AN EMPIRICAL ANALYSIS OF THE STEPWISE COMBINATORIAL MODELS OF TAXES AND THE EFFECTS ON TOTAL COLLECTED RVENUE IN NIGERIA

Adebayo Gabriel ADEBAYO

Department of Accountancy, Faculty of Business Studies

Rufus Giwa(Former Ondo State) Polytechnic Owo, Ondo State, Nigeria

Tel: [+234][0]8039158228

Abstract

Much had been discussed, debated and researched on the contribution of the contemporary tax system in Nigeria to public finance, using the total collected revenue (TCR) of the Federal Government as a proxy. That the petroleum profit tax (PPT) have been contributing to the TCR is outside any controversial status and was the only sustainable tax revenue representing a high proportion of the TCR of the Federal Government at least for the past two decades.. Value added tax (VAT) also started on a very encouraging springboard, generating revenue more than budgeted at commencement and still proving its worth. The company income tax (CIT) and customs and excise (CEX) taxes are also important in the study of the Nigerian tax system. This study aims at verifying whether VAT, CIT, PPT, and CEX as independent variables actually contributed to the dependent variable TCR. Ordinary Least Square {OLS) was used to evaluate 15 stepwise combinatorial models. In the final analysis of the 15 models, findings revealed that each variable appeared 8 times. The PPT was significant in all the models i.e. 8 times out of 8 times (100%) and ranked first.. The remaining three taxes were each significant 4 out of 8 times implying 50% performance for each. All the independent variables pooled together 62.5 percent significance. It was recommended that government should expand tax bases on VAT rather than increasing its rate, and reduce CIT rate of 30 percent to reduce tax evasion and also to minimize do or die tax avoidance strategies.

Key words: , Nigerian Tax System, Total collected Revenue, stepwise combinatorial models

INTRODUCTION

One of the most important topics in public sector finance that catches focal attention of all and sundry is taxation. While the taxpayers are concerned about the possible incidence/effect, especially reducing the economic that would otherwise be possessed by individuals or organizations, government on the other hand needs to raise finance for its expenditure programmes. Since there is a limit to the amount of money to be borrowed by government, most of the finances must come from taxation, if inflation is to be avoided. In the passing, it is not a guarantee for government to see taxation merely as a source of revenue. It should be a means of

economic development and revitalization; to correct market failures; to redistribute income and manage the general economy.

Specifically government can intervene in individual markets by changing taxes and does changing demand. For instance tobacco consumption could be discouraged by raising taxes on cigarettes; pollution can be controlled by imposing pollution taxes. Used in this way, taxation becomes a way of increasing economic efficiency. Government may also change tax rates in order to influence some variables that would have serious effects on the macro-economic performances of the economy. Such include inflation, unemployment and balance of payments.

The personal income tax (PIT) and capital gains tax (CGT) are excluded from this study because they are taxes with shared jurisdiction. This study therefore focused on value added tax (VAT) company income tax (CIT), petroleum profit tax (PPT), and custom and excise taxes (CEX), and their effects on the total collected revenue of the Federal government.

Objectives of the Study

The objectives of this study would be the assessment of the effects of value added tax (VAT), Company income Tax (CIT), Petroleum profit tax (PPT) and customs and excise taxes (CEX) on, and their contributions to, total collected revenue (TCR) in Nigeria using the stepwise combinatorial models.

Specially, a combinatorial analyses resulting in 15 econometric models would be used to assess the significance of each tax, combination of two or more taxes, with the total collected revenue (TCR) of the federal government. The adjusted coefficient of determination (AR^2), Dublin-Watson statistics, the F ratio and t-values shall embellish the stepwise combinatorial models result. All these are compared with the TCR to assess the importance or otherwise of the indices in the revenue generating drive of the Federal Government; and

To tabulate the result of each econometric equation and evaluate the frequency of the significance of the independent variables with the TCR

REVIEW OF RELATED LITERATURE

The Nigerian tax system is characterized by evasion, narrow tax revenue base(s), corruption and poor tax administration as a result of neglect due to over reliance on oil revenue. Tax system deals with the structure, classification, types of taxes, tax bases and tax policies.

