing. However, economists typically discuss real economic growth, which focuses solely on increases in the volume of production, disregarding the effect of changing prices. This approach provides a better understanding of a country's production level at a given time, compared to other periods (Reserve Bank of Australia).

Orisadare and Fasoye (2022) conducted a study to analyze the impact of VAT on Nigerian economic growth from 1994 to 2020, utilizing the consumer price index (CPI) as a threshold. They applied the Threshold Vector Autoregressive (TVAR) approach and discovered that a VAT rate exceeding the 10 percent threshold causes dangers to the economy, while a VAT rate below the 7.50 percent threshold enhances the well-being of individuals. Omodero and Eriabie (2022) assessed the causal effect of VAT revenue on industry productivity in Nigeria. Their study focused on manufacturing output as the dependent variable and considered factors such as import VAT, domestic VAT, and aggregate VAT receipts as independent variables. Using Pairwise Granger Causality Tests, they found strong positive causation effects between local VAT returns, aggregate VAT collection, and manufacturing output. The research concluded that VAT indeed contributes to the growth of the industry in the country (Omodero, 2022). Omodero (2022) conducted a study that looked at the devolution of VAT revenue and its impact on social development in Nigeria from 1995 to 2021, with a particular focus on community welfare. Secondary data from the Central Bank of Nigeria's statistical repository, an ex post facto research strategy, and a cross-sectional econometric approach were used by the researcher. The study examined the relationship between variables, performed trend analysis, assessed causality, and ran regression analysis to determine the impact of VAT transfers on social welfare in Nigeria. The findings indicated that VAT transfers to states have a significant and positive relationship with social development at a 0.01 level of significance. Furthermore, the share of VAT collection allocated to local governments showed a positive but less tangible relationship with social development at a 0.05 level of significance. The study concluded that VAT revenue autonomy is now required in Nigeria and urged for a 100% transfer of income receipts to states and local governments for societal benefit.

Odu (2022) did a study that focused primarily on the influence of VAT on Nigeria's GDP and total income earned from 1994 to 2018. The study examined the relationship between VAT, total tax revenue, and GDP using time series data and regressions. VAT had a substantial effect on overall tax collection with a two-year lag, and its explanatory power rose over time, according to the findings. Furthermore, the study found that VAT had a considerable negative impact on GDP with a one-year lag. A positive coefficient was found in the trend analysis, indicating that VAT grew over time.

Jewel (2022) examined the impact of a value-added tax on Bangladesh's GDP over a long period of time, from 1991-1992 to 2020-2021. Co-integration techniques were used in the investigation, notably the Johansen procedure with a limited Vector Error Correction Model (VECM). According to the findings, the value-added tax had a positive impact on Bangladesh GDP, contributing to sustained economic growth over the decades.

Belay (2022) analyzed the role of VAT in the economic growth of Ethiopia from 1990 to 2021, employing theoretical and empirical evidence. The study utilized econometric analysis, specifically the To explore the long-run and short-run relationship between the dependent variable (GDP) and its determinants, the Autoregressive Distributed Lag (ARDL) and Error Correction Model (ECM) were used. Time series macroeconomic data were used in the analysis, including GDP, VAT, tax revenue excluding VAT, non-tax revenue, population, human capital, and gross capital creation. The findings demonstrated that VAT revenue had a significant and favorable impact on Ethiopia's economic growth (GDP) over the study period (Reserve Bank of Australia, 2021).

Ballkoci and Stermugu (2022) investigated the effects of Value-Added Tax (VAT) and Corporate Income Tax (CIT) on economic growth in Albania. The study used secondary data from the previous ten years and linear regression analysis. The findings suggested that VAT had a favorable impact on Albania's economic growth.

Matthew et al. (2021) investigated the impact of a VAT rate increase on Nigerian inflation and the relationship between Value Added Tax and Nigeria's total outstanding debt. The study used the ex post facto research approach and the Koyck Model, a regression technique based on the adaptive expectation hypothesis. Data were sourced from the Federal Inland Revenue Services (FIRS) and the Central Bank of Nigeria (CBN) statistical bulletins. The findings revealed that an increase in VAT rate did not guarantee a significant reduction in government borrowing and could worsen the inflation rate in Nigeria.

