

## Tax Compliance Determinants in Self-Assessment System (SAS): Empirical Evidence from Nigeria

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### Abstract:

The objective of the study was to evaluate the determinants of voluntary compliance in Self-Assessment Scheme in Nigeria, although with special reference to Akwa Ibom State. This was motivated by the growing emphasis on the need for tax authorities to assess and evaluate factors militating against effective tax revenue generation through Self-Assessment System in the developing economies like Nigeria. Data were collected from the Akwa Ibom State Board of Internal Revenue Service (SBIRS) office using questionnaire. The sample size was determined through Slovin's formula. Structured survey design was adopted in conjunction with descriptive statistics and regression analyses for estimating the test result. The model summary revealed that 80.8% of the variation in voluntary Tax Compliance is jointly attributable to the influence of individual, socio-economic, and demographic factors such as Personal financial constraint, Awareness of offences and penalties, Tax rate, Ethics and attitude of taxpayers, Perception of equity and fairness, level of Income, and Level of education. The ANOVA summary also justifies that the independent variables have significant influence on voluntary tax compliance with  $F$ -calculated value of 233.763 being greater than its corresponding critical- $F$  value of 0.308451 at  $p < 0.05$ . The regression coefficients indicated a positive and significant relationship between Awareness of offences and penalties (0.337), Ethics and attitude of taxpayers (0.265), Perception of equity and fairness (0.260), Level of education (0.103) and Tax compliance. Personal financial constraint (0.051) has a positive but insignificant influence on tax compliance while Tax rate (-0.062) and level of Income (-0.055) have negative influence on tax compliance. Conclusively, individual factors, socio-economic factors and demographic factors were identified as the determinants of tax compliance and that they significantly influence voluntary compliance in Self-Assessment System in Nigeria. It was therefore recommended that tax authorities should evolve equitable tax framework that will motivate, control, sensitize, and educate the taxpayers on voluntary compliance in Self-Assessment System in the country.

**Keywords:** Tax Administration in Nigeria; Voluntary Tax Compliance in Nigeria; Self-Assessment System in Nigeria; Non-Tax Compliance in Nigeria.

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### I. Introduction

Government at all levels require financial resources for their public expenditure on projects and programmes including general administration, provision of basic amenities, and other social services. However, taxes rank among some of the potent sources of generating such funds as no government can successfully exist without revenue. Thus, government imposes taxes to mobilize revenue for managing the economy and redistributing resources. The success of any government in such objective is largely dependent on their operating models of tax administration. Moreover, the essence of taxation cannot be achieved without an accounting procedure which is properly guided by tax laws. Such procedure will provide an effective tax legislation that enhances collection and stimulates compliance through Self-Assessment System.

Like most developing countries, tax compliance in Nigeria poses a critical challenge to tax administration, in addition to influencing the fiscal system vis-à-vis revenue performance. The poor revenue performance typifies what has been termed the "tax compliance puzzle" characterizing several developing economies (Nzotta, 2007). Prior to 2011, taxpayers in Nigeria (persons and corporations) were assessed by relevant tax authorities using the Direct-Assessment System (DAS). Introduced in 1992, the Self-Assessment System (SAS) of tax regime became effectively operational in 2011. Under the system, taxpayers are required to assess themselves by calculating their tax liability, pay the tax due at the designated bank, collect e-ticket and file in their return independently. Some responsibilities particularly on assessing the tax return and determining the tax liabilities is shifted to taxpayers. The change from Direct-Assessment System to Self-Assessment System and its adoption by most countries is influenced by the acclaimed benefits Self-Assessment System is expected to yield. These benefits include; taxpayers precision in calculating their tax liabilities themselves and

filing their returns, it saves time as it is done within a stipulated period, it is convenient, safe and secure as taxpayers are expected to calculate their tax liabilities at their convenience and the cost of tax collection by tax authority is reduced as the burden of calculating the tax liabilities has been shifted to the taxpayers.

In tandem with the growing need for tax authorities in developing economies such as Nigeria to innovate more towards increasing their tax revenue, there is an expectation of improvement in tax compliance through SAS. In 2008 however, tax revenue as a percentage of Gross Domestic Product (GDP) in Indonesia and Malaysia were 13.35 percent and 15.3 percent respectively (Asian Development Bank, 2009); while it was 2.9 percent and 5.1 percent in Nigeria for 2005 and 2009 respectively. Unfortunately, in 2015, the tax revenue as a percentage of Gross Domestic Product declined to 4.8 percent after the introduction of Self-Assessment System (International Monetary Fund, 2015). This declining trend in tax revenue of Nigeria appears to be at an increasing rate compared to most developing countries. This might be attributed to the level of tax compliance which seems to be on the decrease since effecting Self-Assessment System. Thus, tax compliance may be posing a critical challenge to tax administration and influencing the revenue generation in Nigeria.

