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The Roles of Value Added Tax in the Economic Growth of Nigeria

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Authors' contributions

This whole work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Value Added Tax (VAT) was introduced by the Federal Government of Nigeria in 1993 to replace Sales Tax. The aim was to increase the revenue base of government and make funds available for developmental purposes that will accelerate economic growth. The paper empirically examined the contribution of VAT to the development of the Nigerian economy. Time series data on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total (Federal Government) Revenue from 1994 to 2010 sourced from Central Bank of Nigeria (CBN) were analyzed, using both simple regression analysis and descriptive statistical method. Findings showed that VAT Revenue accounts and total revenue account for as much as 92% significant variations in GDP in Nigeria. A positive and insignificant correlation exists between VAT Revenue and GDP. Both economic

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variables fluctuated greatly over the period though VAT Revenue was more stable. This paper therefore recommends that all identified administrative loopholes should be plugged for VAT Revenue to continue to contribute more significantly to economic growth of the country.

Keywords: Value added tax; GDP; sales tax; total tax revenue; economic growth.

1. INTRODUCTION

Value Added Tax (VAT) has become a main source of revenue in many developing countries. Some African countries such as Benin Republic, Cote d'Ivoire, Guinea, Kenya, Madagascar, Mauritius, Niger Republic, Senegal, Togo and Nigeria have introduced VAT. Evidence suggests that in these countries, VAT has become an important contributor to total government tax revenues [1]. [2] found out that in 1982 VAT accounted for about 30% of total tax revenues in Cote d'Ivoire, Kenya and Senegal. The oil producing countries are not excluded from the list of countries introducing this tax. [3] showed that VAT has been in effect in Ecuador and Mexico since at least 1973 and by 1983 accounted for 12.35% and 19.71% of total government revenues in these counties respectively. Indonesia introduced VAT in 1983 and by 1988; the ratio of VAT revenue to GDP had risen to 4.5% [4]. This remarkable feat of VAT in almost all countries where it has been introduced, according to [1], clearly influenced the decision to introduce VAT in Nigeria in January 1994. VAT is a consumption tax that is relatively easy to administer and difficult to evade and it has been embraced by many countries world-wide [5]. Evidence so far supports the view that VAT revenue is already a major source of revenue in Nigeria. For example, actual VAT revenue for 1994 was N8.189 billion, which is 36.5% higher than the projected N6 billion for the year. Similarly, actual VAT revenue for 1995 was N21 billion compared with the projected N12 billion.

In terms of contributions to total federally collected revenue, VAT accounted for about 4.06 % in 1994 and 5.93% in 1995. As much as N404.5 billion was collected on VAT (5.1% of total revenue) in 2008. While the contribution of VAT as a source of revenue in Nigeria is encouraging, there is the need to systematically assess its impact on the economy. Recent research works (see [6] on the impact of taxation on the Nigerian economy lumped up all the various taxes together without isolating VAT. How and in what direction has VAT been affecting the Nigerian economy, proxy by Gross Domestic Product (GDP)? Is there any causality between the two economic variables? Finding answers to these and other similar questions is the main trust of this paper. The rest of the paper is divided into four sections. Section two is on conceptual framework and review of related literature. Section three is on data and research methodology. Section four is on findings and discussions while Section five summarizes and concludes the paper.

2. LITERATURE REVIEW

Simply called the Goods and Services Tax (GST), it is levied on the value added that results from each exchange. It is an indirect tax collected from someone other than the person who actually bears the cost of the tax [7]. It was invented by a French Economist, Maurice Laure, who was then the joint director of French tax authorities, in 1954 and was first introduced in France on April 10, 1954. [8] were the first set of researchers on the international trade effects of Value Added Taxation. Their research was based on the widespread belief that

VAT, because it is levied on imports and rebated on exports, acts as a combination of protection and export subsidy, giving the traded goods sectors of countries with VAT an advantage over the corresponding sectors of countries that rely on income taxation. The research used a simple model to show that this view is almost completely wrong. A VAT is not a protectionist measure; indeed, the allegedly pro competitive device of export rebates is necessary if the VAT is not to act as an export tax, which in turn is actually a protectionist measure that would reduce both imports and exports. It was also established that in practice, VAT would almost surely fall more heavily on traded rather than non traded goods, which would constitute a bias against both exports and imports.

