

Determinants of Tax Compliance Behaviour under the Self-Assessment Scheme in Nigeria

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Abstract

This study examined the determinants of tax compliance behaviour under the self-assessment scheme in Nigeria. A non-random stratified sampling technique was used to evaluate taxpayer behaviour. Data was also gathered using questionnaire from three of the six geopolitical zones in Nigeria, namely South-South, South-West and North central zones respectively. The specific locations were Edo state, Lagos state, and Federal Capital Territory, Abuja resulting in 550 respondents which were analysed. The results showed that tax audit and awareness of offences and penalties had a positive and significant impact on tax compliance behaviour under the self-assessment scheme in Nigeria. Simplicity of tax administration and returns, tax knowledge and taxpayers' integrity had a positive but not significant impact on tax compliance behaviour under the self-assessment scheme in Nigeria. The study recommends that the tax authorities should enhance the capacity of tax audit and ensure that there are sufficient tax officials to facilitate tax audit exercise, create greater awareness of the various offences and penalties through the mass media and undertake an upward review of extant penalties.

Keywords: self-assessment scheme, tax audit, tax compliance behaviour, taxpayers' integrity

1. Introduction

Tax non-compliance involves both tax avoidance and tax evasion, which are global phenomena in developed and developing countries (Kerly, 2015). These global phenomena (tax evasion and avoidance) reduce revenue generated by government, and have been a major setback for efficient and effective tax administration. Consequently, tax compliance behaviour has been the subject of research in developed and developing nations (Chau & Leung, 2009). Tax evasion is a situation whereby taxpayers file incomplete tax returns or refuse to file tax returns while tax avoidance is when taxpayers take advantage of the loopholes in tax laws to reduce their tax liabilities (Anyaduba, 1999). In trying to address the menace of tax evasion and avoidance, different countries such as Australia, the United States of America, the United Kingdom, Malaysia and Nigeria have introduced self-assessment schemes for voluntary compliance, as well as effective and efficient tax administration. Okello (2014) asserts that voluntary compliance is best attained through the self-assessment scheme.

Self-assessment shifts the duty of computing and filing tax returns to the taxpayers. Under the scheme, taxpayers accompany their tax returns with a self-assessment notice and evidence of payment to the tax Authority. The self-assessment scheme was introduced in Nigeria in 1991. It took effect from 1992 and became mandatory for all taxpayers in 1998. It was effectively implemented in 2011 through a project-based scheme called self-assessment regime (Onyegbule, 2012). Government assessment had been in operation prior to 1991 where it was the responsibility of the relevant tax Authorities to raise assessments on behalf of taxpayers. Section 24 (f) of the 1999 Constitution of the Federal Republic of Nigeria provides legal backing for the implementation of self-assessment, when it stated "that it shall be the duty of every citizen to declare his income honestly to appropriate and lawful agencies and pay his tax promptly". Thus, Self-assessment scheme is applicable to all taxable companies, persons/agents for value added tax (VAT), self-employed and employees in Nigeria (Onyegbule, 2012).

Since the implementation of the self-assessment scheme in Nigeria, there has been much concern as regards the sluggish growth in tax revenue due to noncompliance of taxpayers. Compliance behaviour of taxpayers has been the main challenge in many developing countries' tax system like Nigeria. Emuwa (2016) observed that the ratio of tax revenue 'as a percentage of Gross Domestic Product (GDP) in Nigeria' was eight percent (8%) in 2016, which was

the second lowest in Africa and the fourth lowest in the world. He also observed that Nigerian taxpayers' were among the most resistant towards voluntary tax compliance, which is the key feature of the self-assessment scheme. In the 2016 'Ease of paying taxes' survey conducted by PricewaterhouseCoopers (PwC) and the World Bank, Nigeria placed 181st out of 189 economies surveyed (PricewaterhouseCoopers, 2016). The above statistics clearly showed that under self-assessment scheme in Nigeria there is still a problem of achieving high tax revenue. This raises the question: what are the determinants of tax compliance behaviour under the self-assessment scheme in Nigeria to achieve rapid growth in tax revenue?

It is against this backdrop that the study sought to examine the determinants of tax compliance behaviour under the self-assessment scheme in Nigeria.