Researches in developing countries with similar trend reveals conflicting results with respect to factors considered to be responsible for compliance and non-compliance in a Self-Assessment System. A section of these researches argue that tax compliance is influenced by individual factors such as personal financial constraint and awareness of offences and penalties. Some contend that it is influenced by socio-economic factors such as tax rates, ethics and attitude of taxpayers and perception of equity and fairness of the tax system; whereas others argue that tax compliance is influenced only by demographic factors such as level of income and level of education. Hence, it is crucial to ascertain the influence of such factors on tax compliance. Therefore, the main focus in this study is to evaluate the determinants of voluntary tax compliance in Self-Assessment scheme in Nigeria, though with special reference to Akwa Ibom State.

This paper started with an introduction in section one. The remainder is divided into four sections. Section two, which is a review of related literature and hypotheses development is followed by section three, which is methodology. While section four is the test of hypotheses and discussion of findings, the final section is conclusion and recommendations.

## **II. Review of Related Literature and Hypotheses Development**

### **Theoretical Framework**

Lack of consensus trailing findings in this subject area is simply echoing the need for more researches. However, the researchers relied on the explanatory power of established theories for operationalizing the study and formulating hypotheses. Such theories include deterrence theory of punishment and psychology theory of perception.

#### **(i) Deterrence theory of punishment**

This theory can be traced to the early works of classical philosophers such as Hobbes (1678), Bentham (1948) and Beccaria (1963) which states that taxpayers are moral utility maximizers who are influenced by economic motives such as profit maximization which makes them become rationally self-interested. They further state that taxpayers will not commit crime by evading tax if the cost of committing crimes prevails over the benefit of engaging in the undesirable acts. This implies that the taxpayers will be deterred from evading tax if the probability of detection is high which could lead to punishment. The theory places emphasis on incentives. Hence, the taxpayers analyse alternative compliance path for instance whether or not to evade tax, the likelihood of being detected and the resulting repercussion and then select the alternative way that maximizes their expected after-tax returns after adjusting for risk. So, the theory views taxpayers as perfectly amoral, risk-neutral or risk-averse individuals who seek to maximize their utility and choose to evade tax whenever the expected gain exceeded the cost.

In respect of using tax audits as an enforcement strategy, Jackson and Jaouen (1989) shows evidence in support of their effectiveness in self-assessment system, though they may need to be specifically designed for the indeed taxpayers. Witt and Woodbury (1985) noted that tax rate effects were more significant among small proprietors than others. Slemrod (1989) found that taxpayers significantly under-reported adjusted gross income and that the increased probability of audit increase both reported income and tax liability. Furthermore, it was suggested that tax audits were more effective at inducing accurate reporting of tax deductions rather than income. Dubin and Wilde (1988) argued that the results of empirical evidence have been inconsistent and that there was no clear pattern for different audit classes or different taxpayers. For instance, Young (2005) contended that it was difficult to determine the effect of tax audit and the varying probabilities of detection on taxpayers' compliance. Clearly, understanding compliance behaviour is complex and it appears that the deterrence theory can assist in only limited sense.

**(ii) Psychology theory of perception**

This theory as originally developed by a renowned psychologist, Daryl Bem in 1960 states that taxpayers are influenced to comply with their tax obligations by psychological factors such as attitude, ethics and social norms. This theory is seen as counterintuitive. It also assumes that a person's personality and attitudes drive their actions. In simple terms, it illustrates that "we are what we do". It focuses on the taxpayers' morals and ethics. It suggests that a taxpayer may comply even when the probability of detection is low, based on his state of mind and behavioural pattern. The theory also lays emphasis on changing individual attitudes towards tax systems (Lewis, 1982).

The underlying challenge is that any behaviour may represent a multiplicity of attitudes and that tax mentality (person's willingness to pay tax) appears to be an important construct with more than one dimension. Song and Yarborough (1978) found that taxpayers with higher fiscal knowledge had a higher tax ethic than those with lower fiscal knowledge. Chan, Troutman, and O'Bryan, (2000) also found that where taxpayers use higher stages of moral reasoning, their attitudes towards the tax system was more favourable and they were more compliant. Smith and Stalans (1991) contended that satisfaction with government and perception of equity and fairness appears to play important roles in taxpayers' attitude toward compliance.

**Empirical Review**

Tax compliance has been diversely approached by various authors in congruence with different tax laws across jurisdictions. For instance, Alm, Jackson, and Mckee (1992) defined tax compliance as the reporting of all income and payment of all taxes by fulfilling the provision of laws, regulation and court judgements. In another definition, it is a person's act of filling their tax returns declaring all taxable income accurately and disbursing all payable taxes within the stipulated period without having to wait for follow-up action from the tax authorities (Singh, 2003). For the purpose of this study and within the context of self-assessment scheme in Nigeria, tax compliance is defined as the ability and the willingness of a taxpayer to conform to the tax laws of his country by voluntarily declaring his income accurately and filing his tax return as well as paying the tax due at the appropriate date.

