Another Approach to Evaluating the Productivity of Value Added Tax in Nigeria

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Abstract
This paper reviewed and assessed the productivity of value added tax [VAT] on total consumption expenditure [TCE] and on gross domestic product [GDP] which determines the level of economic growth in Nigeria. Productivity was expressed as effectiveness/efficiency. While effectiveness is the ability to be actively functional in producing expected results, efficiency is the ability to use available resources optimally, assuring that the cost of resources is controlled to the lowest possible level. Therefore the effectiveness and efficiency of VAT were calculated on GDP and adjusted GDP. The non vatable components were net off from GDP resulting in the adjusted GDP. Also VAT effectiveness and efficiency were calculated on TCE and adjusted TCE. The adjusted TCE represents the private consumption expenditure. Findings revealed that VAT was not effective on GDP but effective on adjusted GDP. VAT was neither efficient on TCE nor on adjusted TCE. VAT was not productive at the cross-elasticity of TCE/GDP but was productive at the cross-elasticity of Adjusted TCE/Adjusted GDP. Part of the recommendations was that government should review VAT threshold and the reduction of exemptions because exemptions are fundamentally inconsistent with the revenue generation objectives of VAT. This logic is preferred to increasing the present five percent VAT-rate
Keywords: Productivity, Value Added Tax, Gross Domestic Product,   Total Consumption Expenditure, Effectiveness, Efficiency.

1. Introduction
Value Added Tax (VAT) is an indirect tax like excise duty, first levied under Value Added Tax Act (the decree) No 102 of 1973 (as amended), with effective date of 1st December, 1993 (ICAN, 2009;147 . The Act repealed the sales tax act, 1986. According to Sanni (2012:182) there was a sales Tax Act enacted by the Federal Military Government which vested the administration of Sales Tax within each state on the state government. The implication was that the revenue collected by each state forms part of its consolidated revenue fund and utilized for its independent purposes at its discretion. Section 7 of the sales tax act No 7 of 1986 was as contained.

 It is now known as Value Added Tax Act, Cap VI LFN 2004. The tax is charged on the supply of goods and services. The vendor has the responsibility to collect VAT from the purchasers of goods and services (persons or companies), on behalf of the Federal Inland Revenue Service (FIRS). Individuals who are not charged with the responsibility of collecting VAT are not required under the act to collect VAT. The tax is charged and payable on the supply of all goods and services, other than those exempted.

The tax rate is 5 percent of the value of all vatable goods and services. The honourable minister of finance may by order published in Gazette amend the rate of Tax chargeable and also vary or modify the list of exempted goods and services. VAT is a form of consumption tax. From the perspective of the buyer it is a tax on purchase price. From that of the seller, it is a tax on the value added to a product or services. The manufacturer or the service provider remits to the government the difference between the two amounts and retain the rest to offset the taxes they have previously paid on the inputs.

VAT has become a major source of revenue in Nigeria (Ajakaiye, 2000), the adoption of VAT was an important landmark in tax reforms in Nigeria. Its implementation actually began in January 1994 (Adesola, 2006:12).

The amount of VAT revenue generation in the first year of implementation was 36.5 percent higher than the projection and it accounted for about 4.0 percent of total Federal revenue; it increases to 5.93 percent in 1995 (Ajakaiye, 2000). Many other countries in West Africa, both Franco-or-Anglo-phone have embraced VAT. For example countries like Benin Republic, Cameroon, Cote d'Ivoire, Ghana, Guinea, Liberia, Mali, Senegal and Togo (ITD, 2004: 4-5); KPMG (2009:13-14). Across the globe, table i shows the spread of VAT.