Nigerians Tax System (taxes and levies approved for collection): Decree No. 21 of 1998

Federal Government*	**State Government**	**Local Government**
Company income tax	Personal income tax (applies to residents of the state.)	Tenancy rates
Petroleum profit tax	Withholding tax (individuals only)	Shops and kiosk rates
Value-added tax	Capital gains tax (individuals only)	Fees for on-off liquor licensees
Education tax	Stamp duties (applies to instruments executed by individuals only)	Fees for butcher slabs
Capital gains tax (applies to corporate bodies and FTC residents and	Road taxes (e.g., vehicle licenses)	Fees for marriage, birth and death registrations

nonresident individuals)		
Stamp duties (applies to corporate bodies and FCT residents)	Taxes on pool bets, lottery and casino wins	Fees for street name registration (except in the state capital)
Withholding tax (applies to companies, residents of FCT and nonresident individuals)	Business promises and registration fees in urban and rural areas:	Motor park fees
Personal income tax (applies to personnel of the armed forces, police, external affairs ministry, and residents of FCT and non-resident individuals)	Urban areas defined by each state, maximum of: (i) ₦10,000 for registration, and ii. ₦5, 000 per annum for renewal of registration; Rural areas: i. ₦2, 000 for registration, and ii. ₦1,000 per annum for renewal of registration	Market taxes and levies (except in any market where state finance is involved)
Customs and Excise Duties*	Development levy (max. of N100 per annum applies to taxable individuals only)	Fees for domestic animal licenses
	Street name registration fees (state capital only)	Fees for bicycles, trucks, canoes, wheelbarrows, carts and canoes
	Fees for right of occupancy on urban land owned by the state government	Fees for right of occupancy on land in rural areas (except those of federal and state governments)
	Market taxes and levies where state finance is involved	Cattle tax, applies to cattle farmers only
	Miscellaneous revenue (e.g. rent on property)	Entertainment and road closure levy
		Fees for radio and television licenses
		Vehicle parking ad radio license fees
		Charges for wrongful parking
		Fees for public convenience, sewage and refuse disposal

		Customary ground permit fees
		Fees for permits for religious establishments
		Fees for permits for signboards, bill boards and advertisements
		Car radio and license

*Customs and Excise Duties are taxes authorized under different tax laws.

Sources: Odusola (2006 :5): Institute of Chartered Accountants of Nigeria (ICAN, 2009a: 11-12) and Micah et al (2012:18)

Table 1is an adjustment/additions to the above sources. Levies, unlike taxes is generic or embracing because it is an imposition by legal authority and may be tax penalties and fines. Therefore all forms of taxes may be levies, not all levies may be taxes. Part of the taxes not listed above are mining, rent and royalties and other miscellaneous revenues such as earnings from oil sales, rent on properties etc which are under different provisions.(Odusola, 2006)

Table 1 can be analyzed into classification and the incidence of the respective taxes.

Classification

1. Proportional, progressive and regressive taxes (methods)
2. Direct and indirect tax (incidence)
1.

Incidence

1. Direct Tax: - personal income tax, company income tax, capital gains tax, education tax and petroleum profit tax
2. Indirect Tax**: -** value added tax, stamp duties, excise duties and custom duties.

Indirect taxes are taxation on expenditure and may affect the cost of living. A brief explanation of the characteristics of the taxes is as follows;

Value Added Tax

The VAT was defined by ITD (2005:7) as a "broad-base tax levied on sales up to and including, at least, the manufacturing stage, with systematic offsetting of tax charged on inputs-except perhaps on capital goods-against that due on outputs". The implementation of VAT in January 1994 through VAT ACT No 102 of 1993, was, according to Odusola (2006;12), "an important land mark in tax reform in Nigeria". VAT is a tax on consumption of goods and services not exempted. The multistage system allows the offset of VAT on VATabe inputs against the VAT on outputs. The difference is remitted to the Federal Inland Revenue Service (FIRS). If VAT is zero rated output, a situation in which the rate of tax applied to sales is zero, but VAT is paid on inputs, the taxpayer shall be given the tax credit paid on inputs. For example, exports are zero-rating by most countries that adopted VAT. It is the norms that a destination principle is applied to exports so that VAT is paid only at the country of destination.