Nonetheless, the most important measure of success in the implementation of Self-Assessment System of tax is the level of compliance by taxpayers. A mix of studies across many developed and developing countries which examined and evaluated the factors, views, and experiences influencing taxpayers in relation to SAS sometimes yielded controversial results. Commencing this review from the developed jurisdictions, Warneryd and Walerud (1982) examined taxes in relation to economic behaviour within Sweden. The researchers aimed to identify the determinants for tax morale. Adopting survey research design and utilizing one-way ANOVA for analysis; it was found that financial strain is a significant factor for tax evasion. The researchers concluded that perception of economic deterioration is the only way the strain may be conceptualized. However, they recommended among others the adoption of economic and behavioural approach to encourage taxpayers to comply with the taxation system.

Some research findings in the developing economies are not much different from the trend in Sweden. For instance, Vogel (1974) investigated "Taxation and Public Opinion in Ghana" by adopting a survey research design. The objective of the researcher was to assess the level of tax non-compliance and response to tax obligations among small traders. The findings illustrated that people with financial distress engage more in tax evasion than people in less financial distress. The researcher however recommended revenue authorities in Ghana to be reasonable in taxes and levies imposed on the informal sector of the economy either by consolidating or streamlining some of the rules and making the assessment scale flawless and more accessible. In other words, suggesting fairness in assessing and imposing income tax on the informal economy. Similarly, Appah and Ogbanna (2014) examined the impact of self-assessment scheme on revenue generation in Nigeria. Utilising descriptive statistics and econometric analysis, the researchers concluded that personal financial status of a taxpayer might lead to the inability to comply with tax scrutiny, which adversely affect the revenue base of the country.

In a related research, Besley, Preston, and Ridge (1997) examined the economic downturn as a factor in poll tax non-compliance in England. With the aim to investigate the effect of financial distresses of taxpayers in relation to tax offences and penalties, the researchers utilized a survey model with t-test analysis. Their findings showed that those with greater financial capability worry slightly about the fixed penalty consequences of tax evasion typical in SAS, while those with greater financial constraint did not. This implies that personal financial status of taxpayers is capable of resulting to non-compliance, despite the threat of penalty. Lending credence to this position, a study by Mohani and Sheehan (2004) asserted that people who encounter personal financial problems such as higher number of dependants are likely to be more tax non-compliant in comparison to those with less financial distress. However, financial constraint is a normal economic situation for all taxpayers at varying extents, depending on the priority of personal financial commitments and obligations per time. Therefore, it may not substantiate as the underlying reason for tax non-compliance, though subject to further

investigation in this study. Nevertheless the seeming scholastic convergence of reviewed researches, the current researchers hypothesize on the contrary that:

Ho<sub>1</sub>: there is no significant influence of Personal financial constraints on voluntary compliance in Self-Assessment System in Akwa Ibom State.

Borrowing the thoughts of Besley et al. (1997), taxpayers with greater financial distress are not only likely to engage in non-compliance but also not worried about possible consequential penalties. Experimenting more on voluntary reporting by taxpayers under uncertainty in Spain, Becks and Davis (1991) found that penalty rates affect tax compliance, in contrast with Besley et al. (1997). They concluded that the higher the penalty, the greater the discouragement of non-compliance. The researchers therefore suggested the adoption of experimental approach of tax compliance studies to reveal its effect on a smaller scale for immediate proactive measures than for a direct macro observation. In a related study on the nexus between tax offences and penalties in London, Doran (2009) also asserted that stiff penalties on erring taxpayers will discourage potential non-compliance among others in Self-Assessment System. The researcher further analyzes the trend using regression analysis and concluded that penalties significantly affect tax compliance.

In a divergent opinion, Virmani (1989) found a positive association between penalty rates and tax non-compliance. Using survey method with a regression analytical model, the researcher concluded that higher penalty would rather encourage people to cheat. This position lends background support to a more recent finding by Besley et al. (1997) that penalty would not improve voluntary tax compliance. Coincidentally, this argument is in tandem with the next hypothesis:

Ho<sub>2</sub>: there is no significant influence of Awareness of offences and penalties on voluntary compliance in Self-Assessment System in Akwa Ibom State.

In a pioneer simulated experiment of an ideal tax situation conducted by Friendland, et al. (1978), 15 participants were allowed to earn as much imaginary money as possible. Tax rates amounted to either 25 percent or 50 percent, audit probabilities was 6.67 percent with sanctions of fifteen times the evaded amount, or 33.33 percent and sanctions of three times the evaded amount. In every round of the experiment, participants were allocated imaginary monthly income of approximately the average monthly income in Israel prior to filling their taxes. The result from this experiment revealed that a higher tax rate leads to less declared income.