Table 1 Spread of VAT

Regions 1/	Sub-Saharan Africa	Asia and Pacific	EU15 plus Norway and Switzerland	Central Europe and FSU	North Africa and Middle East	Americans	Small Island 3/
Percent 2/	77%	75%	100%	96.42%	43%	88.46%	33.3%
Total	33(43)	18(24)	17(17)	27(28)	9(21)	23(26)	9(27)
1996 – present	18	7	0	6	2	1	3
1986 – 1995	13	9	5	21	5	6	6
1976 – 1985	1	2	0	0	2	6	0
1966 – 1975	0	0	11	0	0	10	0
Before 1965	1	0	1	0	0	0	0

Sources: ITD (2006)

- .Regions defined as in Ebrill and others, 2001, except Serbia and Montenegro included in Central Europe
- Figure in parenthesis is number of countries in the region
- .Island economies of under 1 million, plus San Marino

The 1990's witnessed a particular spectacular increase in the take up of the VAT, with the adoption by almost all of the transition economies (reflecting the need to replace their traditional sources of revenues), by a large number of developing countries, notably in sub-sahara Africa, but also in Asia and the Pacific (where the adoption of the VAT has been given additional impetus by the long-run revenue implication of trade reform), and by the small island economies, almost none of which had a VAT a decade or two ago.

1.1 Objectives of the Study

This study specifically is designed to assess VAT effectiveness , efficiency and productivity on Gross Domestic Product (GDP) and   Total Consumption Expenditure (TCE) and the eventual productivity using aggregate cross elasticity between GDP and TCE. An extension of VAT assessment was on adjusted GDP* and adjusted TCE* representing vatable GDP and TCE respectively.

2. Theoretical and Contextual Issues

Value Added Tax (VAT) has been attracting so much attention of financial experts, professional tax consultants and those in the academics, to mention a few of the stakeholders. Despite the impressive performance of VAT in virtually all the country where it has been introduced, the revenue generating dynamo has not been maximally tapped. A suspected unusual behaviour of the FIRS operating VAT at sub-optimal level was the overdependence on revenue from crude oil. Emphasis has been on sharing the proceeds from crude oil. We are not tapping the huge resources from other productive sector of the economy. There are still many producers of vatable goods and provider of ratable services that has not being registered talk less of remitting tax. Most professional services providers like accountants, lawyers etc, do not remit VAT. (Audu, 2012).

Apart from the big super-markets, thousands of other such businesses are on underground economy. Because of the tittle impact of incidence of indirect taxes we need to place emphasis on VAT and strengthen our enforcement machinery to ensure that VAT achieves its objectives in providing revenue for governance in Nigeria. VAT is a consumption tax, charged at 5 percent on all ratable goods and services and it is based on the general consumption and behaviour of the people, thereby having a very large base (Soyode and Kajola, 2006).

2.2 VAT Rate

The present VAT rate in Nigeria is 5 percent on the value of VATable goods and services and the value of vatable goods and services are determined by:

- if the supply is for money consideration, its value is deemed to be the amount which, with the addition of VAT chargeable, is equal to the consideration and,
- if the supply is for a consideration not consisting of money, the value of the supply shall be deemed to be the market value.

VAT rate in Nigeria is one of the lowest in the world. The spread of VAT is across the globe. An analysis of the VAT rate presented globally in ITD (2006) and KPMG (2009:13,14) was as in table 2 below.

Table 2 Global Vat Rate*

VAT Rate	No of countries	Percent
0 – 5	4	2.76
6 -9	6	4.14
10 – 14	34	23.45
15 – 19	71	48.96
20 – 24	27	18.12
25 & above	3	2.07
Total	145	100

Source: ITD (2006:56) and KPMG (2009:13-14).

*Global VAT Rate Lists Frequency distribution and percentages compiled by the author.

About 145 countries around the globe were involved. . As at 2009, only four countries (Canada, Japan, Nigeria and Panova) operate on 5 percent VAT rate. Denmark, Norway and Sweden operate VAT rate at 25 percent and above.

2.3 Goods and Services exempted.

First schedule (section 2 and 3) of the Act contains goods and services exempted.