Ding and Kinnucan (2011) investigated from 2004 to 2018, the relationship between Value Added Tax (VAT) and economic growth in Nigeria was examined. The study analyzed the provided data using secondary data and regression analysis. The findings revealed a favorable and statistically significant association between value-added tax and economic growth in Nigeria. Olarotimi and Alor (2021) examined the dynamic impact of value-added tax on economic growth in Nigeria from 1994 to 2018. The study utilized secondary data sourced from the CBN statistical bulletin and the National Bureau of Statistics. The ADF unit root test and dynamic ordinary least square (DOLS) regression method were employed to analyze the data. The findings revealed a positive relationship between VAT and economic growth, indicating that a percentage increase in VAT led to a 9.3% increase in economic growth.

Egulum and Celestine (2021) researched the impact of Value Added Tax on Economic Development in Nigeria. The study covered the period from 1994 to 2018. With the help of E-Views 9.0 statistical software, the study used a time series research design using the Pearson coefficient of correlation and basic regression analysis. The findings revealed a favorable and statistically significant association between VAT and economic progress, as measured by GDP and total government revenue. Santiago and Atsuyoshi (2021) investigated the impacts of a revenue-neutral rise in the value-added tax (VAT) compensated by a decrease in income taxes in OECD nations. The study looked into whether how VAT is raised affects long-run growth. The findings indicate that a revenue-neutral increase in VAT increases growth when implemented through an increase in C-efficiency, reflecting a bigger VAT base with fewer exclusions and a more uniform rate structure. However, raising the basic VAT rate, which applies to the majority of taxed consumption, did not have the same effect on growth.

Rasaki et al. (2020) investigated the association between Value Added Tax and economic growth in Nigeria. The study used secondary data and a variety of tests, such as Augmented Dickey-Fuller for unit root and Bound test co-integration for determining the long-run relationship between the variables. The findings demonstrated that the value-added tax had a favorable and considerable impact on Nigeria's economic growth, both in the long run and in the short term.

Bogari (2020) sought to ascertain the economic and social consequences of the Kingdom of Saudi Arabia's introduction of a value-added tax. A sample of 287 Saudi nationals working in the private and public sectors was studied using a descriptive and analytical methodology. According to the findings, the installation of a value-added tax increased the country's financial resources.

Kaoje, Yabo, and Ahmad (2020) investigated the impact of tax revenue, including Value Added Tax (VAT), on aggregate and disaggregate economic growth in Nigeria over a forty-year period (1979-2018). The study employed a purposive sampling technique and utilized the ARDL model. The findings showed that VAT had a significant effect on gross domestic product, with a coefficient of 0.4675 at a 5% level of significance.

Seyed, Mohammad and Pouya (2020) posit that VAT ACT is one of the most important tax policies in Iran which has operated as temporary law for ten years. Important Issue regarding VAT is whether it affects GDP positively or otherwise. The question is better answered by identification of exogenous tax Shocks, using Romer and Romer (2010) narrative approach, VAT exogenous Shocks are identified. Then using vector autoregressive regression model and IRAN seasonal data (1387-1397) the effect of these shocks on GDP growth and growth of government expenditure is evaluated. Findings revealed that VAT shocks in the first period have a negative effect on economic growth and in subsequent periods this effect is not statistically significant.

Also, VAT shocks have no significant effect on the growth of government expenditure.