Studying tax evasion and tax rate in Luxemburg, Clotfelter (1983) agreed that marginal tax rates and tax non-compliance are positively correlated among higher income earners. Using correlation analysis, the researcher concluded that high marginal tax rate does not encourage tax compliance among this category of taxpayers. Conducting a related investigation in Austria, Torgler (2007) explained the nexus between tax compliance and tax morale in relation to tax rate. The researcher posited that marginal tax rate and average tax rate have different effects on income. This was demonstrated through simple percentage. The researcher however added that the margin of this differences would gradually become neutral or zero with successive increase in income. The relationship between tax rates and tax compliance with the effect of risk aversion, treated marginal tax rate and average tax rate as the same. Thus, it was empirically concluded that lowering tax rates does not necessarily increase compliance.

Upholding the argument by Clotfelter (1983), Palil (2010) studied the determinants of tax knowledge and tax compliance under SAS in Malaysia. The result however indicated that lower tax rate promotes the operation of SAS and encourage voluntary compliance. In further details of analyses, the researcher also revealed the application of tax rates across different types of income and income levels. For examples, under employment income, the individual tax resident with chargeable income less than RM100, 000 is taxed proportionally, whereas, for that taxable income of RM100, 001 and above, a flat rate of 26 percent will be charge. For 2013 year of assessment, non-resident individual is taxed at 26 percent flat rate regardless of the amount of income derived from either employment or business, in addition to a 10 percent of tax rate chargeable on royalty income. To such extent, demonstrating inconsistency in the tax rate of both employment income earners and business income earners.

In another but related dimension, Modugu and Anyaduba (2014) investigated the effect of tax rate on tax compliance in Nigeria. While data were obtained from both primary and secondary sources, the researchers adopted chi square and multiple linear regression for estimating the test result. A significant relationship was concluded between tax rate and tax compliance. While most experimental studies indicated that increasing tax rates results to tax non-compliance, Porcano (1988) claimed that tax rates have no effect on tax compliance. Moreover, tax compliance may remain sacrosanct to some people for other superior reasons than tax rate. Nevertheless the mix of opinions about the association, it is assumed in this research that:

Ho<sub>3</sub>: there is no significant influence of Tax rates on voluntary compliance in Self-Assessment System in Akwa Ibom State.

The taxpayers' standard of ethics is extremely important In a tax system which is based largely on voluntary compliance (such as SAS). In a study on taxpayers' attitude and tax compliance behaviour in Kenya, Marti and Wanjohi (2011) described the relationship as coequal. They asserted ethics and attitude to represent

*morale* whereas compliance is perceived as an *action*. The researchers further posited that tax attitude and ethics are considered as the intrinsic motivation to pay tax, where the taxpayer believes that it is obligatory to do so for whatever reason. Ethics and attitude were argued by the researchers to hold more than 20 percent of the total explanation for the tax compliance behaviour among other influencing factors. Therefore, *ceteris paribus*, if tax morale is high, tax compliance is also expected to be higher.

Wilson and Sheffrin (2005) used the US IRS taxpayers' compliance measurement program data and divided the sample into moral and immoral taxpayers. Moral taxpayers were those who did not tolerate evasion of low amount, whereas immoral taxpayers were those who have favourable attitudes towards evading higher amount. Immoral taxpayers were found to be less honest than moral taxpayers. Moreover, when taxpayers considered the tax system to be "very fair", they were 5 percent more likely to be honest as compared to those perceiving the tax system to be "fair". Moreover, immoral people were likely to cheat if they had a higher income or, were self-employed. So at all times, low compliance is imminent if the taxpayers perceive that the tax system is unfair. They recommended a robust inclusion of both moral and immoral taxpayers in the tax system planning.

In a survey of the tax ethics of taxpayers in the United States of America, Song and Yarbrough (1978) observed a negative tax ethics among taxpayers. The researchers expressed fear about poor level of tax ethics and described that as a threat to the moral fiber of the society and viable democracy. They asserted further deterioration of tax ethics, if the tax law did not get fairer and less burdensome. Nonetheless the seeming consensus of reviewed studies on positive association of the variables in this construct, such may not be the case in Nigeria as none of them covered the Nigerian context. Therefore, the current researchers hypothesize that:

Ho<sub>4</sub>: there is no significant influence of Ethics and attitude of taxpayers on voluntary compliance in Self-Assessment System in Akwa Ibom State.

Harris (1989) did a study on the "Effect of Type of Tax Knowledge on Individuals' Perceptions of fairness and Compliance in United State of America". He adopted an error correction model and found that perception to equity and fairness significantly influence compliance. He posited that taxpayers appreciate fair treatment of their group compared to other income groups. If a particular group realizes that their tax liability is higher than other groups, it might lead to non-compliance among the group.