Part 1 – Goods Exempted

- .All medical and pharmaceutical products
- .Basic food items
- .Books and educational materials
- Baby products
- .Fertilizers locally produced agricultural and veterinary medicine, farming transportation equipment.
- .All exports
- .Plant and machinery imported for use in the export processing zone.
- .Plant, machinery and equipment purchased for utilization of gas in downstream petroleum operations.
- Tractors, ploughs, agricultural equipment and implements purchased for agricultural purposes.

Part II – Services Exempted

- .Medical services
- .Services rendered by community banks, people's bank and mortgage institutions
- .Plays and performances conducted by educational institutions as part of learning.
- .All exported services.

In practice, proceeds from disposal of debt instruments have not been subjected to VAT. This is because VAT Act imposes VAT on goods and services: proceeds from such disposals are neither goods nor services. In addition to this the Federal Inland Revenue Service (FIRS) also issued information circular No 9503 in 1995 which clearly exempted capital investment and return on capital from VAT. The new gazette exempting disposal of bonds and other debt securities from VAT could infer that VAT was previously applicable. The 10-year VAT exemption will soon expire; it is possible to relax the VAT exemption on disposal of bonds and treasury bills. The published VAT exemption order which seeks to VAT such transactions will only be relevant when it is enacted into law. The VAT base has been extended by deleting part of the exempted goods and services. Newspapers and magazines and commercial vehicles spare parts which were part of the original seven exempted items were deleted by Decree No 30 of 1999. Only five of the original seven exempted goods remained in the first schedule under the LFN, 2004: all the exempted services unaltered with a new addition (Sanni, 2013:19).

2.4 Distribution of Proceeds from VAT.

Notwithstanding any formula that may be prescribed by any other law, the revenue accruing by virtue of the operations of the Act shall be distributed as follows: (VAT Act, 1993).

- 15% to Federal Government
- .50% to State Government and the Federal Capital Territory Abuja.
- .35% to Local Government

Table 3 shows the sharing formula of VAT since 1994

Table 3 VAT Sharing formula

Year	FIRS	FGN	State	L. Govt.
1994	20% of Gross Proceeds		80% of Gross proceeds	
1995 (Jan – Mar)		50%	20%	25%
1995 (April – Dec)		40%	35%	25%
1996 – 1997		35%	40%	25%
1998		25%	45%	30%
1999		15%	50%	35%
2000 – 2013		15%	50%	35%

Source: 1. CBN (2010) Statistical Bulletin Dec. (2010) Vol. 21
        2. Onaolapo, Aworemi and Ajala (2013:222).

2.5 Tax Productivity

In the economic activity concept of productivity, the elasticity coefficients for the input – the percentage increase in output for a given percentage increase in input – determine the productivity level. In evaluating productivity of Tax system, Asher (1989) and Osoro (1991) divided the measures into two: the elasticity of income (because every incidence of any given tax is on income either personal or corporate) and the buoyancy of tax revenue. Tax revenue buoyancy is the ability to keep such tax relevant as a result of collecting expected or targeted income from such tax. Income elasticity measures changes in tax revenue traceable to changes in income. Buoyancy is a function of change in income and also other discretion and change in tax policy.

For tax buoyancy; the Total Tax Revenue $[TTR] = b_0 Y^{b1} e$ [Eq.1]

where   Y   = GDP and,.
         b_1 = tax buoyancy which estimates and measures in percentage in terms of the change
              in TTR due to changes in the GDP.
         e   = stochastic error term.

Using double log function, $\log TTR = \log b_0 + b_1 \log GDP + e$ [Eq.2]
Using log linear function, $\log TTR = b_0 + b_1 \log GDP + e$ [Eq.3]

Ariyo (1997:24) used the log linear to evaluate the productivity of import duties, excise duties, petroleum profit tax and company income tax among others. Value added tax was yet in existence as at the 1970-1990 period of study. Another measure of productivity is the analogy of Amadi (1991) resulting in three different measures;

- .total output/total input which is identical
- .total results achieved/total resources consumed or
- .effectiveness/efficiency.