VAT is therefore an indirect tax like excise duty. The VAT ACT No 102 of 1993 (as amended) replaced the sales ta Act, 1986 which was administered by each state of the federation (Sanni, 2012). It is now referred to as value added tax Act CAP V1. LFN 2004. VAT was introduced in January 1994 and the actual revenue for 1994 was 36.5 percent of the projection for the year

(Okauru, 2012). The reliability of this performance depends on the reliability of the feasibility study before commencement of VAT and whether it would ensure sustainability (Ajakaiye, 2000). VAT is computed at the standard rate of 5 percent of the value of all VATable goods and services; the values of VATable goods and services are determined, as:

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

Some goods and services are exempted from VAT. This exemption is quite different from zero rating in that, while tax is also not charged on outputs, tax paid on inputs cannot be reclaimed (ITD, 2006:8). There will be no refund payable in this case because it does not cover tax on intermediate transaction. Under these circumstances, production decisions may be subject to VAT consideration. The exempted goods and services were clearly stated under first schedule (Section 2 and 3) of VAT ACT and summarily include:

Part I Exempted Goods

1. All medical and pharmaceutical
2. Basic food items
.3. Books and educational materials
4. Baby products
5. Fertilizer, locally produced agricultural and veterinary medicine, farming machinery and Farming transportation equipment.
6. All exports
7. Plant and machinery imported for use in the Export processing zone.
8. Plant, machinery and equipment purchased for utilization of goods in downstream petroleum operations.
9. Tractors, ploughs and agricultural equipment and implements purchased for agricultural purposes.

Part II-Exempted Service

1. Medical services
2. Services rendered by community bank (now micro-credit banks), Nigeria
3. Agricultural Cooperative Rural Development Bank (NACRDB) and Mortgage Institutions.
4. Plays and performances conducted by educational institutions as part of learning.
5. All exported services
6. Goods and services purchased for the use of diplomats and donor funded projects.

The non-VATable items in the GDP include:

1. Agriculture with its subsections as crop production, livestock forestry and fishing.
2. Crude petroleum and natural gas
3. Producers of Government services such as public administration, education and health.
4. Private non-profit organizations.

Distribution of VAT proceeds

The VAT proceed distribution between the three tiers of government was eventually settled at 15%, 50% and 35% for federal, state and local governments respectively. This was of course, as a result of incessant protest by state government against the 50%, 25% and 25% respectively. The VAT act had been amended severally, the latest being the VAT (Amendment) Act of 2007.

The Company Income Tax

The CIT is a tax collected from companies. Its amount is based on the net income for an accounting year while exercising their normal business activities. The companies income tax (CIT) is chargeable on the income of all companies operating in the country except those specifically exempted under the Act. There is a clear distinction between Nigerian and non-Nigerian companies. A Nigerian company is that company incorporated under the companies and allied matters Act, 1990, as amended. The total profit of such companies are assessable to Nigerian tax irrespective of whether or not all the profits have been derived from, brought into, or received in Nigeria. The CIT was introduced in 1961. The original law (company income tax) has been amended many times and was codified as the company income tax Act 1990 (CITA) The amendments were clearly demonstrated by Odusola (2006) on such areas as: excess profit tax domination in 1991, capital transport tax scrapped in 1996.the CIT rate which was 45 percent up with 1986 fell to 40 percent between 1987 and 1991 and further subsided to 35 percent between 1992-1995. Current amendments were the company income tax (amendment) act, 2007, and an "Exemption of profits" order made on 27th April, 2012 by the President of the Federation. The Federal Inland Revenue Services (FIRS) is empowered to administer the tax and is responsible to the Federal Board of Inland Revenue (FBIR). From 1996, the CIT rate of 30 percent was charged to date. Odusola (2006) again explain that there was a 20 percent tax concession for companies such as engaged in agricultural production on mining of solid minerals with a maximum turnover of N0.5 million and those in main factoring or the export promotion sector with a turnover not exceeding N1.0million. This concession is limited to the first five years of operations. The rates on capital allowance have been reduced continually to reflect the economics reality of the country. Under the Company Income Tax (Exemption of Profits) Order 2012, companies are exempted from income tax of 5 % of assessable profit for "Employment Tax Relief"; exemption of 5% for "Work Experience Acquisition Programme Relief" and 30% for the cost of infrastructure benefitted by the public for "Infrastructure Tax Relief" all from the assessable profit of the year of assessment only. Company income tax is chargeable on:

1. The global profit of Nigerian companies irrespective of whether or not they are brought into or received in Nigeria. Dividend income to a Nigerian company is treated as franked investment income on which no income tax is due.
2. The portion of the profits of non-Nigerian companies derived from such companies' operations in Nigeria.
3. Dividends, interests or royalties due to non-Nigeria companies which are assessed at 10 percent (withholding tax rate) on gross amount due and only the net is payable to the respective companies.

Petroleum Profit Tax (PPT)

The petroleum profit tax is the taxation of profits or gain of companies engaged in the oil and gas industry. The contribution of oil and gas industry to the GDP index needs to be underscored. This sector accounts for over 90% of the country's foreign exchange earnings (ICAN, 2009b; Oremade, 2006). In view of the importance that Government attaches to oil exploration and production, the sectors operations are taxable under a separate tax law. The PPT ACT (PPTA) was first enacted in 1959 with retrospective effective date of January 1st, 1958. There had been amendments since then and had also been re-enacted as the PPT ACT Cap P13 (LFN) 2004; and amended by the PPTA of 2007.

The act defined petroleum operatives as essentially involving exploration, development, production and sale of crude oil and gas. Gas was de-aggregated to associated ad non-associated.

There are other provisions not within the PPTA, and are the provisions of the Deep offshore and Inland basin production sharing contract Decree 9 of 1999; the current memorandum of understanding (year 2000 MOU) agreement between the federal government and the petroleum companies and applicable side letters.

The ensuring summary were exclusively from a preparation by Institute of Chartered Accountants of Nigeria, (ICAN) (2009:360-361) and some embellishments from Odusola (2006). The petroleum profit tax rate was 85 percent in the form of royalties being imposed (presently 85% or 50% in respect of production sharing contracts, PSC, or 65% for local sales or 40% for sale of natural gas) to the chargeable profit to get assessable tax. The PSC is an a agreement by petrol producing companies and with the Nigeria national petroleum company (NNPC) for the production of crude oil in particular oil fields respectively.

Companies that are engaged in petroleum exploration development, production and sale of crude oil and gas are in the upstream operations and are chargeable to tax under PPTA (ICAN, 2009a:). Those that are engaged in procession the crude oil and gas and marketing of refined crude oil etc. are in downstream operations and are chargeable to tax under the provisions of the company's income tax act. There are various other issues on the PPT which may be considered as beyond the scope of this paper.

Customs and Excise Taxes

The Nigerian Customs Service (NCS) was founded in 1981 under the colonial administration and became the Department of Customs and Excise in 1992, and consequence the Custom and Excise Management Act, (CEMA) No 55 of 1958 (Wikipedia, n.d.). The various amendments and restructuring had metamophorsised the NCS to what it is today.

Customs Taxes: - These are taxes levied on imported or exported goods in Nigeria; it is charged on imported good mostly since there is an export promotion agency. This is why the tax was at the same time referred to as import duty. The duties charged are high as 300 percent prior to the introduction of SAP in 1986. Currently, the duties range between 2-75 percent and was administered by the Nigerian custom services. According to Odusola (2006:), custom duties in Nigeria are the oldest form of modern taxation and were introduced back to 1860. The tax was charged as a percentage of the value of imports or as a fixed amount contingent on quantity. As at inception, the import duties were the country's highest yielding indirect expenditure tax. Apart from the revenue generation, it is an economic tool for government to restrict imports on selective bases or as the government deems fit; and to protect domestic producers. A high import duty will increase price of import and so numbers would switch consumption from imported goods to domestically produced substitutes. Odusola (2006) also explain that the Act operating customs duties was the custom and excise management Act of 1958 and its amendment provided the statutory backing for implementation of the tax. The latest revision to the Act was in March 1995 and was applied effectively between 1995-2001. There had been several amendment since as the study group on tax reform (2003) pointed out that nearly 1,500 tariff lines were amended in two years of the regime.