Kirchler, Hoelzl, and Wahl (2008) examined the fairness and equity of Self-Assessment System in Uganda. They adopted a survey model and perceived it via two dimensions; the horizontal equity (where people with the same income or wealth brackets should pay the same amount of taxes) and vertical equity (where the taxes paid increase alongside the amount of taxable income. Their framework for fairness includes: distributive justice (refers to exchange of resource, i.e cost and benefit), procedural justice (refers to the process of resource distribution) and the retributive justice (refers to perceived appropriateness of sanctions in the case of contravening norms). Moreover, unreasonable intrusive audits and unfair penalties can result to stressful and dissatisfied taxpayers (Spicer and Lundsted, 1976), thereby causing non-compliant behaviour and increasing the incidents of tax evasion. Considering the effect of several determinants of perception of equity and fairness across different jurisdictions, the foregoing findings may not hold true for some taxpayers. It is therefore assumed in this research that:

Ho<sub>5</sub>: there is no significant influence of Perception of equity and fairness on voluntary compliance in Self-Assessment System in Akwa Ibom State.

Jackson and Milliron (1986) found that income level has a mixed and unclear impact on compliance, a theory also supported by Christian and Gupta (1993) and Hite (1997). Spicer and Lundstedt (1976) investigated the level of understanding about tax evasion in Belgium. Adopting a survey design and a regression model, their findings elucidated that higher income earners pay more tax than lower income class. Such result suggests that income level is positively correlated with tax compliance. However, the outcome is not without dissenting opinions and findings by other researchers.

For instance, Loo (2006) examined behavioural pattern of taxpayers' compliance in relation to self-assessment system in Malaysia. The researcher used analytical design to determine the level of compliance among the income earners; and found that higher income earners were less tax compliant. In a related study, Mohani (2001) asserted that higher income group tend to evade tax more than the less income group in countries where income redistribution is not satisfying. While Jackson and Milliron (1986); Roth, Scholz, and Witte (1989) further asserted that the relationship between income level and tax compliance is still substantially unclear; a segment of other researchers argued that income level is unrelated to tax compliance in USA and Hong Kong (Chan, et al. 2000) and in South Korea (Park and Hyn, 2003). In congruence with the predominant research outcomes in this segment of the empirical review, the current researchers hypothesize that:

Ho<sub>6</sub>: there is no significant influence of Income level on voluntary compliance in Self-Assessment System in Akwa Ibom State.

Several evidence abound in various conceptual and empirical literature about positive influence of education on tax compliance. Witte and Woodbury (1985) conducted a study on "What We Know About the

Factors Affecting Compliance and Tax Laws” using a One-way ANOVA. They found a positive relationship between education level and voluntary compliance in USA; therefore, suggested that an educated taxpayer may have certain fiscal knowledge that could assist towards understanding the benefit of paying taxes. This is because, people can comprehend tax laws better with higher level of education, hence, become more compliant as they realize their obligations and duties towards the government and the economy.

In a survey of tax evasion problem in Nigeria, Nzotta (2007) found that lack of tax knowledge through tax education often results into tax non-compliance. The researcher also asserted that the level of education received by taxpayers is an important factor that contributes to the understanding of tax processes and requirements especially as it relates to registration and filing of returns. Empirically, the multiple regression analysis demonstrated a positive correlation between education and tax compliance.

Ritsema, Thomas, and Ferrier (2003) revealed that education is very important to increasing tax compliance in any economy. They suggested that one of the keys to ensuring such compliance is to have the taxpayer attain some level of education. This, the researchers noted with an experimental survey on economic and behavioural determinants of tax compliance in Arkansas. They concluded that level of education will give the taxpayer the confidence and capacity to exercise their tax responsibility without any enforcement. It was also asserted that education is capable of motivating taxpayers towards tax compliance. Lending credibility to some earlier studies, Lubian and Zarri (2011) found that education is a crucial determinant of tax compliance as schooling provides an important channel through which ethical principles can be disseminated. They revealed this in a study on “Happiness and Tax Morale in Verona” using descriptive survey method. They concluded that education is positively correlated with tax compliance.

Many studies seem to be coasting around positive association between level of education and level of tax compliance. Nevertheless, Porcano (1988) found no evidence to support that level of education affects tax compliance, as none of the t-test showed significant different in his study. Arguing against the foregoing construct of positive nexus between education and tax compliance in Rwanda, Lewis (1982) highlighted that more complexities in tax compliance would arise through higher level of education. With more understanding of the tax system, the researcher contended that a taxpayer is likely to misuse the knowledge by taking advantage of weaknesses and loopholes in the tax system; hence may explore tax evasion. In another related study, Richardson (2008) also revealed a negative relationship between level of education and tax compliance. Thus, the current researchers also assume that:

H<sub>07</sub>: there is no significant influence of Level of education on voluntary compliance in Self-Assessment System in Akwa Ibom State.