 In effect productivity becomes the attainment of the highest level of performance with the lowest possible expenditure of resources.

The application of effectiveness and efficiency at macro level is the achievement of a desired result and the degree of effectiveness with which macro-economic policy is implemented. While effectiveness measures the extent to which set targets at the national economic level are actually achieved, Oshisanmi (1991:193) describes it as the determination of the achievement of "the objectives established by law and other authorizing bodies…". This will involve an inquiry into the results or benefits achieved and the programme or activities to determine the achievements of established objectives. On efficiency, Ene (2000:10) noted that the efficiency of operations is the relationship between the level of service provided and the resources used to achieve that level. In other words increasing efficiency will reduce cost and hence increase productivity. Efficiency measures the degree of effectiveness with which government and other economic services are implemented. The achievement of an economy: efficiency and effectiveness, depend upon the existence of some arrangement for the planning, appraisal, authorization and control of its use of resources. (Chandler, 1985:3)

3. Methodology

3.1 Data Collection

The data used for this study was secondary data usually referred to as ex-post facto. A design based on such data is therefore ex-post facto design. The time series data covered the period 2000 – 2011. The VAT in table iv column 7 was obtained from CBN statistical Bulletin (2008). VAT values from 2009 to 2011 were computed from CBN Annual Reports (2009:96; 20110:94 and 2011:104). The GDP in table iv Colum 6 was obtained from CBN statistical bulletin (2011:131) at current purchasers prices. Adjusted GDP (GDP*) in table iv column 5 was obtained from CBN Bulletin(2011: 119) .The exempted items were added together and then deduced from GDP at current purchasers prices.

Data for Total Consumption Expenditure (TCE) in table iv column 4 and adjusted TCE in column 3 were

obtained from CBN Statistical Bulletin (2011:131). The adjusted TCE was a proxy of private consumption expenditure since the Total Consumption Expenditure represented the total of government and private. Government expenditures are not vatable..

The non-vatable components of the GDP were agriculture, crude, petroleum and natural gases, producers of government services and private non-profit organizations.

3.2 Model Specification

The summary of this discourse is that tax productivity can alternatively be measure by applying somewhat cross elasticity between some economic indexes such as Gross Domestic Product (GDP) and Total Tax Revenue (TTR) or Total Consumption Expenditure (TCE).When productivity of VAT is the issue of concern, then TCE is appropriate.

Since productivity is effectiveness/efficiency,

3.3 Tax Effectiveness $\quad$ = $\quad$ $\dfrac{TAX_t/GDP_t}{Standard\ Tax\ Rate_t}$ $\qquad$ [Eq. 4]

$$= \frac{TAX_t/GDP_t}{STR_t}$$

where:

$\quad$ TAXt $\qquad$ = Total Value of Tax Collected for Period

$\quad$ GDPt $\qquad$ = Total Value of GDP for Period and

$\quad$ STRt $\qquad$ = Standard Tax Rate in operation for period

3.4. Tax Efficiency $\qquad$ = $\dfrac{TAX_t/TCE_t}{STR_t}$ $\qquad$ [Eq. 5]

where

$\quad$ TCE $\qquad$ = Total Consumption Expenditure for period

$\quad$ TAXt and STRt $\qquad$ = as defined in equation 4

3.5 Tax productivity $\quad$ = $\quad$ $\dfrac{TAX_t/GDP_t}{STR_t}$ x $\dfrac{STR_t}{TAX_t/TCE}$ $\qquad$ [Eq 6]

3.6. Specifically for VAT, productivity = $\dfrac{VAT_t/GDP_t}{STR_t}$ x $\dfrac{STR_t}{VAT_t/TCE}$ $\qquad$ [Eq. 7]

$$= (VAT_t/GDP_t) / (VAT_t/TCE_t)$$

$$= \frac{VAT_t}{GDP_t} \ x \ \frac{TCE_t}{VAT_t}$$

$$= TCE_t/GDP_t \qquad [Eq.\ 8]$$

For real VAT productivity, GDP and TCE should be adjusted to reflect vatable GDP* and vatable TCE*

