EXAMINING THE EFFECTIVENESS OF VALUE ADDED TAX ON ECONOMIC GROWTH IN NIGERIA

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Abstract

The study investigated the impact of value added tax on economic growth in Nigeria from 1994 to 2021. The data used was sourced from Central Bank of Nigeria. Ex-post facto research design was adopted in the investigation. Multiple regression analysis was employed, in which Auto-Regressive Distributed Lag (ARDL) model as the method of analysis was utilized in the research. The ARDL model evaluates long-run and short-run interactions among the specified variables. The unit root tests conducted using Augmented Dickey-Fuller (ADF) revealed that the time series variables used were stationary at level and the first difference, but none of the variables was stationary at the second difference. The ARDL – Bound test analysis revealed the existence of long-run equilibrium relationship between value added tax and economic growth in Nigeria within the period of the study. The coefficient of error correction mechanism was statistically significant and also negatively signed. The results equally found that value added tax is statistically significant and positively impacted on economic growth in Nigeria in the short-run. However, in the long-run, value added tax, though positively related to economic growth, but it is statistically insignificant. Again, both inflation rate and interest rate were negatively related to economic growth and statistically insignificant in Nigeria in the long-run. However, inflation rate impacted positively and significantly in the short-run in Nigeria. On the basis of the findings, the researcher made the following recommendations among others: Government should ensure the utilization of these taxes on productive ventures, which will stimulate the growth rate of the economy. Again, Nigeria government should ensure conducive environment for industrialization, which is the engine of the economy to thrive, so as to generate more money from tax.

Keywords: Value Added Tax, Economic Growth, Auto-Regressive Distributed Lag (ARDL)*, Nigeria*

Introduction

For decades of years now, the nation's economic, social and political development has been largely depended on the amount of revenue generated for the provision of infrastructures in the economy. The means by which this amount of revenue is generated is through a well-structured tax system. That is, requirement for survival; to meet required fund for development and economic growth mandates nations of the world to increase drive through taxation and other means (Moore, 2007).

Generally, tax could be direct (Taxes levied on factors of production), or indirect (Taxes levied on goods and services); but in this research work, our major focus is on the indirect tax with special attention on the value added tax (VAT). This is because, at the inception of independence, Nigeria depended on direct taxes such as companies' income tax, petroleum profit tax and personal income tax as the major source of government revenue. However, realizing that it is not the best option for growth due to limited companies and tax avoidance, Nigeria tax system was geared towards indirect tax with major emphasis on Value Added Tax (VAT) which started in 1st December, 1993 (Abimbola, Bola, Timothy & Abolade, 2021; National Tax Policy, 2017).

One of the precedence for the introduction of Value Added Tax (VAT) in Nigeria was based on the fact that it is capable of generating substantial revenue, since evasion is difficult and the base is wide (Omesi & Nzor, 2015). Another reason for suggesting VAT is the belief that- it is a weapon that is capable of reducing the wealth-poverty gap. By this, we mean that taxation is one among the lubricants that oils the wheel of government activities. Thus, the introduction of Value Added Tax (VAT) and its effect in Nigeria represents an inward search for an alternative financing strategy by the government due to the increasing cost of governance, drastic drop of oil prices, inflation and economic recession.

Value added tax (VAT) is also known as goods and services tax (GST). This value added tax is a consumption tax levied at each stage of the consumption chain and borne by the final consumer of the product or services. Each person is required to charge and collect VAT at a flat rate of 5% on all invoice amounts. VAT is seen as the most productive indirect tax in Nigeria because of its contribution to the national treasury, as it increased from N7.26 million in 1994 to N802.98 million in 2014. Consequently, total VAT collected increased fromN828.20 million which was a 6% increase from 2015 to N972.35 million which was a 17% increase from 2016 to 2017 (Cecchetti, Stephen, Schoenholtz & Kim 2017). In the same vein, in 2018 VAT revenue increased by 14% from its previous year's collection of N972.35million to N1,108.14 million. In 2019, the total VAT collected was N1188.58 million which is about7% increase from the amount collected in 2018. Value-added tax (VAT) is a type of consumption tax that is placed on a product whenever value is added at a stage of production and the point of retail sale (Cecchetti, Stephen, Schoenholtz & Kim 2017). The amount of VAT that the user pays is on the cost of the product, less any of the costs of materials used in the product that has already been taxed. Hence, tax on both service and manufacturing sectors have contributed immensely to the growth rate Nigerian economy through its revenue realization. For instance, in 1994, VAT on service and manufacturing sectors stood at 7.3% and 20.93% respectively. In 2000, tax on service sector increased to 9.44% while that of manufacturing decreased to 13.93%. Again, in 2010, VAT on service and manufacturing sectors were 18.31% and 6.55% respectively to the point that they stood at 25.26% and 14.61%respectively in 2020 (CBN, 2020). This shows that in Nigeria, VAT is a major source of revenue. Hence, the dynamic operating mechanism of VAT is very easy because the yield from VAT is an accurate measurement of the growth of an economy since purchasing power increases with economic growth (Cecchetti, Stephen, Schoenholtz & Kim 2017).