Ayoub and Mukherjee (2019) explore the influence of Value-Added Tax (VAT) on economic growth in China, using time series data from 1985 to 2016, using GDP as a dependent variable. The researcher used total population, employed people, consumer price index, and value-added tax as independent variables. In both the long and short run, the findings revealed a positive association between GDP and the independent variable value-added tax. (Mahadianto et al., 2019) investigate the impact of economic growth and inflation on the acceptability of the value added tax, using the population of all Taxable Employers registered in the Kuningan Tax Office and working in the Majalengka Regency. A total of 36 samples were used, and multiple linear regression analysis was used. The findings revealed that economic growth has an effect on value added tax collections, however inflation has no effect on value added tax acceptance. Richard (2017) concentrated on Value Added Tax (VAT) and Nigerian economic growth. It used a time series survey of data that spanned twenty years (1994-2013). Simple linear Ordinary Least Squares (OLS) regression was used as a statistical tool. The data was estimated using the software E-views 8.0. The study discovered that VAT is statistically significant, implying that VAT has a favorable link with Nigerian economic growth. Folajimi Festus et al. (2016) conducted an evaluation of the impact of Value Added Tax (VAT) on the Nigerian economy since its introduction, aiming to uncover the importance of its reform. The study utilized an ex-post-facto research approach with a descriptive and analytical framework. Data on VAT and GDP from 1994 to 2015 were analyzed to determine the relationship between them. The findings revealed a positive relationship between VAT and GDP, with the model coefficient indicating that a 1% increase in VAT would lead to a 0.88% increase in GDP. This indicates a strong positive correlation between VAT and GDP.

The study draws on the theory of optimal taxation, which originated from philosophers like John Stuart Mill in the 19th century (Odu, 2022). According to the theory, a tax system should be selected to maximize a social welfare function while considering certain limitations. Mankiw et al. (2009) argue that a good tax system should aim to create a utilitarian society that maximizes overall happiness for the majority of citizens. John Stuart Mill suggested that the tax burden should be distributed in a way that places equal pressure on all taxpayers, implying that the wealthy should contribute more in taxes than the poor.

Ramsey expanded the theory in 1927 by giving a rule for optimal commodities taxes. Instead of imposing uniform taxes to all items, he recommended that commodity tariffs be structured to reduce the production of each taxed commodity in the same amount. Ramsey further proposed that commodity taxes be levied in an inverse proportion to the elasticity of demand for the good among the representative consumer, implying that goods with inelastic demand should face greater taxes. Additionally, given the

large population of businesses operating in the informal sector to avoid direct forms of taxation, indirect taxes can serve as a useful tool for generating the necessary revenue for economic growth and development activities in the country.

II. METHOD

The study used a quantitative research method and an ex-post facto research methodology. The population of interest was the Nigerian economy, specifically the period from 2018 to 2021, which included two years before and two years after the Value Added Tax (VAT) raise (5%). This era was chosen due to the availability of data at the

time of the study in 2020-2021. Secondary data from published annual National Bureau of Statistics (NBS), Federal Inland Revenue Service (FIRS), and Central Bank of Nigeria (CBN) reports were collected for a four-year period (2018-2021), covering both the pre and post VAT rate hike periods.

Descriptive analysis was conducted on the collected data, providing measures such as the mean, maximum, minimum, regression, and paired sample T-Test. Additionally, tests for normality, including the Shapiro-Wilk and Kolmogorov-Smirnov tests, were performed to assess the hypothesis. The statistical software SPSS version 23 was utilized to facilitate these analyses.

Table 1 Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
gdp1	8	286,829,457,422,921.00	400,297,249,656,867.00	343,407,558,538,705.40	37,603,660,758,488.54
vat1	8	266,732,000,000.00	722,463,000,000.00	350,647,250,000.00	157,495,120,828.50
gdp 2	8	340,232,000,000,000.00	501,027,000,000,000.00	412,517,625,000,000.0	52,658,784,349,099.82
vat 2	8	324,579,000,000.00	729,229,000,000.00	494,175,250,000.00	121,029,084,917.34
Valid N (listwise)	8				

The descriptive statistics of the data set used for the investigation are shown in Table 1 above. The mean of GDP for 2018 and 2019 shows a value of N343,407,558,538,705.40 with standard deviation of N37,603,660,758,488.54 which indicates the extent to which environmental for distribution exhibits considerable clustering around the average, the minimum value is N 286,829,457,422,921.00 while the maximum is 400,297,249,656,867.00. The value added for 2018 to 2019 has a mean of 350,647,250,000.00 with a standard deviation

of N157,495,120,828.50. For 2020 and 2021 the mean for Gross Domestic Product is N412,517,625,000,000.0 and standard deviation of N52,658,784,349,099.82 while the minimum value is 340,232,000,000,000.00 and maximum value of N501,027,000,000,000.00. The value added tax for 2020 and 2021 shows meanof 494,175,250,000.00 with standard deviation of 121,029,084,917.34, the minimum value is 324,579,000,000.00 and maximum value of 729,229,000,000.00.