Excise Taxes: This was introduced in 1962 as an ad-valorem tax and enforced by the Customs and Excise Acts of 1962 and 1965; Customs and Excise Tariff Decree of 1995. In most countries, Federal, State and Local Government levy excise taxes on specific goods and services. Goods subject to excise taxes in Nigeria are selective depending on the effect of the consumption of such goods on the citizenry generally. Some examples of products considered harmful such as alcoholic beverages, tobacco, bleaching substances. The Excise taxes are applied either on a per

unit basis, such as per package of cigarette or per litre of petrol or as a fixed percentage of the sales price. The excise tax had also been subjected to various reformations such as revocation or dues being abolished on most manufactured goods and again reintroduced as the economy may demand subject to the exemption of selective harmful products. Apart from the control of consumption of selective goods, the excise duty is no more seriously relevant as a revenue generation objective of the government. This was vindicated by the claim by KPMG (2009) on the reduction of excise taxes on wines, spirits and alcoholic beverages, cigarette and tobacco from 40 percent to 20 percent.

METHODOLOGY

Data Collection

The data used for this study were historical facts usually referred to as secondary data. This annual time-series data covered the period from 1994 [when VATstarted] to 2014. Data were obtained from the CBN (2014) Statistical Bulleting which was the edition available as at time of this study. Other sources include CBN Annual Reports (2009 – 2014) editions. The TCR in the CBN Statistical Bulletin. (2014) was used. Data for VAT, PPT CIT, and CEX for 2009 – 2014 were computed from CBN Annual Reports for various years. Gross value of collection was used. The exclusion of the cost of collection may distort trended expectations. Education tax and personal income tax are excluded to allow a focused assessment of the four prominent taxes solely controlled by the Federal Government.

Table 1: The TCR 1994 – 2014, and the Respective Taxes [VAT, PPT, CEX, and CIT] (N'Billion)

Year	**TCR**	**VAT**	**PPT**	**CEX**	**CIT**
1994	202	7.3	43	18.3	12.3
1995	460	20.8	43	57.4	21.8
1996	524	31	76.7	55	22
1997	583	34	68.6	63	26
1998	464	37	68	58	33
1999	949	47	164	88	46
2000	1906	58.5	525	101.5	51
2001	2232	91.8	639	171	69
2002	1732	108.6	392	181.4	89
2003	2575	136.4	683	196	115
2004	3920	159.5	1183	217	113
2005	5547	178.1	1905	233	140
2006	5965	230.4	2038	178	245
2007	5727	301.7	1601	241	275
2008	7866	404.5	2150	281.3	417
2009	4844	468.4	1256.5	297	500

2010	7304	562.9	1944.7	309	658
2011	11117	649.5	3976.3	438	701
2012	10655	709.8	4365.4	475.8	849.1
2013	9760	795.6	3719	433.7	985.5
2014	10069*	794.2	3439.6	566.2	1207.3

Source: CBN Statistical Bulletin (2014) and other previous issues.

CBN Annual Reports (2009-2014),

*Provisional

Model Specification

There are 15 econometric models formulated for the study. The models are represented by the equations 1 – 15 below referred to as the stepwise combinatorial models. The four taxes were arranged using "Combinations" in mathematics.

