VALUE ADDED TAX AND REVENUE GENERATION: EVIDENCE FROM A DEVELOPING COUNTRY

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Abstract

Adopting a modeling approach that incorporate the theory of value Added Tax and Revenue Generation. This study evaluates the effect and relationship between VAT and Revenue Generation as evidence from a developing country. Time series data on VAT and revenue generation from 1994-2014 were collected from central bank of Nigeria statistical bulletin. The data collected were analyzed using ANOVA with the aid of SPSS version 20.0. The results also showed that PPT and PCI exert positively on GDP and PCI. The study concludes a positive effect and both predictor variables on criterion variables in Nigeria. The study recommends that government should on their part encourage a strong fiscal transparency system and responsibility through effective legislation to promote compulsory compliance in tax payment.

Keywords: VAT, Revenue Generation, PPT, GDP, Total Federally Collected Revenue.

Introduction

Over the years, taxes are the most important source of government income (Iranian National Tax Administration INTA, VAT Implementation Project 2003). Jhingan (2012) defines tax "as a compulsory contribution imposed by a public authority, irrespective of exact amount of service rendered to the taxpayer in return." According to Soyode and Kajola (2006) tax is a compulsory extraction of money by a public authority for public purpose, or taxation is a system of raising money for the purposes of government by means of contribution from individual persons or corporate bodies.

Oxford Advanced Learners Dictionary (2010) also defines tax as "money that has to be paid to the government so that it can pay for public services. People pay income tax according to their income and businesses pay income tax according to their profits." Tax is often paid on goods and services. Government therefore, imposes tax for the major purpose of funding and for the conduct of public policy. The funds are necessary in order to provide social welfare to its citizenry and to provide those social amenities which because of their nature can only be cheaply provided by the government. These, the government achieve through direct and indirect taxes.

Direct taxes, according to Alam (1998); Okezie (2003), are taxes levied on incomes and properties of individuals and companies. It is also called 'Income Tax'. In Nigeria, direct taxes comprises of Personal Income Tax (PIT), Companies Income Tax (CIT), Capital Gain Tax (CGT), Petroleum Profit Tax (PPT), Education Tax Funds, among others. Indirect taxes, on the other hand according to Okezie (2003) "are taxes levied on goods and services and the burden or incidence of tax is finally borne by consumer of such goods and services." Examples of indirect taxes include Value Added Tax, Custom Duties (Import and Export Duties), Exercise Duties, Pools Betting Tax, Entertainment tax and so on.

Revenue authorities collect these types of taxes from sellers who as far as possible pass them to the final consumer by including the duty in the final selling price of the goods. Indirect taxes may be specific, that is a fixed sum in respect of the value of the goods at any particular time. Through indirect tax all citizens have to pay towards government spending and this tends to promote responsibility. Such taxes have a wide coverage and offer immediate yield and can be adjusted to specific objective of the government policies. Indirect tax is regressive in nature, that is, the poor bears the tax burden than the rich ((Ezejelu and Ihendinihu 2006; Olatunji, 2009; Asogira and Okeke, 2012; Bhatia, 2012 Ezeji and Peter, 2014).

The rest of the empirical paper is organized as follows. The next section briefly surveys the important literature and specifies the main hypotheses of this investigation. Section three as good as it is describes the procedure adopted for the empirical analysis. Section four presents the main empirical results and its discussion of the empirical study. Section five concludes and makes good recommendations in the study.

Review of Related Literature

The benefit theory is of the opinion that the burden of taxation should fall on the people according to the benefit received by them from the state (Jhingan2Ol2). Consequently, the collective amount of taxes should not be more than the aggregate benefit secured by the tax payers. Therefore, the people should share the burden of taxation in proportion to the benefits received by them. This theory is illustrated in the figure below.

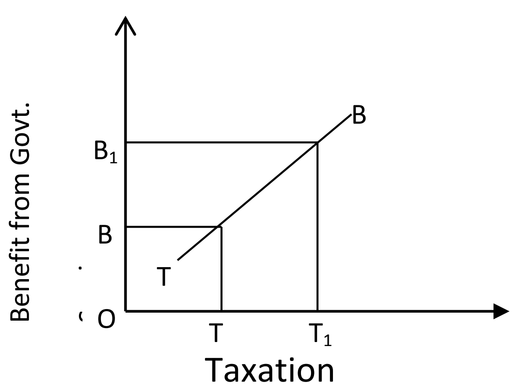

Fig. 1 In Fig. 2 above, TB is the tax-benefit line which shows that for OB total benefit received from government services, OT tax has been levied by the government. When the total benefit increases from OB to OBI, the tax also increases in the same proportion from OT OT1. It implies that tax imposed should be equivalent of the benefit received by a person from the expenditure made by the government.