Table 2 Normality Test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
loggdp1	.117	8	.200*	.985	8	.984
logvat1	.363	8	.003	.673	8	.001
log Gross domestic Product 2	.160	8	.200*	.974	8	.928
Log Value Added 2	.175	8	.200*	.975	8	.931

*. This is a lower bound of the true significance.

➤ Lilliefors Significance Correction

The test for the normality of the variables is shown in table 2 above using Shapiro-wilk and Kolmogorov-Simirmov , Gross Domestic Product 1 and 2 (dependent variable), the independent variables (value added 1 and 2)

has p value of 0.984, 0.001, 0.928 and 0.931 respectively which shows that 75 percent is not significant at 5%, hence accept our null hypothesis that variables are normally distributed. Therefore, Pearson correlation matrix will be appropriate for the correlation matrix.

Table 3 Correlation Matrix

		gdp1	vat1	Gross domestic Product 2	value Added tax 2
gdp1	Pearson Correlation	1	.464	.920**	.465
	Sig. (2-tailed)		.246	.001	.246
	N	8	8	8	8
vat1	Pearson Correlation	.464	1	.342	.038
	Sig. (2-tailed)	.246		.407	.930
	N	8	8	8	8

gdp 2	Pearson Correlation	.920**	.342	1	.360
	Sig. (2-tailed)	.001	.407		.381
	N	8	8	8	8
vat 2	Pearson Correlation	.465	.038	.360	1
	Sig. (2-tailed)	.246	.930	.381	
	N	8	8	8	8

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficients of the variables are studied in table 3 above. However, we are paying special attention to the correlation between Gross Domestic Product and Value Added Tax. As observed, GDP I and 2 are positively correlated with VAT 1 and 2 (0.64 and 0.360 respectively). The inter-correlation between explanatory variables do not seem to indicate the presence of multicollinearity threat.

Table 4 Regression Result

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.480 ^a	.230	.102	.04535	.981
a. Predictors: (Constant), logvat1					
b. Dependent Variable: loggdp1					

According to Table 4, the derived R value is 0.480, indicating that the independent variable (VAT) is predictive. Furthermore, the coefficient of determination, written as R², reflects the proportion of the dependent variable (GDP) that can be explained by the independent variable (VAT). In this instance, the value of R² is 0.230, implying that approximately 23% of the dependent variable can be accounted for by the independent variable. Moreover, the Dubin-Watson statistic value of 0.981 is consistent with the result of the Pearson correlation analysis, as it is below the threshold of 2.

Table 5 ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.	
1	Regression	.004	1	.004	1.796	.229 ^b
	Residual	.012	6	.002		
	Total	.016	7			
a. Dependent Variable: loggdp1						
b. Predictors: (Constant), logvat1						

The Anova table provided above examines the goodness of fit of the overall regression model. Based on the table, the p-value is 0.22, indicating that the independent variables have statistically significant predictive power on the dependent variable. The p-value, however, indicates that the regression model is not a good fit for the data.

Table 6 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	12.779	1.309		9.760	.000
	logvat1	.152	.114	.480	1.340	.229
a. Dependent Variable: loggdp1						

According to the data in table 6, a 5% value added tax (VAT) has a positive but minor influence on gross domestic product (GDP). The p-value of 0.229 is greater than the criterion of significance of 0.05, and the coefficient is 0.152. This indicates that the VAT rate of 5% has the potential to enhance GDP by approximately 15%. Consequently, based on these findings, the null hypothesis stating that value added tax does not significantly affect Nigeria's economic growth can be accepted, while the alternative hypothesis suggesting that value added tax has a significant impact on Nigeria's economic growth is rejected.