2. Literature Review

2.1 Tax Compliance Behaviour and the Self-Assessment Scheme

Tax Compliance behaviour, has been conceptualised from several perspectives. Brown and Mazur (2005) contend that tax compliance is a difficult concept, both theoretically and empirically. They considered three perspectives of compliance namely, payment, filing and reporting. Kirchler and Wahl (2010) assert that the challenges of tax compliance research can be conveniently split into two categories, viz: conceptualisation problems and vagueness of terminologies used. However, prior to the self-assessment scheme, compliance and non-compliance researchers had shed light on different aspects of taxpayers' behaviour. According to Allingham and Sandmo (1972), tax compliance is the question of 'reporting actual income'. They argue that tax compliance behaviour is predisposed to a situation where taxpayers make decisions under uncertainty. In the same vein, Adreoni, Erard and Feinstein (1998) view tax compliance as a problem of public finance, law enforcement, organisational design, labour supply, or ethics, or a combination of all.

Organisation for Economic Co-operation and Development (OECD) (2014), defined tax compliance as the extent to which the tax behaviour of taxpayers comply (or fail to comply) with the tax laws of their country. However, Section 35 of the Nigerian Tax Administration (Self-Assessment) Regulations (2011) states that a person that has paid taxes as and when due as evidenced by production of current tax clearance certificate issued by the relevant tax authority is tax compliant.

Furthermore, Arturo (2013) asserts that voluntary tax compliance is best achieved through the self-assessment scheme, which is one of the methods of tax assessment and determination of tax liability. To this end, Arturo (2013) reports that there are three aspects of tax assessment and determination of tax liability that should be considered: (1) withholding tax; (2) government assessment; and (3) self-assessment scheme. The first technique involves the withholding of taxes at source, the lawful obligation for employers to ascertain, withhold, and remit income tax from employees' salaries and for merchants to collect and remit value added taxes to relevant tax authorities. In the second technique, government assessment is used in some nations' initial tax managements, where few taxpayers are recorded in the tax authority's registration. This method is inadequate with little resources, ineffective, and inefficient for tax computation and assessment of larger taxpayer population of any nation. Moreover, government assessment technique has been confirmed to be an access for conspiracy and corruption between taxpayers and tax authority's staff (Arturo, 2013).

Arturo (2013) further asserts that the self-assessment scheme is the preferred technique for collection and determination of a tax liability. According to Sarker (2003), the self-assessment scheme is the obligation of taxpayers to compute their tax liabilities, stating their gross income and other deductible allowances. The tax return must be formally filed with the tax authority along with payment of tax liability computed in the tax return form. Onyegbule (2012) states that the self-assessment scheme in Nigeria requires taxpayers to compute their tax liability correctly, obtain e-ticket by paying the tax due in a chosen bank and file self-assessment return. The return must be filed within the stipulated period. The tax authority also carries out risk evaluation of all tax returns and tax audit where needed. Only correctly completed tax return forms are accepted by the tax authority after desk check, as failure to meet these requirements attracts a penalty.

Tax compliance under the self-assessment scheme is normally included in the tax laws of respective countries whereby taxpayers will compute their tax liability themselves; deliver evidence to tax authority on the bases of computing their tax liability; file return on legal (due) dates; and payment of tax liability (Arturo, 2013). Okello (2014) argues that the self-assessment scheme is based on the ideology of voluntary compliance because the taxpayers are in the best position to determine their tax liabilities due to their first-hand knowledge of their financial transactions and access to all accounting records. He further opines that the global concern of tax administration has

been to reduce complex tax procedures to the simplification of tax assessment with a view to encouraging voluntary tax compliance. Consequently, several countries have adopted the self-assessment scheme. In effect, voluntary compliance is the underlying basis for self-assessment scheme.

The self-assessment scheme in Nigeria witnessed some changes in 2011, which gave the taxpayers full right to assess themselves, eradicated 100% investigation of tax returns under government assessment and replaced it with risk-based audit selection. The Self-assessment Regulations gazetted in 2011 reinforced and clarified the current provisions in the tax laws (Onyegbule, 2012). Arturo (2013) contends that the complication of tax laws in most nations, coupled with low rates of literacy in many emerging nations, made taxpayers to depend on the tax Authority and professional tax practitioners for vital information and varied taxpayers' service packages in order to meet their tax responsibilities and obligations.