Concept of Value Added Tax

Value Added Tax (VAT) is a tax charged on the sale of product or service. For instance, in Nigeria, the move to accept Value Added Tax started with a study on indirect tax in 1991, but the recommendations of the group was made public by then military President-General Ibrahim Badamosi Babangida in his 1 992 budget speech. With the announcement, a committee known as "modified Value Added Tax (MVAT) committee was set up in 1992" as recommended by the study group. The proposed Value Added Tax scheme was to become operational in 1993, as to allow for enough preparation involving administrative and legislative changes in the existing tax procedure (Golit, 2008; Giles, 2012; Gujarati, 2013).

The income distribution aspect of tax is concerned with how income is distributed in the economy. Musgrave and Musgrave (2011) agreed with Hanson (1977) that taxation plays a vital role in income distribution. Left for the market mechanism, income distribution would depend primarily on the distribution of factor endowments which would then follow for factor pricing based on the marginal productivity of these factors. One of such ways is through Value Added Tax.

Ochiogu (2001) defines "Value-Added-Tax as an indirect form of taxation based on the general consumption behavior of the people that is its burden is borne by the final consumer."
Afe (1996) defines VAT as "tax levied at each stage of production on firm's value added". Despite the achievements recorded so far in the country's performance by VAT, there has been large degree of apathy, misconception and apprehension about the tax system among professionals, government functionaries and the taxpaying public.
According to Soyode and Kajola (2006), there are three measurement of VAT. These are;

(i) **The Consumption VAT:**
Here capital purchases are accounted for as input. It has some advantages, one of which is that it is easier to compute, as the firm does not have to separate expenditure on other items of purchases in determining the VAT base. The main disadvantage of this type of VAT is that it creates refined problems where very heavy and expensive machinery are involved.

ii. **The Income VA**T:
Under this VAT, there is allowance for the VAT on the purchase of capital to be amortized over the useful life of the capital purchase.

iii. **The Gross Product VAT**
This is the Nigeria type of VAT. Under this type of VAT, no deduction of tax on input of capital purchases is allowed against the firm's output tax. The taxable firm is treated as a final consumer of all of its capital input. The tax period on capital input is treated as part of cost of that capital input. Under this arrangement, the Federal Inland Revenue Service (FIRS) is saved the problem of having to make cash refunds.

Empirical Review

There are empirical studies relating to VAT on revenue generation and economic growth in Nigeria with diverse opinions. Some of the studies conducted inter alia the effect of VAT on wealth creation, Vat and inflation in Nigeria, impact of VAT on revenue generation in Nigeria, contribution of VAT to revenue mobilization, VAT and economic growth in Nigeria. Notably, each group used diverse statistical and econometric models to analyze the data collected deriving different results and arriving at different conclusions in the process while others are in agreement with the outcomes.

Okoye and Gbegi (2013) in their study "Effective Value Added Tax; An Imperative for Wealth Creation in Nigeria (2001-2010) used Pearson's Product Moment Correlation Coefficient and the Student's T-test to test the hypotheses." Based on their analysis, the result showed that VAT "has significant influence on wealth creation in Nigeria as there exist a positive correlation between VAT and Gross Domestic Product."

Olantunji (2013) examined the "relationship between Value Added Tax (VAT) and Inflation in Nigeria (1990 — 2003)" and found that "the result is in contrary views and opinions of the respondents that there is a significant effect of VAT on revenue."

Abdul-Rahman et al (2013) "examined the impact of value added tax on revenue generation in Nigeria for the period 2001-2010." The data collected were analyzed using "stepwise regression analysis." Findings showed that VAT "has statistically significant effect on revenue generation in Nigeria." Sequel to their findings, "the study recommends that there should be deduction and apparent honest on the parts of all agents of VAT with respect to the collection and payment and that government should try as much as possible to improve on the way of collecting value added tax."

Ihendinihu, Jones and Ibanichuka (2014) in their study of the "assessment of the long-run equilibrium relationship between tax revenue and economic growth in Nigeria found that VAT has no statistical significant impact on the economic growth in Nigeria."

Hypotheses

H_{01}: There is no significant relationship between Value Added Tax and Revenue Generation in Nigeria.

H_{02}: Can consumption Value Added Tax exert any significant effect on federally collected Revenue in Nigeria.

Methodology

For the purpose of this study, the ex-post facto research design was the choice of the researchers because it affords him the opportunity to study a wide range of study subjects on longitudinal bases and as such generalize the research findings. The study covers a period of nineteen (19) years, i.e. 1995-2014. The secondary method of data collection was adopted. The data were sourced from central bank of Nigeria statistical Bulletin, federal Inland Revenue Services Information circulars and "International Monetary Funds" (IMF) various reports. Other sources include textbooks, published and unpublished work.

The stated hypotheses in this investigation were test statistically with Pearson product moment coefficient of correlation and ANOVA. The computations were aided with the use of statistical package for social sciences (SPSS) version 20.0.