Considering Keynesian theory of fiscal policy which maintains that economic growth is a reflective of fiscal variables, it is discovered using trend analysis that these variables did not toe in the pattern of direction with the theory in Nigeria. For instance, between 1996 to 1999, VAT as a percentage of total tax increased from 3.1% to 4.7%; while GDP even decreased from 4.1959% to 0.5841% respective in those years. Again, from 2000 to 2005, VAT as a percentage of total tax increased from 5.7% to 17.8%. Within these periods, even though that GDP increased but its increment was not proportionate to that of VAT as it only rose from 5.0159% in 2000 to 6.4385% in 2005. Again, VAT as a percentage of total tax increased from 5.6% in 2010 to 6.3% in 2015, GDP decreased from 8.0057% to 2.6527% respectively. However, from 2016 to 2020, VAT as a percentage of total tax increased from 8.1% to 21.1%; Conversely, GDP decreased from 2.6527% to -1.7943% respectively (CBN, 2020).

The above trending shows that VAT and GDP are not in proportionate with the direction of the theory. This is as a result that they move in opposite direction; and even when they move in the same direction, they did not possess equal proportionate change. Hence, the economic implication of these deviations is the periodic increase in the country's unemployment and inflation rates as well as the external sector disequilibria. These factors are conjectured to mitigate against the growth of an economy. Hence, the need to examine the impact of value-added tax on economic growth in Nigeria is deeply felt.

Literature Review

Tax: Taxes are involuntary fees levied on individuals or corporations and enforced by a government entity whether local, regional or national in order to finance government activities. That is, tax is a compulsory payment by individuals and organizations to the relevant tax authorities at Federal, State, or Local Government levels (Atuma, David, Nwibo, Nkwagu, Udenta, Njim & Uwaeke, 2024). From the above definition, it can be deduced that tax is a compulsory but non punitive levy by the government through its agent on the profits, income, or consumption of its subjects or citizens. It is also viewed as a compulsory and obligatory contribution made by individuals and organization towards defraying the expenditure of government (Ehinomen & Adeleke, 2012). Okafor, (2012) is of the opinion that tax is a charge levied by the government on the income or wealth of a person or corporate organization for the common benefit of all.

Value Added Tax (VAT)

Value Added Tax is an indirect taxation imposed on goods and services. The final consumer of purchased goods or rendered services pays the VAT charges (Atuma, David, Nwibo, Nkwagu, Udenta, Njim & Uwaeke, 2024). Value Added Tax is usually a 7.5% rate and it is paid to the business owner or service provider who sums it up and pays to the FIRS. In other words, value-added tax is a Consumption tax. Value-added tax in its simplest form is a tax chargeable on the supply of goods and services and only indirectly on the people who consume such goods and services. This VAT is seen as a replacement of the Sales tax, which was earlier promulgated into existence through decree No.7 of 1986. The rationale behind replacing Sales tax with VAT was informed by the need to increase the tax base of consumption tax (Ogunbesan, 2015). Hence, VAT is a consumption tax levied at each stage of the consumption chain borne by the final consumer of the product or services. Each person is required to charge and collect VAT at a flat rate of 5% on all invoice amounts, on all goods and services not exempted from paying VAT.

Overview of VAT and its Administration in Nigeria

VAT was introduced in Nigeria in 1993 by the VAT Act No. 102 of 1993 as a replacement for the sales tax that was in operation in the Federal Capital Territory. It was the outcome of Ugo (1991) study group on indirect taxation. It was designed as a consumption tax payable on goods and services consumed by individuals, government agencies, or business organizations. Nigeria operates a VAT rate that does not synchronize with the Economic Community of West African States (ECOWAS) Protocol (Olaoye, 2014). ECOWAS adopted a uniform VAT protocol due to the constant movement of people and goods across the countries in the region, and the need to be subject to similar conditions. Under Nigeria's influence, the ECOWAS advisory rate has been reduced to 10 percent, while Nigeria, despite being a signatory of the protocol, currently operates the lowest VAT rate across the sub-region, at 5 percent (Olaoye, 2014).