Given the major four taxes CEX, CIT, PPT and VAT, the stepwise combinatorial analysis is the list of one, two, three or four taxes out of the list. This results in ${}^4C_1 + {}^4C_2 + {}^4C_3 + {}^4C_4$:

${}^4C_1$ = (CEX); (CIT); (PPT); (VAT)

${}^4C_2$ = (CEX, CIT); (CEX, PPT); (CEX, VAT); (CIT, PPT) ; (CIT, VAT); (PPT, VAT)

${}^4C_3$ = (CEX, CIT, PPT); (CEX, CIT, VAT); (CEX, PPT, VAT) ;(CIT, PPT, VAT)

${}^4C_4$ = (CEX, CIT, PPT, VAT);

1 $TCR_1t = \alpha_0 + \alpha_1 VATt + \varepsilon_t$

2. $TCR_2t = \beta_0 + \beta_1 PPTt + \varepsilon_t$

3. $TCR_3t = \delta_0 + \delta_1 CEXt + \varepsilon_t$

4. $TCR_4t = \kappa_0 + \kappa_1 CITt + \varepsilon_t$

5. $TCR_5t = \varphi_0 + \varphi_1 VATt + \varphi_2 PPTt + \varepsilon_t$

6. $TCR_6t = Ó_0 + Ó_1 VATt + Ó_2 CEXt + \varepsilon_t$

7. $TCR_7t = \sigma_0 + \sigma_1 VATt + \sigma_2 CITt + \varepsilon_t$

8. $TCR_8t = \rho_0 + \rho_1 PPTt + \rho_2 CEXt + \varepsilon_t$

9. $TCR_9t = \tau_0 + \tau_1 PPTt + \tau_2 CITt + \varepsilon_t$

10. $TCR_{10}t = \mu_0 + \mu_1 CEXt + \mu_2 CITt + \varepsilon_t$

11. $TCR_{11}t = \lambda_0 + \lambda_1 VATt + \lambda_2 PPTt + \lambda_3 CEXt + \varepsilon_t$

12. $TCR_{12}t = \pi_0 + \pi_1 VATt + \pi_2 PPTt + \pi_3 CITt + \varepsilon_t$

13. $TCR_{13}t = \omega_0 + \omega_1 VATt + \omega_2 CEXt + \omega_3 CITt + \varepsilon_t$

14. $TCR_{13}t = \gamma_0 + \gamma_1 PPTt + \gamma_2 CEXt + \gamma_3 CITt + \varepsilon_t$

15. $TCR_{15}t = z_0 + z_1VATt + z_2PPTt + z_3CEXt + z_4CITt + \mathcal{E}t$

where

TCR_it = Total Collected Revenues, for which the Federal Government has both legislative and administrative powers, for the period.
VATt = Value Added Tax for the period
CITt = Company Income Tax for the period
PPTt = Petroleum Profit Tax for the period
CEXt = Custom and Excise tax for the period.
$\mathcal{E}_t$ = Stochastic error term
VATt, CITt, PPTt and CEXt were all explanatory variables and each variable appeared eight (8) times in the combinatorial models.

RESULTS AND DISCUSSION

The results and the discussions that follow were based on Table 2, which was the outcome of the econometric models and Table 3, the analysis of the significance of the explanatory variables.

Table 2 contains the results of the 15 models in column (a). The models were numbered 1-15. Each t- value showed a corresponding result under significance level in column (b) and (c0 respectively. The independent variables that were significant were in italics. Columns (d) and (e) are for autoregressive of the first order AR (1) and moving average of the first order MA(1) respectively. The inclusion of AR1 or MA1) or both in an equation is one of the methods for accounting for serial correlation. The ticked column signify which of the serial correlation term is used. An observation of equation showed that both terms were used. The coefficient of determination (R^2), for the first 4 models were between 0.907 and 0.978, showing that predictors were able to explain at least 90.7% of the variations in TCR. The R2 is used for simple one predictor regression while the Adjusted R square (AR^2) is normally used for multiple regression and so is applicable to models 5 to 15. The column for AR^2 shared a value of $0.902 \leq AR^2 \leq 0.992$. This implied that at least 90 percent and at most 99 percent of the variation in TCR had been explained by the independent variables. All the models had significant F value, showing that all the stepwise combinatorial models were well fitted.

The correction for possible serial correlation in the models has increased the models' reliability.