None of the hypotheses 1-7 can be practically held constant at any given time; and as such none can be considered in isolation. Therefore, for a robust, joint, and a more meaningful test result however, hypotheses 1-7 are collapsed into one multivariate hypothesis as:

H<sub>08</sub>: The individual factors such as personal financial constraint, awareness of offences and penalties; socio-economic factors such as tax rate, ethics and attitude of taxpayers, perception of equity and fairness; demographic factors such as income level, level of education do not jointly and significantly influence voluntary compliance by taxpayers in Self-Assessment Scheme in Akwa Ibom State.

### **III. Methodology**

#### **Research design**

Survey research design and primary data are fundamentally utilized in this study. Data were specifically obtained from taxpayers, mainly small business owners through structured questionnaire. Moreover, the population of the study comprise of 3,800 small businesses (Small and Medium Scale Enterprises) that are registered with Akwa Ibom State Inland Revenue Service as at December 2015 (SBIRS Digest, 2017). Hence, the geographical scope of the study is Akwa Ibom State, Nigeria. Furthermore, a sample of 400 small businesses was derived from the population through the use of Slovin’s sample size determination model (Appendix 1). However, the sampling units were selected using systematic sampling technique. Out of 400 copies of questionnaire issued to the respondents, only 389 copies were correctly completed and successfully retrieved (Appendix 2). Thus, the adjusted sample size used in the study is 389.

#### **Operational Definition of Variables**

While the dependent variable is voluntary tax compliance (TAXCOMP) under self-assessment scheme (SAS) in Nigeria, the independent variables are factors influencing such voluntary tax compliance. Moreover, Personal financial constraint (PFINCON), Awareness of offences and penalties (AWAOP), Tax rate (TAXRAT), Ethics and attitude of taxpayers (ETHATTD), Perception of equity and fairness (EQIFAR), Income level (INCOM), and Level of education (EDU) are speculated by the researchers as factors influencing the level of tax compliance.

**Model Specification**

To test the relationship among the variables, the dependent variable is expressed as a function of the independent variables. The function is mathematically stated as

$$\text{TAXCOMP} = f(\text{PFINCON}, \text{AWAOP}, \text{TAXRAT}, \text{ETHATTD}, \text{EQUIFAR}, \text{INCOM}, \text{EDU}) \quad (1)$$

- Where: TAXCOMP = Tax Compliance (dependent variable)
- PFINCON = Personal financial constraint
- AWAOP = Awareness of offences and penalties
- TAXRAT = Tax rates
- ETHATTD = Ethics and attitude of taxpayers
- EQUIFAR = Perception of equity and fairness
- INCOM = Level of income
- EDU = Level of education

However, the derivative of multiple econometric model from the mathematical function in equation (1) is:

$$\text{TAXCOMP} = \alpha + \beta_1 \text{PFINCON} + \beta_2 \text{AWAOP} + \beta_3 \text{TAXRAT} + \beta_4 \text{ETHATTD} + \beta_5 \text{EQUIFAR} + \beta_6 \text{INCOM} + \beta_7 \text{EDU} + \varepsilon \quad (2)$$

Where:

A = constant variable

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$  = coefficients of the independent variables

$\varepsilon$  = Error term

All other denotations remain as interpreted in equation 1.

**IV. Test of Hypotheses and Discussion of Findings**

**Test of Hypothesis**

Multiple regression equation (2) is the general model for this test. Moreover, the test is at 5% level of significance. The results of the test are shown in Tables 4.1, 4.2, and 4.3.

**Table 4.1 Model summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate	of the Durbin-Watson
1	.901 <sup>a</sup>	.811	.808	1.74649	1.493

a. Predictors: (Constant), LEVEL OF EDUCATION, INCOME LEVEL, PERSONAL FINANCIAL CONSTRAINT, PERCEPTION OF EQUITY AND FAIRNESS, TAX RATES, ETHICS AND ATTITUDE, AWARENESS OF OFFENCES AND PENALTIES

b. Dependent Variable: TAX COMPLIANCE

**Source:** Researchers’ computation (2019) using SPSS 20.

**Table 4.2 ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4991.176	7	713.025	233.763	.000 <sup>b</sup>
	Residual	1162.130	381	3.050		
	Total	6153.306	388			

a. Dependent Variable: TAX COMPLIANCE

b. Predictors: (Constant), LEVEL OF EDUCATION, INCOME LEVEL, PERSONAL FINANCIAL CONSTRAINT, PERCEPTION OF EQUITY AND FAIRNESS, TAX RATES, ETHICS AND ATTITUDE, AWARENESS OF OFFENCES AND PENALTIES

**Source:** Researchers’ computation (2019) using SPSS 20.

**Table 4.3: Estimates of the parameters of the regression model.**

Model	Coefficients			T	Sig.
	Unstandardized Coefficients	Standardized Coefficients			
1	(Constant)	B	Std. Error	Beta	
	PERSONAL FINANCIAL CONSTRAINT	3.173	.466	.051	6.806
	AWARENESS OF OFFENCES AND PENALTIES	.059	.033	.337	1.770
		.293	.055		5.307