Different scholars had used different explanatory variables to attempt some empirical measurements of tax efforts in various countries. Such variables included agricultural output-GDP ratio, per capital income, mineral exports-GDP ratio, the degree of openness of the economy, money-GDP ratio, etc. Using mining-GDP, agricultural output-GDP ratio, and export – GDP ratio as determinants of tax share in GDP to measure tax efforts, [9] showed that the agriculture share is negative while the mining share is positively related to tax share, and the export ratio is not significant. Using panel data on 43 Sub-African Countries for the period 1990-1995 to measure the determinants of tax-GDP ratio to construct an index of tax effort for these countries, [10] found that the countries with a relatively high tax- GDP ratio tended to have a relatively high index of tax effort, although the results varied across countries. [11] later updated the work of [9] using the same sample of developing countries for the period 1972-1976. However, they did not find the agric-GDP ratio to be significant but their measure of tax effort indices yielded similar results to the initial study.

[12] worked on the effects of imposing a value added tax to replace payroll taxes or corporate taxes (in the US). The research work was conducted against the background that the United States is the only country in the developed world that does not impose a broad-based consumption tax. The typical form of broad-based consumption tax used worldwide is a credit-invoice Value Added Tax (VAT). The credit-invoice VAT, a subtraction –method VAT or Business Transfer Tax (BTT), and a Retail Sales Tax (RST) are all intended to tax the final consumption once at the retail level, but the collection mechanisms differ among the three taxes. The researchers found out that VAT has administrative advantages over both BTT and RST. Both VAT and BTT are easier to enforce than RST because under a tax collected at different stages of production, evasion by the final seller still leaves much of the tax in place. Compared with BTT, VAT makes it easier to exempt sales of categories of consumption goods, including export sales, but more difficult to grant preferences to selected industries. The distributional burden of VAT, it was found, is roughly proportional at the bottom of income distribution but regressive at the top.

VAT was introduced by The Federal Government of Nigeria in January, 1993. It was believed by many Nigerians that the tax was introduced as a means of avoiding taking loans from international agencies [7]. According to analysts, the tax was intended to be a 'super tax' to eradicate completely many other taxes related on goods and services.

VAT was then imposed on virtually all goods and services, whether produced or rendered in Nigeria or not. Exemptions however were granted in respect of medical and pharmaceutical products, basic food items, fertilizers, agricultural and centenary medicine, books and educational items, farming and transport equipment, etc. VAT effectively replaced the former sales tax, which, under the constitution, was supposed to be charged by states and not the Federal Government. Although very few literature exists on the subject of VAT in less developing countries, extensive studies have nevertheless been done on the alternation