Table 3 showed that VAT, PPT CEX and CIT were significant in 4, 4, 8 and 4 models out of 8 models respectively. Column for percentage showed that PPT was ranked first with 100% and was most significant. Others were 50% each. Overall performance of the taxes was 62.5%. This is relatively low due to the sub-optimal performance of VAT and CIT.

On CEX, the implication would be that taxes levied on imported goods (since there is export promotion agency) would be high, to discourage importation of some goods and services. Instead of being abated, such importations were on the increase. Excise taxes are for the purpose of discouraging the consumption of some goods such as alcoholic beverages, tobacco, bleaching substances etc. that were generally harmful on the citizenry. The increase in the significance of CEX to total collected revenue with negative coefficients in models 8, 11, 14 and 15, (a negative t-value implies a negative coefficient), would be nothing but that a high proportion of the population are importers and consumers of goods and services detrimental to the citizenry as a whole.

The results are a bit puzzling as one would expect VAT to play a relatively leading role after PPT. Worst still was CIT performing below expectation, demonstrating negative coefficients in models 12, 13 and 15. The implication was that it is possible VAT was poorly administered that its significance is highly below optimal level. For CIT it is possible that evasion of taxes desperate tax avoidance strategies and possible capital flight as a result of high CIT rate is responsible.

CONCLUSION

This study had evaluated the effect of CEX, CIT, PPT and VAT on the total collected revenue (TCR) of the Federal Government of Nigeria. The results of the combinatorial analyses showed that petroleum profit tax (PPT) was the leading tax, being significant in all the 8 models of appearance. Next was the CEX which was significant 6 out of 8 times. This was followed by the value added tax (VAT) which was significant 5 out of 8 times and last was the company income tax (CIT), being significant 4 out of 8 times. The mean percentage of significance of all the explanatory variables {(100 + 50+ 50 + 50) / 4} was about 62.5 percent. With the analyses and the ensuing results, one may conclude that the Nigerian tax system has contributed to public finance in Nigeria.

RECOMMENDATIONS

Government should revisit both setting VAT threshold, expanding its tax bases with a view to correcting perceived flaws in its poor administration. Instead of increasing the present rate of 5%, efforts should be intensified to make sure that all VAT registerable businesses are brought to VAT net. A reduction of the present 30 percent CIT would discourage evasion and also minimize do or die avoidance strategies. Tax evasion had affected expected revenue from CIT more so that its rate of 30% is one of the highest in a contemporary economy

REFERENCES

Ajakaiye, D. O. (2000) Macroeconomic Effects of VAT in Nigeria. A Computable General Equilibrium Analysis**"** www.cite.seerx.1st.psu.edu/viewdoc/doomload

CBN (Central Bank of Nigeria) 2011. "Statistical Bulletin," 22 (December 2011): pp.129-131

CBN (Central Bank of Nigeria) 2011. Annual Reports 31st December 2011: Abuja: CBN.

CBN (Central Bank of Nigeria)(Various Issues) Annual Reports and Statement of Accounts 2008-2010.

Companies Income Tax Act CAP C21 (LFN) 2004.

FGN(Federal Government of Nigeria) (2003) Nigerian Tax Reform in 2003 and Beyond: The main Report of the Study Group on the Nigerian Tax System, Abuja, July.

FGN(Federal Government of Nigeria)(2010). Medium Term Expenditure Framework: Fiscal Strategy Paper 2011-2013. Abuja: Budget Office of the Federation.

Granger G. W. J. and New Bold, P (1974) "Spurious Regression in Econometrics" Journal of Econometrics2, 111 – 120

ICAN(Institute of Chartered Accountants of Nigeria) (2009a) Professional Examination II-Advanced Taxation. Lagos: VI Publications**.**

ICAN(Institute of Chartered Accountants of Nigeria) (2009b) Professional Examination Intermediate. Lagos: VI Publications.

ITD (International Tax Fund) (2005): "The Value Added Tax: Experiences and Issues" Paper Prepared for the International Tax Dialogue Conference on the VAT in Rome, March, 15-16.

KPMG (2009) New Developments in Customs and Excise Mattters.www.kpmg.com March 2009.