TAX RATES	-.052	.028	-.062	-1.826.	.069
ETHICS AND ATTITUDE	.235	.053	.265	4.479	.000
PERCEPTION OF EQUITY AND FAIRNESS	.227	.048	.260	4.760	.000
INCOME LEVEL	-.052	.025	-.055	-2.066	.039
LEVEL OF EDUCATION	.103	.043	.103	2.426	.016

a. **Dependent Variable: TAX COMPLIANCE**

**Source:** Researchers' computation (2019) using SPSS 20

**Test of Hypothesis 1**

The result of hypothesis 1 which states that there is no significant influence of Personal financial constraints on voluntary compliance in Self-Assessment System in Akwa Ibom State is shown in Table 4.3. However, the null hypothesis one is accepted because the calculated t-value of 1.770 is lower than the critical value of 1.966.

**Test of Hypothesis 2**

Hypothesis two states that there is no significant influence of Awareness of offences and penalties on voluntary compliance in Self-Assessment System in Akwa Ibom State. The result of this test as indicated in Table 4.3 reveals that the null hypothesis two is rejected because the calculated t-value of 5.307 is greater than the critical value of 1.966.

**Test of Hypothesis 3**

Hypothesis 3 states that there is no significant influence of Tax rates on voluntary compliance in Self-Assessment System in Akwa Ibom State. The result of the test is shown in Table 4.3 and the null hypothesis three is accepted because the calculated t-value of -1.826 is lower than the critical value of 1.966

**Test of Hypothesis 4**

**The result of** hypothesis 4 which states that there is no significant influence of Ethics and attitude of taxpayers on voluntary compliance in Self-Assessment System in Akwa Ibom State is shown in Table 4.3. However, the null hypothesis four is rejected because the calculated t-value of 4.479 is greater than the critical value of 1.966.

**Test of Hypothesis 5**

The hypothesis 5 states that there is no significant influence of Perception of equity and fairness on voluntary compliance in Self-Assessment System in Akwa Ibom State. The result of the test is indicated in Table 4.3 and the null hypothesis five is rejected because the calculated t-value of 4.760 is greater than the critical value of 1.966.

**Test of Hypothesis 6**

Hypothesis 6 states that there is no significant influence of Income level on voluntary compliance in Self-Assessment System in Akwa Ibom State. The result of the analysis as shown in Table 4.3 indicates that the null hypothesis six is accepted because the calculated t-value of -2.066 is lower than the critical value of 1.966.

**Test of Hypothesis 7**

The result of hypothesis seven which states that there is no significant influence of Level of education on voluntary compliance in Self-Assessment System in Akwa Ibom State is shown in Table 4.3. However, the null hypothesis is rejected because the calculated t-value of 2.426 is greater than the critical value of 1.966.

**Test of Hypothesis 8**

All the relationships in hypotheses 1-7 are mutually independent with equal chances of any combination of occurrence. Therefore, considering them as mutually exclusive or isolated cases may yield misleading results as none of the associations can be held constant in reality. As such, hypothesis 8 tests for the joint influence of hypotheses 1-7 on voluntary tax compliance under SAS.

However, the hypothesis states that the individual factors such as personal financial constraint, awareness of offences and penalties; socio-economic factors such as tax rate, ethics and attitude of taxpayers, perception of equity and fairness; demographic factors such as income level, level of education do not jointly and significantly influence voluntary compliance by taxpayers in Self-Assessment Scheme in Akwa Ibom State.

the result of the test is shown in Tables 4.1 and 4.2 and the null hypothesis 8 rejected because the calculated F-value of 233.763 is greater than the critical value of 2.033.

**Discussion of Findings**

The regression equation of the test is shown as:

$$TAXCOMP= 3.173 + 0.051PFINCOM + 0.337AWAOP -0.062TAXRAT + 0.265ETHATTD + 0.260EQUIFAR -0.055INCOM + 0.103EDU + 0.466$$

The constant in the equation is 3.173 while the standard error value is 0.466.

The beta coefficient of PFINCON is 0.051 which implies that 5.1% of the variation in tax compliance is explainable through Personal financial constraints. Although 5.1% is positive, it is an insignificant influence on voluntary tax compliance under SAS. Complemented by t-statistics result and P-value of 0.078 in table 4.3, the insignificant positive position of this parameter resulted into accepting Ho<sub>1</sub>. Contrary to the popular theoretical



reasoning which suggests that taxpayers, who are financially constrained will remain non-compliant to tax. In a related dimension, the result also disagrees with the findings of Warneryd and Walerud (1982) who found that financial constrain is a significant factor for tax evasion.

AWAOP indicates a beta coefficient of 0.337 which implies that 33.7% of the variation in voluntary tax compliance under SAS is influenced by Awareness of offences and penalties. Supported by t-statistics result and P-value of 0.000 in table 4.3, this significant influence by AWAOP resulted to the rejection of  $H_2$ . This outcome is in tandem with the findings of Virmani (1989) and Allingham and Sandmo (1972) who posited that penalty has a positive association with voluntary tax compliance.