prominence of Indirect Tax in developing countries in general and Nigeria in particular. The core function of taxation as a revenue generating tool in developing countries has been studied by eminent scholars. [13] argued that the positive result received from any tax depends on the extent of how it is properly managed. The extent of how the tax law is interpreted and implemented as well as the publicity brought into it will determine how a particular tax is able to meet its objectives. [14] in his study on productivity of the Nigerian tax system reported a satisfactory level of productivity of the tax system before the oil boom. The report underscored the urgent need for the improvement of the tax information system to enhance the evaluation of the performance of the tax system and facilitate adequate macroeconomic planning and implementation. [1] worked on the impact of VAT on key sectoral and macroeconomic aggregates, using a Computable General Equilibrium (CGE) model considered suitable for Nigeria. The study developed three scenarios. In order to approximate the presumed Nigerian situation, the study assumed that government pursued an active fiscal policy involving the re-injection of the VAT via increases in government final consumption expenditure in combination with a presumed non-cascading treatment of the VAT. Two other simulations considered an active fiscal policy combined with a cascading treatment of VAT and a passive fiscal policy combined with a non-cascading treatment. As it turned out, the scenario of a cascading treatment of VAT with an active fiscal policy not only had the most deleterious effects on the economy, it was also the one that most closely approximated the situation in Nigeria. VAT revenues under this scenario are more than 3% lower than the first scenario, the general price index increases by 12%, and wage and profit incomes fall by 8.54% and 12.27% respectively. Overall, the GDP declines by 11.34%. Such a situation, as observed by the researcher, poses a great threat to the sustainability of VAT. [15] expert group stated that tax revenue contributes substantially to development.

The stark reality in most developing countries is that while there are several budgetary pressures as a result of ever increasing demand for government expenditure, there is a limited scope for raising extra tax revenues. [16] state that governments have at their disposal many tax instruments that can be used singly or in concert to finance their activities. These tax alternatives include personal and corporate income taxes, sales taxes, value added taxes, capital gains taxes and numerous others. In choosing what tax instruments to use and what rates to impose, governments are typically influenced by their expectations of the effects of taxation on investment and economic activities, including Foreign Direct Investments (FDI). The researchers stated that there are extensive empirical studies that high corporate income tax rates are associated with low levels of FDI. VAT rate in Nigeria has been determined in a way that minimizes disincentive efforts on economic activities [17]. [18] opines that economic and social development laws and policies provide the basis for effective state action that lifts society from underdevelopment, improves the standard of living and facilities for the realization of the millennium development goals. [19] worked on the administration of VAT in Nigeria. The objective of the study was to seek ways of improving government revenue generation base in order to improve on the economy. The study among other things, recommended that more awareness was needed on VAT. [20] worked on company income tax and Nigeria's economic development. They used the GDP to capture the Nigerian economy and Petroleum Profit Tax (PPT), Company Income Tax (CIT), Customs and Excise Duties and VAT to measure Company Income Tax. Findings revealed that there is a significant relationship between company income tax and Nigerian economic development and that tax evasion and avoidance are the major hindrances to revenue generation. [17] empirically evaluated the contribution of VAT to the development of Lagos State economy. Development aspects considered included infrastructural development, environmental management, education sector development, youth and social development, agricultural sector development, health sector development and transportation

sector development. Result showed that VAT revenue contributed positively to the development of the respective sectors. However, the positive contribution was statistically significant only in agricultural sector development.

3. MATERIALS AND METHODS

This research work is both inferential and descriptive in nature. Time series data on both the real GDP (Nominal GDP adjusted for the effects of inflation) and VAT Revenue from 1995 to 2010, (see Appendix 1), sourced from Annual Reports and Accounts of Central Bank of Nigeria (CBN) were analysed using COBB DOUGLAS Regression model. The data were on four economic variables: The GDP, VAT Revenue, other sources of revenue and Total (Federal Government) Revenue. The period covered was from 1994 when VAT was introduced into the country to 2008. The data on VAT Revenue for 2011 and 2012 were not available at the time of writing this report.

3.1 Model Specification

From theoretical perspective, the model says that economic growth (GDP) depends on total government revenue and VAT revenue. Guided by the perceived functional relationship between the matrix of economic growth (GDP) and VAT revenue, and total revenue, a link is forged between the variables. From sub-macro and micro economic perspectives, the model for this work states that economic growth (GDP) depends on VAT revenue and total revenue. The model which is in line with the work of [17] is a modified form of the model specified by [21] in his study of Nigeria's tax efforts. Thus, the model is linearly expressed as follows:

$$GDP = \lambda_0 + \lambda_1VAT + \lambda_2TREV + \mu$$

This model, which will be used for this work, can be restated in its logarithm form as:

$$\text{Log GDP} = \log \lambda_0 + \log \lambda_1VAT + \log \lambda_2TREV + \mu$$

Where λ_0 , λ_1 and λ_2 are model parameters and μ is the stochastic error term. The 'priori' expectation is that the model parameter is expected to be positively signed. This implies that some economic growth is expected even when no VAT and other sources of revenue are not collected.

