An Investigation of the effect of VAT on Revenue Profiles of South-Western Nigeria.

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Abstract

The problem with public finance in developing countries like Nigeria has been that the amount of revenue generated from tax and non-tax sources in recent years have not been sufficient to meet increasing expenditure of States and local Governments. The study therefore examines the effect of Value Added Tax (VAT) on the income profiles of State Govenment in South-Western Nigeria.The choice of South West Nigeria was based on its being a non-oil producing state except Ondo state.

Secondary data from the approved budgets of five out of the six states that made up South Western Nigeria were used for the study. Osun state was excluded because it shares the same characteristics with Ekiti State .Panel regression method was employed since the sample contains data across States and for the periods 2002 to 2011. Fixed effect (FE) , Random effect (RE) and Hausman-test based on the difference in fixed and random effect estimators were conducted.
The study concluded that the panel estimates indicate that Random effect is best fit . From the random effect estimates, VAT is positive and significantly ($\beta=0.7318<.05$) related to revenue profile of States.
It is recommended that Governments, policy makers should concentrate efforts at ensuring that more VAT is generated by developing strategies of poverty alleviation as VAT is a consumption tax which is a function of real income in the hands of the people.Increased consumption will increase the revenue input from the state into VAT component of the federation account .
Keywords: VATable persons, Vat Component, Revenue Input.

(1) Introduction

 Value Added Tax (VAT) is "a broad based business tax imposed at each stage of production and distribution process typically designed to tax final household consumption" (Tait, Robert and Tuan, 2005). It is a type of indirect tax that is imposed on goods and services which plays an important role in the economic development of a country by influencing the rate of revenue accruable and consumption (Jayakumar, 2010).The relevance of tax revenues is a core motive for suggesting that emerging economies such as Nigeria must increasingly mobilise their internal resources to enhance economic growth and reduce fiscal deficits through the implementation of an effective tax policy (Wawire, 2006).
The Value Added Tax Decree 102, made on 24th August, 1993 in Abuja by the then Head of state and Commander in Chief of Nigeria, General Ibrahim Babangida gave the legal backing for its administration.There is dearth of literature on the revenue performance of state government level VAT in developing countries like Nigeria.The contribution of personal income tax to the government total revenue remained consistently low (James, Zaimah and Kamil,2011), hence the need to evaluate alternative taxes such as VAT as done in this study.

(2) Problem Statement

 The contributions of tax as part of the overall Federal collectable revenue have not met the expectations of the government, hence the need to have a closer look at VAT as countries with VAT raise more revenue than those without (Keen and Lockwood, 2006). The decision of the United States of America, who is the largest consumer of crude oil, to find alternative to it and the volatility of the commodity at the international markets makes it imperative for a shift to other revenue sources which are untapped and poorly developed like VAT (Seunfunmi,2009).In a related development, the crisis in the Niger Delta region (the oil producing states of Rivers, Bayelsa, Edo, Delta, Akwa Ibom, and Cross River, despite the amnesty granted to the militants recently and the non-withdrawal of the military joint task force to maintain peace in the region is also a sufficient reason for looking at the alternative sources of revenue to government, apart from crude oil. (Udeh,2002). Soriwei and Ekpimah (2012) affirmed that every state in Nigeria has resources it could develop and generate revenue and that nobody should be worried when some concessions are given to oil-producing states in revenue allocation from federation account. The persistent rejection of the non-oil producing states demand for more revenue from the federation account by the oil producing states is a fundamental issue that calls for other revenue sources to be tapped by the non-oil producing states in Nigeria.