Theoretical Frame Work

Theory of Optimal Taxation

The theory of optimal taxation was believed to have begun with moral philosophers such as John Stuart Mill in the 19th century. The theory posited that a tax system should be chosen to maximize a social welfare function subject to a set of constraints. The notion behind this theory is that a good tax system

should be able to promote a utilitarian society in meeting the greatest sum of happiness for the greater number of citizens as a criterion for taxation (Mankiw & Weinzierl, 2009). John Stuart Mill stated that the sacrifices required by taxation should put equal pressure as possible upon all taxpayers. This rule suggested that the tax burden should be distributed in such a way that the rich pay higher sums in taxes than the poor. Ramsey (1927) broadened the theory of optimal taxation by introducing a rule for optimal commodity taxes. He pointed out that instead of uniform taxes on all goods, taxes on commodities should be designed in such a way that introducing them reduces the production of each taxed commodity in the same proportion. He further noted that a social planner who wants to raise a certain amount of tax revenue through taxes on commodities should impose such taxes in an inverse proportion to the representative consumer's elasticity of demand for the good so that commodities which experience inelastic demand are taxed more heavily.

Keynesian Taxation Theory

The initiator of the Keynesian taxation theory was Keynes (1936) who exposed its main principles in his book "The General Theory of Employment, Interest and Money," in which he advocated state interventions in the processes of market economy regulation. Keynes argued that high-level progressive taxation is necessary and that low tax rates lead to reduced state revenues and as a result contributes to economic instability. That is, according to Keynes, taxes must play the most important role in the system of state regulation. High taxes stimulate economic activity, influence the stability of the economy and in the context of the economic system act as integrated flexibility mechanisms (Atuma, David, Nwibo, Nkwagu, Udenta, Njim & Uwaeke, 2024).

Empirical Literature

The issue of value added tax and economic growth has attracted wide range of empirical studies, both foreign and domestic. The followings are some of the reviewed studies.

Orisadare and Fasoye (2022) examined the effect of VAT on economic growth in Nigeria between 1994 and 2020 using consumer price index (CPI) as a threshold. A technique of Threshold Vector Autoregressive (TVAR) was employed and the results revealed that a VAT above the 10 percent threshold value endangers the economy while a VAT below the 7.59 percent threshold value does not harm the economy; rather, it improved people's well-being.

Odu (2022) investigated the effect of Value-added Tax (VAT) on revenue generation and economic growth in Nigeria from 1994 to 2018 as well as the trend of VAT in the period under review. Time-series data were employed in the study to run the regression for VAT on total tax revenue and GDP. The vector error correction and autoregression models were used in the regression. The study also showed that VAT had a significant and negative effect on GDP with a one-year lag. The trend in VAT had a positive coefficient, indicating that VAT increases with time.

Monica and Kazeem (2022) examined the effect of VAT on economic growth in Nigeria between 1994 and 2020 using consumer price index (CPI) as a threshold. A technique of Threshold Vector Autoregression (TVAR) was employed and the results revealed that a VAT above the 10 percent threshold value endangered the economy while a VAT below the 7.59 percent threshold value did not harm the economy; rather, it improved people's well-being. It was therefore recommended that Nigerian economy should maintain the lower VAT threshold to cushion the effect of ever rising CPI on the citizens.

Egolum and Celestine (2021) ascertained the effect of value added tax on economic development in Nigeria from 1994-2018. Pearson coefficient of correlation and simple regression analysis were applied for the test of the hypotheses formulated with aid of E-Views 9.0 statistical software. Findings showed that Value Added Tax had a positive and statistically significant relationship with economic development (proxied by Gross Domestic Product and Total Government Revenue) at 5% significant level.

Kareem, Arije and Avovome (2020) investigated the relationship between Value Added Tax (VAT) and Economic Growth in Nigeria. Autoregressive Distributive Lag (ARDL) was used on Value Added Tax (VAT) and Real Gross Domestic Product (GDP) of Nigeria over the period 1994 to 2017. The result revealed that value-added tax positively and significantly impacted on economic growth of Nigeria both in the long-run and short-run. The causality test also indicated that there was a causal relationship between Value Added Tax and economic growth in Nigeria during the period under study.