4. FINDINGS AND DISCUSSIONS

As can be seen in Table 1, the coefficients confirm priori of a positive relationship among VAT Revenue, total Revenue and GDP. In evaluating the model, the R. Squared (which is the coefficient of determination) of 0.92 means that 92 percent of variations in the GDP is explained by VAT Revenue and total Revenue. This high explanatory power shows that the model is a good fit, indicating that VAT revenue and total revenue are important determinants of economic growth in Nigeria. With the probability (F- statistic) value of 0.00, at five percent level of significant, VAT Revenue is making a significant contribution to the economic development of Nigeria and composition of the GDP.

Table 1. Result of regression analysis regression COBB DOUGLAS

Model summary ^b						
Model R	R square	Adjusted R square	Std. error of the estimate	Durbin-watson		
1	.962 ^a	.925	.27589	.999		
<i>a. Predictors: (Constant), Ln(Total Revenue), Ln(Vat Revenue), b. Dependent Variable: Ln(GDP)</i>						
ANOVA ^b						
Model		Sum of squares	Df	Mean square	F	Sig.
1	Regression	12.216	2	6.108	80.246	.000 ^a
	Residual	.990	13	.076		
	Total	13.205	15			
<i>a. Predictors: (Constant), Ln(Total Revenue), Ln(Vat Revenue), b. Dependent Variable: Ln(GDP)</i>						
Coefficients ^a						
Model		Unstandardized coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.068	1.190		2.579	.023
	Ln(Vat Revenue)	.033	.081	.031	.407	.690
	Ln(Total Revenue)	.857	.068	.959	12.606	.000
<i>a. Dependent Variable: Ln(GDP)</i>						
Excluded variables ^b						
Model		Beta In	T	Sig.	Partial correlation	Collinearity statistics Tolerance
1	Ln(Other sources of Revenue)	-3.798 ^a	-.189	.853	-.055	1.549E-5
<i>a. Predictors in the Model: (Constant), Ln(Total Revenue), Ln(Vat Revenue), b. Dependent Variable: Ln(GDP), Source: Computation using E-Views Statistical Package, Version 7.0</i>						

The intercept is positive, suggesting that in the absence of government intervention in revenue generation activities, the economy would, perhaps be experiencing a positive growth. The t-statistics with their probabilities associated with the coefficients indicate that, at 0.05 percent level of significance, VAT revenue has positive but statistically insignificant effects on economic growth suggesting poor management of Value added tax in the country. On the other hand, total revenue has positive and statistically significant effects on economic growth.

Agreed that the economy had not been stable as had already been pointed out, poor VAT administration had been identified by [19] as one of the problems confronting VAT in Nigeria. Although it is agreeable that there is the need for VAT to replace the former Sales Tax because of the progressive nature, government's ability to adequately and effectively retrieve the proceeds from companies and other agents of collection remains a problem. It does not appear as if there is adequate machinery for effectively monitoring the remittance of tax withheld to the relevant tax authority. The Federal Inland Revenue Service (FIRS) lacks logistics support for effective administration of VAT.

The further problem of VAT administration is the present composition and functions of the tax authorities which weaken the effective tax administration in the country. Tax authorities perform only the technical functions and not the needed management functions. The non-performance of management functions, given the increasing complexity of tax administration largely explains the ineffectiveness of tax administration in Nigeria. Basically, the performance of only technical functions leads to false declaration, refusal to complete tax return forms, fraud, inflation of deductible expenses, smuggling, default, illegal bunkering, etc. The dishonest practices by some tax officials also pose a serious threat to the effective tax administration in Nigeria especially when such practices are capable of having demoralizing effects on honest tax payers.