The beta coefficient of TAXRAT is -0.062 indicating that -6.2% variation of the voluntary tax compliance under SAS is contributable by tax rate. Complemented by t-statistics result and P-value of 0.069 in table 4.3, the acceptance of  $H_3$  suggests that tax rates does not influence taxpayers' voluntary compliance. This result is in contrast to the findings of Modugu and Anyaduba (2014) who concluded that there exists a significant relationship between tax rate and tax compliance.

Beta coefficient of 0.265 for ETHATTD implies that 26.5% of the variation in tax compliance is attributable to Ethics and attitude. Supported by t-statistics result and P-value of 0.000 in table 4.3, this significant influence by ETHATTD resulted to the rejection of  $H_4$ . This signifies that taxpayers with high ethical standards will voluntarily comply with tax in Self-Assessment Scheme. Lending support to this position, some researchers theorize that ethics have a positive effect on compliance behaviour than financial self-interest (Marti and Wanjohi, 2011; Roth, Scholz, and Witte, 1986).

EQUIFAR indicates a beta coefficient of 0.260 which means that 26% of the variation in tax compliance is influenced by Perception of equity and fairness. Complemented by t-statistics result and P-value of 0.000 in table 4.3, this significant influence of EQUIFAR resulted to the rejection of  $H_5$ . Moreover, the findings suggest that a fair and equitable tax system will encourage voluntary compliance. This result is in agreement with the findings by Kirchler *et al.* (2008).

The beta coefficient of INCOM is -0.055 which means that -5.5% of the variation in tax compliance is explainable through income level. Supported by t-statistics result and P-value of 0.039 in table 4.3 nonetheless, the implication of accepting  $H_6$  is that the income level of a taxpayer is not linked to the voluntary compliance in Self-Assessment Scheme. By inference, some high-income earners may even prefer to engage the services of tax consultants for tax evasion or avoidance, where the expected tax benefit is more than the consultancy service charge. This position is in agreement with Wallschutzky (1984), who concluded that high income earners were less tax compliant in Australia.

Beta coefficient for EDU is 0.103 which implies that 10.3% of the variation in tax compliance is attributable to Level of education. In tandem with t-statistics result and P-value of 0.016 in table 4.3,  $H_7$  is rejected. Thus, indicating a positive association between the level of education and the level of voluntary compliance in Self-Assessment Scheme. Moreover, greater level of education is theoretically linked to increase in ethical behavior, awareness of civic obligations, as well as knowledge of possible sanctions of non-compliance with tax laws. This outcome is in agreement with findings in earlier researches (Witte and Woodbury, 1985; Ritsema, et al., 2003; and Nzotta, 2007), but divergent with the position of Richardson (2008) who observed a negative association between level of education and tax compliance.

**Nonetheless the mixed findings in hypotheses 1-7, the adjusted r-square of 0.808 was obtained in the test of hypothesis 8. This means that 80.8% of the variation in tax voluntary compliance is jointly influenced by personal financial constraint, awareness of offences and penalties, tax rates, ethics and attitude of taxpayers, perception of equity and fairness, income level and level of education.**

## V. Conclusion and Recommendations

### Conclusion

From the findings of the study it was concluded that the individual, socio-economic and demographic factors significantly influence tax compliance in the Self-Assessment System in Akwa Ibom State, Nigeria. This is indicated by an adjusted r-square of 80.8% in the multivariate regression analysis.

### Recommendations

Drawing from the findings of this study, the researchers recommended:

- i. Taxpayers should be encouraged to pay taxes irrespective of their financial status by providing tax incentives like tax holidays to boost their morals for voluntary compliance with Self-Assessment System of tax.
- ii. Tax Authorities should inform and constantly remind taxpayers about the punitive implications of tax evasion and non-compliance.
- iii. Enforcement of tax laws and regulations by tax authorities are also necessary to overcome the endogenous nature of tax non-compliance.

- iv. Relevant tax authorities and other agencies should also intensify effort to make taxpayers increasingly aware of the equitable and fair treatment of each income groups to avoid some form of retributive justice.
- v. Government or relevant tax authorities should constantly organize awareness campaigns, seminars, symposia, and so on for taxpayers as a means of improving the general tax compliance through tax education.

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**Appendix 1**

**Sample Size Determination Using Slovin’s Formula**

$$n = \frac{N}{1 + N * e^2}$$

Where: n = sample size

N = Population

1 = Constant

e = Error Coefficient (5%)

Thus:

$$n = \frac{3800}{1 + 3800 * 0.05^2}$$

= 399.89476

= 400

**Appendix 2**

**Table 4.1 Survey Summary and Response Rate**

Copies Issued	Copies Returned	Response Rate
400	n = 389	97.25%

**Source:** Researchers’ computation (2019).

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