(3) Literature Review

The theory of collection efficiency of the value added tax (VAT) developed by Aizeman and Yothin (2005) suggested that the collection efficiency is impacted by political economy considerations, greater polarization and political instability which reduce the efficiency of the tax collection. In addition, collection is impacted by structural factors affecting the ease of tax evasion, like the urbanization level, the share of agriculture and trade openness. The theory defines the collection efficiency of the VAT as the ratio of the VAT revenue to aggregate consumption divided by the standard VAT rate. The theory concludes that a one standard deviation increase in durability of political regime, and in the ease and fluidity of political participation, increase the VAT collection efficiency by 3.1% and 3.6% respectively. A one standard deviation increase in urbanization, trade openness and the share of agriculture changes the VAT collection efficiency by 12.7%, 3.9% and-4.8% respectively. In addition, a one standard deviation increase in GDP/Capital increases the tax efficiency by 8.1%. Qualitatively, identical results apply for alternative measure of VAT collection efficiency, defined by the ratio of VAT revenue to GDP divided by the standard VAT.

Early works on tax effort include those of Musgrave (1969), Lotz and Morss (1970), Chelliah, Baas and Kelly (1975) and Tait, Gratz and Eichengreen (1979) which captured developments during the 1960s to the late 1970s. Musgrave (1969) noted that the tax performance of a developing country can be measured by the 'ability to give up approach', 'efficient resource use approach', 'ability to collect approach', and 'comparison with average performance or stochastic approach'. Going by these, VAT has no problems with the ability to give up and collect approaches. Different scholars have used different explanatory variables to attempt some empirical measurements of tax efforts in various countries. Such variables included agricultural output-GDP ratio, per capita income, mineral exports-GDO ratio, the degree of openness of the economy, money-GDP ratio, etc. Using mining-GDP ratio, agricultural output-GDP ratio, and export-GDP ratio as determinants of tax share in GDP to measure tax efforts, Chelliah, Bass and Kell (1975) show that the agriculture share is negative while the mining share is positively related to tax share, and the export ratio is not significant. Tait and Gratz (1979) later updated the work of Chelliah, Baas and Kelly (1975) 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.

In a recent study, Teera (2003) attempted an assessment of Uganda's tax performance relative to 18 other Sub-Saharan countries aimed at evaluating the feasibility of raising tax revenues in Uganda. The study used pooled data to construct an index of tax effort for these countries, and also applied the model to individual tax shares to pinpoint the source of high and low effort. By extension, the model must have incorporated value added tax. The result showed that Uganda's tax effort index for total taxes on income were less than unity, while the indices for international trade taxes and taxes on goods and services exceeded unity. One may be tempted to consider this as defining a place for value added tax.

Tanz and Davoodi (1997) also found empirical support for the relevance of demand factors. Thus, they argued that the quality of institutions and governance influence tax revenue through their contribution to tax evasion, improper tax exemption and weak administration. This study observes that in Nigeria, the institutions and governance may not likely influence VAT revenue through these outlets but rather through corruption, voice and accountability. However, the Nigerian experience demonstrates the relevance of some of the above propositions.

(4) Conceptual Explanation

According to Owolabi and Ekwu, (2011) VAT is a tax on consumption; the more you buy the more tax you pay. It is also a neutral tax on businesses in that it does not represent a real cost to anyone but the end consumer. Everybody pays tax to the Government whenever they purchase goods or services. This tax is collected for the government by the supplier of those goods and services. VAT revenue has become a significant source of government revenue in Nigeria. Therefore, the primary objective of fiscal policy is to raise more revenue through value added tax. The tax authorities have been guided by the need to design equitable and efficient VAT system capable of complementing government expenditure and, thus, reduce recourse to public borrowing. VAT rate in Nigeria has been determined in a way that minimizes disincentive effects on economic activities. The effects of low tax effort in Nigerian have been strengthened by the value added tax system. This, in turn, has addressed part of the worries of Kaldor (1963) who asked "will underdeveloped countries learn to tax?" To meet the global aspiration of attaining the Millennium Development Goals (MDGs) come 2015, these countries must spend more on economic and social infrastructures, which can only be achieved through improvement in tax efforts to realize the required level of public expenditure (Golit, 2008).