In industrialised nations, like the United Kingdom, Australia, and the United States of America, tax administration is done via the self-assessment scheme where it is the responsibility of taxpayers to account for their income and compute tax liability themselves. The gains of introducing the self-assessment scheme are reductions in administration cost and improved voluntary compliance (Palil & Mustapha, 2011). Sarker (2003) also claims that the self-assessment scheme is more beneficial than government assessment because the self-assessment scheme is more cost effective than government assessment. It eradicates the administrative nature of government assessment; boosts timely and early collection of taxes; and reduces corruption by limiting tax officials' interactions with taxpayers. These benefits were the main reasons why the self-assessment scheme was first introduced into the Nigerian tax laws in 1991 and made mandatory by 1998.

However, James and Alley (2004) contend that the inherent risk of introducing self-assessment tax administration is over enforcement, which is a major challenge in the new system of assessment. Thus, the effectiveness of self-assessment implementation is based on some critical issues that need to be considered, such as the method of deciding the tax returns to be audited so that taxpayers may not be motivated to cheat or engage in gaming behaviour. Furthermore, tax non-compliance should be dealt with quickly to encourage taxpayers' compliance. Considering tax compliance behaviour and the gains in self-assessment scheme, it is crucial in research to ascertain whether these benefits will translate to a higher level of tax compliance behaviour and improve revenue generation in developing countries like Nigeria.

2.2 Integrity and Tax Compliance Behaviour

To improve voluntary tax compliance, the Nigerian government introduced the self-assessment scheme. The success of this reform would depend on the integrity of taxpayers. According to the Longman Dictionary of the English Language and Culture (2014), integrity is the strength and firmness of character or principle, honesty; trustworthiness; the state of being whole, undivided, and complete.

Thus, taxpayers' integrity can be viewed as a state or condition of strength and firmness of character or principle, honesty; trustworthiness, the state of being whole, undivided, and complete. The honesty of the taxpayers is chosen as an integrity-determining factor of tax compliance behaviour under the self-assessment scheme. If the taxpayer is honest in filing self-assessment tax returns this constitutes integrity of the taxpayer or high voluntary tax compliance behaviour. If, however, the taxpayer is dishonest this constitutes taxpayer tax noncompliance under the self-assessment scheme. By focussing on corporate and individual taxpayers, we can pursue a positive approach towards the measurement of taxpayers' integrity on tax compliance behaviour under the self-assessment scheme.

2.3 Probability of Detection, Tax Audit and Tax Compliance Behaviour

Probability of detection and tax audit plays an important role in reporting compliance behaviour because taxpayers may state all incomes if they observe that they will be audited in that specific year (Richardson, 2008). Tax audit is a common and consistent feature in the self-assessment scheme with the anticipation that all taxpayers will be audited at least once every five (5) years (Singh, 2005). Allingham and Sandmo (1972) opined that Taxpayers would declare their income correctly if the probability of detection is high. Slemrod, Blumenthal and Christian (1998) examined taxpayers' reactions and audit probability. They found mixed behaviour of taxpayers because of income level and the possibility of audit. Similarly, Fiorio and Santoro (2012) investigated the response of taxpayers to an increased audit probability, using some evidence from Italy. They analysed a large data set produced by the tax agency for the study, made of about 50,000 firms. They found a positive relationship between taxpayers' response and probability of audit. Furthermore, increased probability of audit encourages tax compliance since it has direct deterrent influence on taxpayers audited and indirect deterrent influence on taxpayers not audited (Alm, Jackson & Mckee, 2004). In addition, Anyaduba and Modugu (2013) investigated the impact of tax audit and other qualitative attributes on the

tax compliance level of companies in Nigeria. They found a positive relationship between tax audit and tax compliance. Moreover, the probability of being audited and perception of government spending were found to also have significant effect on tax compliance in Nigeria.

2.4 Awareness of Offences, Penalties and Tax Compliance Behaviour

Awareness of offences and penalties is also one of the factors that influence tax compliance behaviour. Allingham and Sandmo (1972) argue that fear of sanctions discourages tax non-compliance. Besides, taxpayers will comply if non-compliance will result in severe penalties. They further assert that tax compliance is higher when penalties associated with non-compliance increases and for tax compliance to be effective, penalties must be applied speedily and forcefully. Similarly, Devos (2013) observed a “positive relationship between penalties and tax compliance”. On the contrary, Slemrod (2004) found a negative association between penalties and tax compliance.