Methodology

Unit root test and Autoregressive Distributed Lag (ARDL) model were employed as the method of analysis. The test of unit root was used in the research to determine the order of integration of the variables of the study; while the ARDL technique was adopted for the examination of the magnitude or elasticity of the coefficients of the independent variables in relation to the dependent variable. In capturing the study, these variables were used as proxy:

$$GDP = f(VAT, INF, INT) \quad 1$$

In a functional form, we have;

$$GDP_t = b_0 + b_1 VAT_t + b_2 INF_t + b3 INT_t + \varepsilon_t \quad 2$$

Where GDP = Gross Domestic Product (dependent variable); F = Functional Notation; VAT = Value Added Tax; INF = Inflation Rate; INT = Interest Rate; b_o = Constant Term of the Regression Equation; b_1 = Regression Coefficient of VAT; b_2 = Regression Coefficient of INF; b_3 = Regression Coefficient of INT; U_t = Random Variable/Stochastic Variable; t = Indicates that it is a time series analysis.

Table 1: Results of Augmented Dickey-Fuller Unit Root Test

	Level			**First Difference**			Remark
Variables	t-Statistics	5% critical value	p-value	t-statistics	5%-critical value	p-value	
LGDP	-1.855675	-2.976263	0.3470	-5.935965	-2.981038	0.0000	I(1)
LVAT	-0.276427	-2.976263	0.9162	-5.572702	-2.981038	0.0001	I(1)
INF	-3.408646	-2.976263	0.0196	----------	----------	---------	I(0)
INT	-2.507584	-2.976263	0.1248	-4.809714	-2.981038	0.0007	I(1)

Sources: **Researcher's computation from E-view 9**

The Augmented Dickey-Fuller (ADF) unit root test presented in table 1, revealed that the gross domestic product, value added tax and interest rate, respectively were stationary at first difference; whereas the inflation rate was stationary at level. This unit root test result therefore revealed the existence of mixed order of integration among the variables of the study. The mixed order of integration from the unit root test results implied the possibility of long-run relationship among the variables of the study, though further investigations using ARDL – Bound test result would reveal if actually long run relationship exists among the variables of the study.

Table 2: ARDL Bounds Test R esult.

Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	5.332233	3
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Source: Researcher's Compilation from Eview 9

The results of the ARDL bounds test presented in Table 3 above shows that a long-run relationship exists between value added tax and economic growth in Nigeria within the period of the study. The result also disclosed that the computed *F*-statistic (5.3) exceeds the upper critical value at 5% level of significance (4.35), which implies that value added tax and economic growth in Nigeria are co integrated in the long run at 5% level of significance.

Table 3: ARDL Short Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LVAT)	0.093788	0.033299	-2.816566	0.0255
D(INF)	0.000617	0.008930	0.069134	0.9457
D(INF(-1)	0.007230	0.003059	2.363523	0.0303
D(INT)	-0.034360	0.009711	-3.538124	0.0025
CointEq(-1)	-0.124469	0.060839	-2.045877	0.0103

R-squared = 0.983027; Prob(F-statistic) = 0.000000 Durbin-Watson = 2.541855
Sources: **Researcher's computation from E-view 9**

Table 3 above illustrates the short-run coefficients test results of the ARDL model. The results revealed that the changes in economic growth with respect to value added tax was statistically significant and as well impacted positively on the economic growth in the short run. Hence, it was discovered that 1N increase in value added tax causes economic growth to increase by N0.093788 in short run.

Again, the change in economic growth with respect to inflation rate at level, was statistically insignificant and also impacted positively on economic growth in Nigeria. However, at lag one, the change in economic growth with respect to inflation rate, was statistically significant and also impacted positively on economic growth in Nigeria. The short run effect of inflation rate shows that one percent increase in inflation rate in Nigeria causes economic growth to increase by 0.007230 % in the short run.

Lastly, the change in economic growth with respect to interest rate was statistically significant and also impacted negatively on economic growth in Nigeria. The short run effect of interest rate shows that one percent increase in interest rate in Nigeria causes economic growth to decrease by 0.034360% in the short run.

Evidence of these claims is supported by the p-values and the coefficients of the variables estimated in the regression equation. From the estimation results, the coefficients of LVAT, INF, INF(-1) and INT are 0.093788, 0.000617, 0.007230 and -0.034360 respectively; whereas their associated p-values are 0.0255, 0.9457, 0.0303 and 0.0025 respectively.