The concept of value added refers to the additional value of a commodity over the cost of commodities used to produce it from the previous stage of production. It is this value added that VAT is levied upon. Consequently, value added tax on goods and services is tax on exchanges at different points. Personal end consumers of products and services cannot recover VAT on purchases, but businesses are able to recover VAT on the materials and services they use as input on goods directly or indirectly sold to end-users. In this way, the total tax

levied at each stage in the economic chain of supply is a constant proportion of the value added by a business to its product.

(5) Concept of Value Added Tax in Developing Countries

The revenue structures of most developing countries have not been as productive as desired. The growth in revenue has failed to catch up with government spending pressures, a situation that has occasioned huge imbalances between the demand and supply of public budgetary resources. Ariyo (1993) concluded, while applying the test by Blinder and Solov (1973), Buiter (1983) and Zee (1988) that Nigeria was unable to get out of its fiscal deficit profile in the past two decades. Ariyo and Raheem (1990) drew the attention to the fact that the unsynchronized revenue and expenditure profile since 1970s caused the recurrent fiscal deficit profile of Nigeria to be unsustainable. However, Alade (2003) was of the opinion that fiscal deficits could stimulate aggregate demand and set a country on the path of recovery. Iyoha (2004) was of the opinion that given the structural and systematic problems commonly associated with less developed countries, budget deficit invariably appears in the course of governance and such are usually financed by either by borrowing from the central bank, non-banking public and external sources. He emphasized that fiscal deficits raise the level of money supply which in turn sets in motion private sector wealth and asset portfolio decisions with respect to financial and real assets. These countries had to carry out a lot of reforms in tax structures, with the general objectives of revenue adequacy, economic efficiency, equity, fairness and simplicity (Osoro, 1993).

The general advice of international institutions such as the International Monetary Fund (IMF) and the World Bank given to developing countries like Nigeria over the past few decades has been to replace trade taxes with domestic consumption taxes, particularly value added tax (VAT) and to maintain relatively high corporate income tax rates Tanzi and Howell (2000) further emphasised that an alternative approach to assess whether the overall tax level in a developing country is appropriate has been to compare the average tax burden of a representative group of both developing and developed countries , taking into account some of these countries characteristics. Margalioth and Reuven (2006) emphasised that consumption taxes are not necessarily regressive as this is offset through a more progressive use of the tax revenue generated from other sources, mostly through the expenditure side of the national budget.

Emran and Stiglitz (2005), Gordon and Li (2005) challenged the conventional view, arguing that the relatively large informal sector, level of corruption, monetization, high shares of agriculture and small businesses in developing countries may justify a different tax policy design. The key assumption in their theory is that firms in developing countries can evade taxes completely by shifting entirely to cash transactions and not using the financial sector as the financial sector plays a critical role in the functioning of the tax structure. Gemmel and Morrissey (2003) asserted that taxes on intermediates such as fuel are often thought to be regressive because they affect transport costs, thus increasing the prices of goods consumed by the poor. The important implication of this for tax policy is that, on the basis of distribution and poverty, taxes on goods that are most important in the consumption bundles of the poor should be kept as low as possible.

(6) Methodology

The revenue profiles of Lagos, Ogun, Oyo, Ondo and Ekiti states for ten years 2002 to 2011 obtained from the approved budgets of the states were analysesd using panel regression method.

The fixed effect (FE), random effect (RE) and Hausman-test based on the difference between fixed and random effects estimators were conducted.