2.5 Simplicity of Tax Administration, Returns and Tax Compliance Behaviour

The key characteristic of self-assessment is personal-completed filing of tax returns. Taxpayers have different levels of education, thus, making tax administration and returns simple enables them to file their tax returns correctly and enhance compliance behaviour (Palil, 2010). Hasseldine and Li (1999) argue that the quality of the tax authority is needed for efficient tax administration and low level of tax evasion.

2.6 Tax Knowledge and Tax Compliance Behaviour

Palil and Mustapha (2011) examined factors, which affect tax compliance behaviour in self-assessment scheme with focus on Malaysia individual taxpayers’ knowledge and its impact on compliance in a novel self-assessment arrangement. They collected data of 1073 reactions with two stages analysis. The analysis of variance and t-test was used for Stage one, to emphasize the features of tax knowledge, tax education, income, ethnics, and gender level of taxpayers. The second stage defines the link between tax compliance and tax knowledge with multiple regressions analysis. Tax knowledge was separated into 7 sub-groups in their model as follows; knowledge about employment income, child relief, personal relief, penalty and fine, dividend and interest, taxpayers responsibilities and rights. They found that tax knowledge has an important effect on tax compliance in Malaysia self-assessment scheme and the knowledge differs among taxpayers. The Eastern region residents, individuals who attended tax courses, high-income earners, Malays and Males appear to be the more knowledgeable groups of taxpayers.

Similarly, Xin, Khai and Fong (2015) investigate factors, which influence individual taxpayers’ compliance behaviour in Malaysian self-assessment scheme. They identified major factors that affect tax compliance behaviour as tax knowledge, agents and compliance cost. These factors were found to have a verified relationship with tax compliance behaviour using the correlation test. However, no model was specified in their study to demonstrate the operationalisation of those variables by introducing self-assessment scheme as a mediating factor.

2.7 Research Gaps from Prior Studies Reviewed

From the review done above, this study observed some research gaps. Prior studies that examined the determinants of tax compliance behaviour identified some factors, which include probability of detection and tax audit (Allingham & Sandmo, 1972; Richardson, 2008; Anyaduba & Modugu, 2013; Singh, 2005); awareness of offences and penalties (Devos, 2013; Slemrod, 2004); simplicity of tax administration and returns (Palil, 2010; Hasseldine & Li, 1999); and tax knowledge (Palil & Mustapha, 2011; Xin, Khai & Fong, 2015).

Apart from the fact that these studies provided mixed results, some prior studies on determinants of tax compliance behaviour examined taxpayers’ ethics and transparency (Kiow, Salleh, & Kassim, 2017); deterrence, social interaction, and tax morale (Arcos Holzinger & Biddle, 2016); beliefs, attitudes, and values (Niemirowski, Baldwin, & Wearing, 2003) in general. In this study, we consider taxpayers’ integrity as one of the determinants of tax compliance behaviour under the self-assessment scheme in Nigeria. Since, Self-assessment shifts the duty of computing and filing tax returns to the taxpayers as a personal responsibility. Hence, it is important to note the difference between ethics and integrity. Ethics is about following the rules, and integrity is about doing the right thing, regardless of the rules.” (“What’s the Difference”, para. 6).

This study incorporates taxpayers’ integrity into the existing models of determinants of tax compliance behaviour (Anyaduba and Modugu, 2013; Ahmed and Kadir, 2015; Palil and Mustapha, 2011) to examine the determinants of tax compliance behaviour under the self-assessment scheme in Nigeria.

2.8 Theoretical Framework

This section offers an insight into the theory upon which this study is based. In this regards, the theory underpinning this study is the economic deterrence theory. The economic deterrence theory by Allingham and Sandmo (1972) is

one of the earliest and seems to be the most popular of the theories relating to determinants of tax compliance behaviour. In addition, it has received major attention in tax compliance research.