Table 7 Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.448 ^a	.201	.067	.05322	1.219
a. Predictors: (Constant), Log Value Addedd 2					
b. Dependent Variable: log Gross domestic Product 2					

From the table above, The R value is 0.448 which indicate the level of prediction of the independent variables (value added tax). Also, the R² which is the coefficient of determination, that is the proportion of dependent variable (Gross domestic product) that can be explain by the independent variables (value added tax). The value of the R² is 0.201 that is the independent variables

can explain approximately 20% of the dependent variable. Also, the value of Dubin- Watson (1,219) agreed with Pearson correlation result because it is less than 2

Table 8 ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.004	1	.004	1.506	.266 ^b
	Residual	.017	6	.003		
	Total	.021	7			
a. Dependent Variable: log Gross domestic Product 2						
b. Predictors: (Constant), Log Value Added 2						

From the Anova table above which shows whether the overall regression model is of good fit or not. From the table the value of p is 0.266 which shows that the independent variables are statically significantly prediction on the dependent variable. This shows that the regression model is not of good fit of the data.

Table 9 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.859	2.244		5.286	.002
	Log Value Added 2	.236	.192	.448	1.227	.266
a. Dependent Variable: log Gross domestic Product 2						

From the table 9, it can be seen that value added tax @ 7.5% have a positive and insignificant effect on gross domestic product, the p value (0.266) is greater than 0.05 with a coefficient of 0.236. This shows that value added tax @ 7.5% can improve the gross domestic product with about 24%. Based on this result we can accept our null hypothesis that says value added tax does not have any significant effect on Nigeria economic growth and reject our alternative hypothesis that value added tax have a significant effect on Nigeria economic growth.

Table 10 Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	logvat1 - Log Value Added 2	-.16517	.17398	.06151	-.31062	-.01972	-2.685	7	.031

The pair sample T-test above shows a significant p value of 0.031, which is less than the 5% significant value and t-stat of -2.685, causing us to reject our null hypothesis that there is no significant difference between the mean of value added tax at 5% and the mean of value added at 7.5% and accept the alternative hypothesis that there is a difference.

III. DISCUSSION OF FINDINGS

According to the findings, a 5% value-added tax (VAT) has a positive but small effect on GDP. The p-value of 0.229 is greater than the significance level of 0.05, with a coefficient of 0.152. This suggests that VAT at 5% can potentially improve GDP by approximately 15%. Based on these findings, we accept the null hypothesis, which states that value-added tax does not have a significant effect on Nigeria's economic growth, and reject the alternative hypothesis, which suggests a significant effect. This result aligns with the expectations and findings of previous studies by Jewel (2022), Belay (2022), and Olarotimi & Alor (2021). However, it contradicts the study by Kolahi & Noor (2015), which discovered a negative link between VAT and economic growth. Similarly, the findings demonstrate that a 7.5% value-added tax has a positive but insignificant effect on GDP. The p-value of 0.266 is greater than 0.05, with a coefficient of 0.236. This implies that VAT at 7.5% can potentially improve GDP by around 24%. Based on these

findings, we accept the null hypothesis and reject the alternative hypothesis, indicating that value-added tax does not have a significant effect on Nigeria's economic growth. This finding aligns with the study by Folajimi Festus et al. (2016), which recommends a comprehensive reform in VAT rates and a clear explanation of what products and services are excluded. Furthermore, the paired sample T-test reveals a significant p-value of 0.031, which is below the significance level of 5%. The t-statistic is -2.685. Consequently, we reject the null hypothesis that there is no significant difference between the mean of value-added tax at 5% and the mean of value-added tax at 7.5% and accept the alternative hypothesis that there is a difference between the means of the two tax rates. This result is consistent with the study by Acosta et al., (2019), which suggests that increasing C-efficiency through fewer exemptions and a more uniform rate structure with fewer lowered rates stimulates growth more efficiently than raising the standard rate.

IV. CONCLUSIONS AND ACKNOWLEDGMENT

The study concludes that even though, and as recorded by several studies, VAT by design and efficient implementation should have a positive and favorable impact on economic growth, it's evident from this study that a positive relationship was established at both 5% and 7.5% rates but not significant due to weak administrative capacity, leakages and corruption, so it's not enough for government to hike the rate but to check the cankerworm consuming the VAT proceeds.

The paper also concludes that increasing the rate from 5% to 7.5% is beneficial to the nation with the resultant improvement on the Economic Growth at the rate of 7.5% compare with 5%, government ought to implement policies and measures for citizenry to get extra benefits and services for this extra cost by the citizenry.

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