The basic panel regression model is specified as follows.

$$Y_{it} = \alpha + X_{it}\beta + \mu_{it}$$

$i = 1......N$

$N = 50$

$t = 2002 – 2011$

Where i denote the cross section dimension and t indicates the time dimension, X_{it} is a 1 x K vector of observation on K explanation variables for the ith state in the tth period. β is a K x 1 vector or parameters, μ_{it} is a disturbance term and is defined as

$$\xi\mu_{it} = \mu_i + \mu_{it}$$

Where μ_{it} denotes the unobservable individual effect and v_{it} denotes the remainder disturbance. Variables that have become standard in modeling tax revenues are included in the model. Explicitly, the effect of VAT on revenue profiles of State Governments will be measured by;

$$TR_{it} = \alpha_o + \beta_1 ln\,VAT_{it} + \beta_2 ln\,PCI_{it} + \beta_3 ln\,PO_{it} + \beta_4 ln OS_{it} + \beta_4 ln SD_{it} + \xi_{it}.$$

TR = Total revenue of the states

VAT = value added tax

PCI = per capital income

PO = Population to measure the size of the state

OS = other sources of revenue

SD = state dummy since one would not expect all the state to generate the same VAT revenue.

Ɛ= disturbance term

ln = natural logarithm

$_i$= sampled states

t = time period (2002-2011)

Inclusion of per capital income is justified on the ground that it shows the ability of the household to maintain their consumption despite the inclusion of the VAT in the prices of the goods and services. *A priori,* it is expected that higher per capita income will bring about increase in total revenue. Population is included to measure the market size of each state

(7) Results and Discussion

Fig 7.1

revenue profile of the states for all the period (2002-2011)
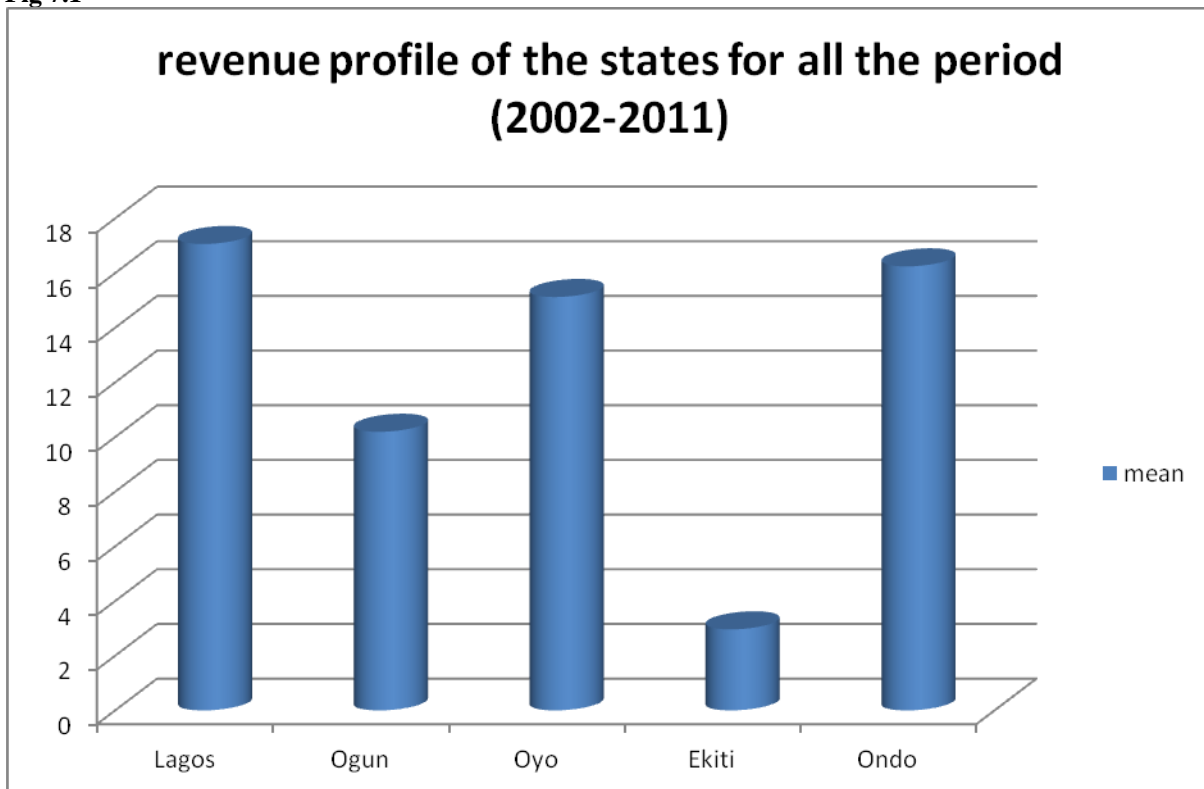
Source: Data Analysis (2013)