It has to be acknowledged however that the FIRS is currently being reorganized and it is hoped that the reorganization would take care of this administrative short-coming. Again, Nigerian companies treat their VAT expenses as input costs and pass these on to the consumer. On its part, the government injects VAT revenue back into the system as consumption expenditures. Because this combination results in a serious negative impact on the economy, it is necessary to consider strategies for ensuring that companies treat VAT properly and that government directs its expenditure towards sectors that are most likely to lessen the adverse effects of VAT on consumer welfare, production, employment and income.

Not to be forgotten is the fact that there is currently a legal 'struggle' between the federal and state governments over who has the competence to impose VAT. As a matter of fact, there is currently a case in the Supreme Court filed by Lagos State challenging the constitutionality of VAT. Until this case is finally settled, the amount accruing from VAT may not be too much as VATable bodies may not know who to remit VAT proceeds to.

5. SUMMARY AND CONCLUSIONS

This paper empirically investigated the contribution of Value Added Tax (VAT) and total revenue to the GDP from the time of its inception to 2010. This was done against the background that it was introduced by the Federal Government of Nigeria in 1993 to replace Sales Tax. The aim was to increase the revenue base of government and make funds available for developmental purposes that will accelerate economic growth. Time series data on both the GDP and VAT Revenue from 1995 to 2010, sourced from Annual Reports and Accounts of the Central Bank of Nigeria (CBN) were analyzed, using COBB DOUGLAS Regression model.

Findings showed that VAT Revenue and total revenue account for 92 percent of variations in the GDP. This high explanatory power shows that the model is a good fit, and that these components of VAT revenue and total revenue are important determinants of economic growth in Nigeria. With the probability (F- statistic) value of 0.00, at five percent level of significant, VAT Revenue is making a unique significant contribution to the economic development of Nigeria and composition of the GDP. Based on the findings it is therefore recommended that government should intensify efforts to ensure that all identified administrative loopholes should be plugged for VAT Revenue to continue to contribute more significantly to economic growth of the country.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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APPENDIX I

Gross Domestic Product (GDP), Vat Revenue (VREV) , Other Sources of Revenue ((OSREV). and Total Revenue (TREV)

Year	GDP* Nm	Vat Revenue N'm	Other sources of Revenue N'm	Total Revenue Nm
1995	1,933,211.60	3,558.10	456,429.20	459,987.30
1996	2,702,719.10	3,306.90	520,290.10	523,597.00
1997	2,801,972.60	7,586.10	521,225.00	528,811.10
1998	2,708,430.90	10,170.80	453,438.00	463,608.80
1999	3,194,015.00	9,559.80	939,627.9	949,187.70
2000	4,582,127.30	13,908.70	1,892,251.00	1,906,159.70
2001	4,725,086.00	20,102.70	2,211,497.30	2,231,600.00
2002	6,912,381.50	18,727.20	1,713,110.30	1,731,837.50
2003	8,487,031.60	2,119.80	2,572,976.10	2,575,095.90
2004	11,411,066.90	3,625.70	3,916,469.30	3,920,095.00
2005	14,572,239.10	3,243.90	5,544,256.10	5,547,500.00
2006	18,564,594.70	3,434.80	5,961,667.10	5,965,101.90
2007	20,657,317.40	3,000.00	5,712,600.00	5,715,600.00
2008	24,296,329.29	6,821.10	7,859,769.00	7,866,590.10
2009	24,794,238.66	19735.70	4,824,856.84	4,844,592.34
2010	29,108,020.00	39,700.00	7,263,971.55	7,303,671.55

Source: Federal Ministry of Finance & Central Bank, 2013, * Nominal GDP adjusted for the effects of price level changes or Real GDP

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