3.7 Real VAT productively

$\quad$ Adjusting equation 7 for Vatable GDP* and Vatable TCE*, productivity is:

$$TCE_t*/GDP_t* \qquad [Eq\ 9]$$

Equations 8 and 9 are synonymous with Osoro (1991) buoyancy index b_1 in the productivity equation of TTR = $b_o + Y^{b1}e$ in equation 2, which is the application of OLS, This alternative productivity model was the aggregation of total value of the respective variables for the period of study. .Productivity may be expressed in percentage but better expressed in number of times since numerator % cancels out denominator %.

Also there is productivity if: $\quad$ $\dfrac{Effectiveness}{Efficiency} > 1$

If productivity is less than unity, the cost of resources or input is higher than the financial benefit in form of output. If productivity is at unity, no productivity since the cost of resources just equals the output value. This shows that the system has managed to break even.

Table 4 Calculation of VAT Effectiveness, Efficiency and Productivity

S/N (1)**	YEARS(2)	TCE* (3)	TCE (4)	GDP* (5)	GDP (6)	VAT (7)
1	2000	2479	2873	12.58	4717	58.5
2.	2001	3688	4091	15.46	4910	91.8
3	2002	5540	6018	1867	7128	108.6
4	2003	7045	7496	2260	8743	136.4
5	2004	8638	9424	3382	11674	159.5
6.	2005	11075	12078	4149	14375	178.1
7	2006	11835	13118	5618	18710	230.4
8	2007	16244	18376	6457	20941	301.7
9	2008	16090	19861	7363	24665	404.5
10	2009	18981	22251	8377	25236	468.4
11.	2010	22845	27001	9385	34495	562.9
12	2011	23155	27881	10712	38151	649.5
Total		147615	169568	62374	213749	3350+
Average		12301	14130	5197	17812	279.2.0

+Approximated to the nearest whole number.

*Net (or adjusted GDP or TCE)

** Columns are in parentices

Sources: CBN Statistical Bulletin (2009, 2011) and various issues

CBN Annual Reports (2009, 2010, 2011) and various issues

4. Results

The simple common sense to calculating effectiveness of VAT as per GDP is that the total VAT for period is compared with expected VAT from GDP. Total VAT of N3350M should be at least 5 percent of Total
GDP of ₦213749M; and GDP* of ₦62374M. For GDP, n3350M/(₦213749M) results in .0156 This is less than .05 Hence VAT is not effective as per GDP. For GDP*, N3350M/N62374M results in .053.This is higher than .05. Hence , VAT is effective as per GDP*.

$$\text{GDP Effectiveness rate} = VAT/(0.05GDP)$$
$$= (₦3350M) / (₦10687.45M)$$
$$= 31.345 \text{ percent}$$
$$\text{GDP* Effectiveness rate} = VAT (0.05 GDP)*$$
$$= (₦3350M) / (/₦3118.7M)$$
$$= 107.42 \text{ percent}$$

Generally, Effectiveness rate $= \frac{20VAT}{GDP}$ or $\frac{20 VAT}{GDP*}$
$$= 31.2\% \quad \text{or} \quad 106.81\%$$

Efficiency Rate-This is when VAT is compared with TCE or TCE*. The calculation resembles GDP effectiveness.

$$\text{Efficiency rate on TCE} = VAT/(0.05 TCE)$$
$$= N3350M/N8478.4M$$
$$= 39.51 \text{ also on}$$
$$\text{and TCE*} = VAT/ (0.05TCE*)$$
$$= N3350M/N7380..75M$$
$$= 45.39$$

Generally, Efficiency rate $= \frac{20VAT}{TCE}$ or $\frac{20VAT}{TCE*}$
$$= 39.51\% \quad \text{or} \quad 45.39\%$$