The model specification for this study is as stated thus:

RG_{it}: βo+β1FCRit+β2CVATit+ $ɥ_{it}$ - - (i)

VAT_{it}: $\beta o+\beta_1 FCR_{it}+\beta_2 CVAT_{it}+ ɥ_{it}$ - - (Ii)

Where:

RG_{it} = Revenue Generation for the period of time.
$CVAT_{it}$ = Consumption Value Added Tax for the period of time.
FCR_{it} = Federally Collected Revenue in Nigeria for the period of Time.
VAT_{it} = Value Added Tax for the period of time.
β_o = Constant
β_1,β_2,β_3 = Correlation Coefficient
ɥit = Error Term for the period of time.
$_{it}$ = Period of time.

Empirical Results and Discussion

In this part of the study, the data generated were analysed and empirical results used in testing the stated hypotheses.

H_{01}: There is no significant relationship between Value Added Tax and Revenue Generation in Nigeria.

Table 1: Relationship between VAT and Revenue Generation in Nigeria.

		VAT	RG
	"Pearson Correlation	1	.574**
VAT	Sig. (2-tailed)		.007
	N	21	21
	Pearson Correlation	.574**	1
RG	Sig. (2-tailed)	.007	
	N	21	21

Table 2 above shows that there is a positive correlation between VAT and RG between 1994 and 2014. But with r=0.574 the relationship is moderate. With this result, the coefficient of determination (r2) is 0.3295. This shows that 32.95 percent in revenue generation within the period under consideration was accounted for or contributed by value added tax.

The remaining 67.05 percent was contributed from other sources of revenue generation. Furthermore, with p value =.007 which is less than 0.01 the correlation is significant and therefore reject the null hypothesis, which states that there is no significant relationship between Value Added Tax and Revenue Generation in Nigeria. We therefore accept the alternative hypothesis which states that; there is significant relationship between Value Added

Tax (VAT) and Revenue Generation (RG). This empirical result is against the backdrop of earlier research findings of Jones (2014) in advance economies which associate increase and economic reporting activities.

H_{o2}: Consumption VAT has no significant effect on federally collected revenue in Nigeria.

Table 2: Effect of consumption VAT on Total federally collected Revenue in Nigeria.

Table II: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409[a]	.168	.124	1365996.72576

a. Predictors: (Constant), CP

Table III: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7141728124278.803	1	7141728124278.803	3.827	.065[b]
	Residual	35452994040706.340	19	1865947054774.018		
	Total	42594722164985.150	20			

a. Dependent Variable: TFR
b. Predictors: (Constant), CP

Table IV: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1733541.341	540787.535		3.206	.005
	CP	-2.114	1.081	-.409	-1.956	.065

a. Dependent Variable: TFR

From Table 2 the value of R square =.168 showing that 16.8 percent of the variance in Total Federally collected Revenue (TFCR) was accounted for by Consumption Product (CP) within the period under review. This shows that the effect of CP on TFCR is very weak. Table 2 shows the ANOVA table which provides the F-test. The Table shows that F-value at 3.827 and p-value at 0.65 which exceeds the standard of 0.05, and indicates that overall, the regression model does not statistically significantly predict the outcome variable (TFCR)(i.e, it is not a good fit for the data). Therefore, we accept the null hypothesis which states that, CP does not influence TFCR in Nigeria. From the beta coefficients shown in Table 2, the equation for the regression line is: TIT= 1733541.341 -2.114CP.

The statistical result is in agreement with the findings of Okezie (2003); Ojo (2004); Soyade and Kajola (2006), Iurubull and Lea (2010); Onaolapo; Aworemi and Ajala (2013) who found that consumption product directly and significantly influence on total federally collected revenue in Nigeria.

Conclusion and Recommendations

This research work analyzed Value Added Tax and Revenue Generation. It used the time series data of some federal government tax variables, Value Added Tax, Total Federally Collected Revenue, Gross Product Value Added Tax from 1994-2014 obtained from Central Bank of Nigeria (CBN) statistical bulletin. And analyzed with ANOVA with the aid of SPSS 20.0 version. However, based on the analyses and interpretation of the results, the following conclusion was established.

(1) There is a significant and positive relationship between Value Added Tax and Revenue Generation in Nigeria.
(2) Consumption product has no significant effect on Totally Federally Collected Revenue in Nigeria.

Based on the conclusion highlighted above, the following recommendations were postulated:

(1) Government on their part should encourage a strong fiscal transparency system and responsibility through effective legislation to promote compulsory compliance in tax payment.
(2) It is also good to recommend better procedures and systems for collection and remittance of value added tax revenue by the agents should be more explicit.
(3) Tax staff, collectors and authorities of the agencies should be motivated to avoid leakages in value added tax and revenue generation in Nigeria.

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