Nigerian Customs Service (n.d.) in Wikipedia. Retrieved July 25, 2014 from http://en.wikipedia.org/wiki/ Nigerian_Customs_Service.

Odusola, A.(2006) "Tax Reforms in Nigeria" for UNU-WIDER World Institute Development Economic Research. Research Paper No 2006/03.

Okauru, I. O(ed).(2012) A Comprehensive Tax History of Nigeria. Abuja: FIRS.

Oremade. T (2006) Problem of Petroleum Profit Tax in Nigeria. Ibadan: Evans Brothers Nigeria Publishers.

Petroleum Profit Tax Act CAP P13 (LFN) 2004.

Sanni, A. 2012) "Current Law and Practices of Value Added Tax in Nigeria" British Journal of Art and Social Sciences 5 (2), 186 – 201.

Value Added Tax Act, CAP VI (LFN) 2004.

APPENDIX

Table 2; Econometric Analysis of the 15 Stepwise Combinatorial Models

MODELS ATTRIBUTE			CORRECTION FOR SERIAL CORRELATION		MODELS SUMMARY			
(a) Models	(b) t-value	(c) sig	(d) AR(1)	(e) MA(1)	(f) R^2	(g) AR^2	(h) d.w.	(i) F
1 (Constant) VAT	8.16	***0.000***		√	*.908*	-	2.029	84.7
2 (Constant) PPT	9.26	***0.000***		√	***.978***	-	1.914	378.2
3 (Constant) CEX	10.01	***0.000***	√		***.914***	-	2.14	85.11
4 (Constant) CIT	6.94	***0.000***		√	***.907***	-	1.858	83.7
5 (Constant) VAT PPT	1.157 8.180	0.265 ***0.000***	√		-	.975	2.126	240
6 (Constant) VAT CEX	1.132 2.384	0.275 ***0.031***	√			.905	1.922	58.16
7 (Constant) VAT CIT	3.744 2.500	***0.002*** ***0.024***	√			.903	1.959	57.14

8 (Constant) PPT CEX	 7.159 -0.410	 ***0.000*** 0.6878	 √	 √		 .974	 1.969	 169.8
9 (Constant) PPT CIT	 8.620 0.7633	 ***0.000*** 0.457	 √			 .974	 2.122	 230.4
10 (Constant) CEX CIT	 3.348 0.869	 ***0.0044*** 0.3983	 √			 .902	 1.938	 56.11
11 (Constant) VAT PPT CEX	 1.306 7.368 -07019	 0.2127 ***0.000*** 0.4588	 √			 .975	 2.08	 175.1
12 (Constant) VAT PPT CIT	 7.924 10.83 -7.035	 ***0.000*** ***0.000*** ***0.000***	 √			 .985	 1.850	 303.1
13 (Constant) VAT CEX CIT	 1.483 1.242 -1.252	 0.1602 0.235 0.231	 √			 .907	 1.983	 44.83
14 (Constant) PPT CEX CIT	 7.202 -0.402 0.7887	 ***0.000*** 0.6937 0.4434	 √			 .973	 2.112	 163.2
15 (Constant) VAT PPT CEX CIT	 11.29 15.34 -3.594 -10.84	 ***0.000*** ***0.000*** ***0.0033*** ***0.000***	 √			 .992	 2.039	 427.7

E-View 7 Output

a..Predictors: (Constants) CEX, CIT, PPT, VAT.

b. Dependent Variables: TCR

c. Significant variables are in italics

* Application of AR (1) or MA (1) or both to correct serial correlation.

The respective econometric models were used to estimate the array of coefficients of the independent variables to determine their effects on total collected revenue (TCR) of the Federal Government of Nigeria

Table 3: Models and Frequency of Significance of Independent Variables (Extract from Table 2)

Variables	Models															Summary		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Sig	Out of	Per %
VAT	*						**					*			*	4	8	50
PPT		*			*			*	*		*	*		*	*	8	8	100
CEX			*			**				**					**	4	8	50
CIT				*			**					*			*	4	8	50
															Total	20	32	62.5

The symbol * stands for significant variables in the respective models at 1%

** stands for variables significant in the respective models at 5%

√