The results in table 3 equally indicated that the coefficient of the Error Correction Term is negative and also statistically significant. The correct sign of the coefficient of the error term support the evidence of a stable long-run relationship among the variables of the study. The coefficient of error correction term revealed that a deviation from the long run equilibrium level of output in one year is corrected by 12% over the next year.

The above result shows that the $R^2$is 0.983027; which implies that the model explains about 98.3027% of the total variations in gross domestic product (GDP) are explained by the independent variables (VAT, inflation rate and interest rate) during the period of the study. While the remaining 1.6973% variations are as a result of other explanatory variables that are not captured in the model. The Prob (F-statistic) being 0.000000, implies that the joint influence of the explanatory variables is statistically significant as it is less that 0.05 at 5% level of significance. Again, Durbin Watson being 2.541855 which is approximately 2, shows the absence of serial auto correlation in the model.

Table 4: Long Run Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LVAT	0.281983	0.187190	1.506399	0.1503
INF	-0.003957	0.114845	-0.034453	0.9729
INT	-0.181832	0.166845	-1.089822	0.2910
C	11.069384	4.997733	2.214881	0.0407

Sources: **Researcher's computation from E-view 9**

The above table 4 reveals the long-run coefficients test results of the ARDL model for which the variables under consideration were estimated. From the results, it was disclosed that value added tax is statistically insignificant but impacted positively on economic growth in Nigeria in the long run. Therefore, the result shows that N1 increase in VAT in Nigeria brought N0.281983 increase in economic growth in Nigeria. This finding revealed that there is a positive relationship existing between value added tax and economic growth in Nigeria; that is an increase in VAT leads to increase in the level of economic growth in Nigeria.

Moreover, the long run effect of inflation rate shows that inflation rate impacted negatively and insignificantly on economic growth in Nigeria under the periods of the study. The result also revealed that one percent increase in inflation rate leads to 0.003957% decrease in economic growth in Nigeria. Thus, negative relationship existing between inflation rate and economic growth shows that there is an indirect relationship running from inflation rate to economic growth; in the sense that increase in inflation rate will drastically leads to decrease in economic growth in the country and vice versa.

Lastly, the long run effect of interest rate shows that interest rate impacted negatively and insignificantly on economic growth in Nigeria under the periods of the study. The result also revealed that one percent increase in interest rate leads to 0.181832% decrease in economic growth in Nigeria. Thus, negative relationship existing between interest rate and economic growth shows that there is an inverse relationship running from interest rate to economic growth; in the sense that increase in interest rate will leads to decrease in economic growth in the country and vice versa.

In the same vein, these claims are supported by the p-values and coefficients of the variables estimated from the ARDL long-run coefficients test. From the results, the coefficients of LVAT, INF and INT are 0.281983, -0.003957 and -0.181832 respectively and their p-values include 0.1503, 0.9729 and 0.2910 respectively.

Conclusion

This study examined the impact of value added tax on economic growth in Nigeria for the periods of 1994 to 2020. A model was specified and estimated using value added tax, inflation rate and interest rate as the explanatory variables in order to predict their impacts on the economic growth in Nigeria under the periods of the study. The study employed ARDL model for the estimation and the results indicated that value added tax and inflation rate were statistically significant and impacted positively on the economic growth in Nigeria whereas interest rate was statistically significant and impacted negatively on the economic growth in Nigeria under the periods of the study. However, in the long run, value added tax was statistically insignificance and impacted positively on the economic growth in Nigeria, whereas inflation rate and interest rate impacted negatively and as well, significant to the study of economic growth in Nigeria under the periods of the study.

Recommendations

Based on the findings of the study, the researcher hereby recommends as follows:

1. Since an increase in value added tax is significant and as well, brought an increase in economic growth in Nigeria during the period of the study in short run, the Nigeria government should ensure conducive environment for industrialization, which is the engine of the economy to thrive, so as to generate more money from tax. This is to stimulate investors towards the establishment of more manufacturing outputs

which invariably, encourages economic growth.

2. Also, since an increase in value added tax is insignificant but as well, brought an increase in economic growth in Nigeria during the period of the study in the long run, the Nigeria government should as a matter of urgency ensure the utilization of these taxes on productive ventures, which will stimulate the growth rate of the economy.

3. The linkage between value added tax and GDP should be strengthened through enhancing productivity in the economy by ensure the utilization of these taxes on productive ventures, which will stimulate the growth rate of the economy.

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