The revenue profile of the five states in South Western Nigeria presented in Fig 7.1 above showed that Lagos state has the highest revenue over the study period, followed by Ondo, Oyo , Ogun and Ekiti states respectively. Lagos is the commercial nerve centre of Nigeria while Ondo state is the only oil producing state in South- West Nigeria.

Effect of VAT on revenue profiles of the state

The effect of VAT on revenue is presented in Table 7.1. First, the panel estimates indicate that Random effect is best fit. From the random effect estimates, value added tax is positive and significantly ($\beta = 0.7318$, $p < 0.05$) related to revenue profile of the states. Other control variables such as per capita income (PCI) are however negative but significantly related to revenue of the states. Per capita income is a proxy for the overall development of the economy and is expected to be positively correlated with tax share as it is expected to be a good indicator of the overall level of economic development and sophistication of the economic structure. However, the negative sign indicates that the overall level of economic development of the states is low. This indicates a need for alternative source of revenue to bolster economic well being of southwest zone. Other sources of income other than tax are also found to increase revenue profile of the states. This result is an indication of benefit of federal allocation to the various states of southwest, Nigeria. Further, each of the included states dummy is positive and significant but with different magnitude. The difference in magnitude is an indication of the differences in revenue generation of each of the states.

Table 7.1: Effect of VAT on revenue profiles of the state

Variables	Fixed effect		Random effect	
	Coefficient	Z	Coefficient	Z
VAT	0.3612	2.86***	0.7318	7.10***
PCI	-0.0783	-1.50	-0.125	-2.12***
PO	0.0022	0.05	0.0733	1.46
OS	5.3361	4.88***	3.1032	1.99**
Ondo state dummy	-	-	4.059754	5.98***
Oyo state dummy	-	-	4.208271	6.19***
Ogun state	-	-	3.697502	4.91***
Ekiti state	-	-	3.590286	4.92***
Lagos state	-	-	4.35102	5.4376***
Constant	4.068	4.92***	1.8318	2.375***
Hausman			24.36 (0.000)***	
F statistics	14.39 (0.000)			

SOURCE:Output of Data Analysis based on field survey (2013)

(8) Policy Implications

The positive and significant relationship of VAT to State Governments revenue profile makes it mandatory for Government in South West Nigeria to take deliberate actions to improve the revenue accruable through VAT. This could only be done if institutional policies are put in place to attract vatable industries to the region. Since VAT as a consumption tax is a function of income, policies in place to empower the populace and increase their par capital income has the tendency, from this study, to increase VAT components of the revenue profiles of the State Governments.

(9) Conclusion and Recommendation

Results obtained from elasticity of population simply highlight the benefit inherent in high population. The negative coefficient was obtained and simply indicates that relatively low population will decrease VAT revenues. Interestingly, result indicates that revenue generation of Ekiti state is proportionately lower to the rest of the sampled states.The result also revealed that value added tax plays a positive and significant role in the entire revenue profile of south west, state. Inclusion of control variables such as per capita income underscore a need for alternative source of revenue to bolster economic well being of southwest zone.

From the conclusion of the study, it is recommended that governments, policy makers should concentrate efforts at ensuring that more VAT is generated. Policies that will endear the states to industrial investment should be implemented.People need to be economically empowered to bolster their consumption capability and thereby enhance sustainable revenue generation.

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