4.1 Productivity [Pr]

Productivity on GDP effectiveness and TCE efficiency is:

$$(Pr_1) = \text{Effectiveness/Efficiency}$$
$$= \frac{31.345\%}{39.51\%}$$
$$= 0.7933$$

or $TCE_t/GDP_t = 0.7933$ (i.e. 169568/213749)

Productivity on GDP* effectiveness and TCE* efficiency is:

$$(Pr_2) = 107.42\%$$

$$45.30\%$$
$$= 2.367$$

or   TCEt*/GDPt $= 2.367$ (i.e. 147615/62374)

4.2 Summary of Findings

Table 5 Summary of Findings

S/N	Variables	Results	Remark
1	Effectiveness Rate (GDP)	31.345 Percent	Not effective
2	Effectiveness Rate (GDP*)	107.42.81 percent	Effective
3	Efficiency Rate (TCE	39.51 percent	Not efficient
4	Efficiency Rate (TCE*	45.39 percent	Not efficient
5	Productivity (Pr_1)	0.7933 percent	Not productive
6	Productivity (Pr_2)	2.367	Productive

4.3 Productivity Index

     Productivity Index,[PI] $= Pr - 1$

     If Pr < 1, PI   = negative [resources used are more than benefits derived]

     If Pr = 1, PI   = zero

     If Pr > 1, PI   = Positive.

For example the productivity index of VAT in the above calculations is:

     PI $= Pr - 1$

     PI_1 $= Pr_1 - 1$

     $= 0.7933 - 1$

     $= - 0.2067$ [deficit/negative]

     PI_2 $= P2r - 1$

     $= 2.367 - 1$

     $= 1.367$ times

5. Discussion of Results

Table 4 exhibits some characteristics in the distributions from columns 3 to 7. Column 3, which is the adjusted TCE (or TCE*), totals ₦147615B for the 12 years 2000 – 2011, with an average of N12301B per annum. Total of Consumption Expenditure (TCE) is N169568b with an average of ₦14130B. The difference between TCE and TCE* is ₦169568B – ₦147615B resulting in N21953B representing government consumption expenditure.

For adjusted GDP (or GDP*), which is vatable, the total is ₦62374B for 12 years with an average of ₦5197B and GDP total is ₦213749B for 12 years with an average ₦17812B. Within the period under study, total VAT collected was ₦3350B with an average of ₦279.2B.

These analyses elicit common disappointing features considering the average amount. All these economic indexes were too low in value for a country like Nigeria. The GDP is the wealth of the Nation; the pivot on which economic growth rotates. The change in potential output; that is GDP, is caused by increase in the quantity of land, labour, capital and technological progress; and with such, investment must increase. The GDP is a measure of the standard of living. Any wonder that the per capital income in Nigeria is low; less than N200,000 (CBN Annual Reports various issues).

The forgoing analysis is therefore likely to be based on pervasive, derogatory and aberration of GDP compared with contemporary countries in Africa. Summarily, the following results from table 4 are discussed as follows:

5.1   The VAT system effectiveness rate, as per GDP was low, 31.34 percent is an abortion of the objective of VAT not withstanding the non-vatable components in the GDP: there is lack of success in implementing appropriate self-assessment procedures. In these cases, the effective implementation of VAT may take longer than was envisaged when it first started. There cannot be effective VAT without self-assessment. This also signifies that VAT audit procedure should be accelerated to sieve accidentals and modulations humiliating VAT's success.

5.2   The VAT system effective rate as per GDP* was better, resulting in 107.42 per cent. There was an excess credit of 2.42 percent over 105 per cent expected. Is it VAT that is effective or is it GDP* that is dwarf? Is it that VAT exemptions have been so significantly adhesive to the economic system that vatable GDP become debased? There are issues of concern so that VAT effectiveness on GDP* is not fictitious; because exemptions are fundamentally inconsistent with the economic logic of VAT. There is a difference of ₦151375B representing the value of exemptions (majorly on government expenditure) and takes about 71 per cent of GDP. Only 29 percent are vatable!

5.3.   VAT was neither efficient on TCE nor efficient on TCE* (representing private consumption only). The efficiency on TCE was 39.34 percent and 45.39 percent on TCE*. These results corroborate the views of many

tax experts on VAT that there are still many underground economy, thousands of small and medium scale businesses across the country would not register for VAT. Consider the super-markets all over the country, professional consultants, artisans and a host of others evading VAT procedures. A colossal and horrific amount had gone into oblivion because of poor VAT administration. Accelerating VAT revenue will also need the consideration of the importance of international trade, high literacy and learning effect of VAT overtime. It is now critical for VAT administrators to maintain a focus on the long-term strategic goal of creating sustainable tax system based on voluntary compliance. VAT administrators should, as a matter of caveat, set an optimal level of threshold with which registration of the VAT becomes compulsory. A too low threshold results in considerable difficulty when tax administrator of a country is found to be insufficiently developed to administer a large VAT population (ITD, 2005:16). Ghana and Matta were victims of low threshold and was a significant cause of the failure of the two country's first VAT implementation.

5.4   The productivity of VAT on GDP and TCE produces 0.7933. This shows that VAT is not productive because 0.7933 still needs 0.2067 to break even. Productivity index (PI_1) is negative (0.7933 – 1) up to -0.2067. The cost of resources or input is higher than the financial benefit as output. The productivity of VAT on GDP* and TCE* produces 2.367. This shows that VAT is productive because 2.367 is more than break even. Profitability index (PI_2) is positive (2.367 – i) resulting in 1.367. There is an excess of 136.7 percent performance or 1.367 times.

The effectiveness of VAT on GDP* may be attributed to dwarf GDP* figure. Its failure to meet expected volume resulted in somewhat fictitious effectiveness. This same corollary is applicable to productivity expressed as TCE*/GDP*. If the denominator, the vatable GDP* was expanded, productivity would had reduced; which is why it has earlier on been said that the reliability of these comparisons will be based on pervasive, derogatory and aberrative GDP (or GDP*).

The results of this study on effectiveness and efficiency are not far from reflecting the findings of Ngenebo and Masa (2012:342); with their study covering 1994 - 2004. This shows there has not been any notable improvement since 2004. They advanced some reasons towards these discouraging performances of VAT. Such ranges from neither being effective in generating revenue for public sector activities nor was it effective in directing the consumption pattern of the economy when appraised with the gross values. Fro ongoing, if VAT could not arrest at least five per cent of TCE* (i.e. 0.05 (147615) = 7381B) already adjusted for vatable expenditure, then not all VAT collected were actually remitted, or poor administrative strategy as earlier on mention was in play or some vatable expenditure are implicit. Rather than increasing vat rate, which had not been properly harnessed, the machinery of collection should be conducted and our tax system, not VAT only, should be designed to minimize corrupt practices. The distortion, lopsidedness and the mis-direction of search lens on VAT was the manifestation of the more than disproportionate share of oil revenue of total revenue in Nigeria.

6. Conclusion

This paper studied the effectiveness and efficiency of value added tax [VAT], to gross domestic product [GDP] and total consumption expenditure [TCE]. From the foregoing, productivity was calculated according to Amadi [1991] as Effectiveness/ Efficiency; an alternative to Ariyo's [1997] log linear productivity model. Both GDP* and TCE* were adjusted to reflect vatable components only. The adjustments were also subjected to VAT productivity and resulted in productivity of 2.367. VAT is not productive on the un-adjusted GDP and TCE.

7. Recommendations

The VAT administrators should maintain a focus on long term strategic goals of creating sustainable tax system based on voluntary compliance. An optimal level of threshold with which registration of VAT becomes compulsory should be set by the administrators. The present exemptions may be reviewed because exemptions are fundamentally inconsistent with the economic logic of value added tax

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