2.8.1 Economic Deterrence Theory

The economic deterrence theory provides the framework for most research in tax compliance behaviour. Leviner (2009) examined economic deterrence theory in relation to tax compliance as the major approach applied in the United States of America tax administration for over three and a half decades. One of the earliest models of taxpayers' behaviour was that of Allingham and Sandmo (1972). The individual is viewed as a utility maximiser of income reporting choice based on economic deterrence theory originated from Becker's (1968) economic of crime work. They were mainly interested in whether higher tax rate generates high or low compliance. Their answer was spontaneous, which indicates the herculean and delicate nature of tax compliance research (Andreoni, Erard, & Feinstein, 1998). On the other hand, Chauke and Sebola (2016) observed that there are different perspectives of deterrence theory, which include the persuasive and punitive. The persuasive approach takes the form of increased advertising of incentives in instances of being compliant and improving taxpayer education. Whereas, the punitive approach takes the form of increasing the tax rate or alternatively through the imposition of stronger penalties and increasing the probability of being detected. They added that the economic deterrent theory assumes taxpayers to be moral profit seeking and their activities are influence by the calculation of costs and the chances that come with it. In this regards, tax compliance behaviour under the self-assessment may possibly contend with the moral profit seeking and costs calculation of taxpayers while the integrity of taxpayers might influence them to comply irrespective of their moral profit seeking and costs calculation.

According to Devos (2014), Allingham and Sandmo assumed taxpayers to be 'utility maximisers' in decisions of tax reporting and compliance, where tax evasion was viewed as worthwhile if the financial gains purely outweighed the financial costs. Furthermore, taxpayers' have interest that is contrary to the interest of tax authorities that is to maximise utility. As a result, the economic deterrence theory is also known as utility theory. To this end, Allingham and Sandmo (1972) developed the economic deterrence model. The model can be expressed in it functional form as: $X_t = f(y_t, p_t, p_f, t)$. Where x_t - Declared income; Y_t - level of income; P_t - probability of detection and tax audit; P_f - penalty and fine; t - tax rate.

The elements observed in the economic deterrence theory are tax system complexity, revenue, withholding and reporting information level, awareness of offences and penalties, probability of detection and audit, tax rates, and noncompliance penalties.

These factors form the basis of the model specified in this study. Meanwhile, several extant studies including Palil and Mustapha (2011), Anyaduba and Modugu (2013) and Ahmed and Kadir (2015) harnessed these variables in their studies. In the light of the above, Anyaduba and Modugu (2013) captured variables like "probability of being audited, perception of government spending and penalties" in their model. In the same vein, to illustrate this point, Ahmed and Kadir (2015) observed tax audit, fines and penalties in their model. Nonetheless, Palil and Mustapha (2011) specified "tax knowledge about awareness of offences, penalties and fines" in their model. Against this backdrop, the analytical framework and model specification in section 3.7 were developed.

3. Methodology

The research design used for this study is a survey research design. The population of this study consists of all individual taxpayers and organisations that are eligible to file self-assessment tax returns in Nigeria.

Considering the near impossibility of observing the entire population, the sample of the study covered three states from three geopolitical zones out of the six geopolitical zones in Nigeria, these include Edo State in South-South, Lagos State in South-West and Federal Capital Territory Abuja in North Central. A sample size of 600 respondents were selected and were divided equally among the three states. Towards that end, 550 responses were retrieved while the other 50 responses were irretrievable. On this basis a sample size of 550 respondents were used for the study. A non-random stratified sampling technique was used to select the respondents based on the geographical difference of the zones covered.

Primary sources of data were used in this research. The primary data for the study were generated through the administration of questionnaire by hand distribution to analyse the factors, which influence tax compliance behaviour under the self-assessment scheme. The questionnaire were administered to employees in the public sector, private sector, and the self-employed. . Most of the questions were closed ended questions with multi- statements designed on likert scale of five points. Towards this end, the Self-employed individuals were selected based on the presumptive tax categories of trade/business provided by the Presumptive Tax Regulations 2015. Presumptive Tax

is a personal income tax that is chargeable under the Personal Income (Amendment) Act 2011 on Individuals who are in trade/business. Furthermore, the taxpayers' that have filed self-assessment tax returns responses were used for the regression analysis while the taxpayers that have never filed self-assessment tax returns responses were rejected.

In keeping with the method of the data collection process, this study was conducted in two stages. Firstly, a pilot survey was conducted to pre-test the research instrument in order to ensure validity of the instrument. The pilot studies became necessary because the instrument had not been previously used and validated. To ensure validity of the questionnaire and to conduct the pilot survey, a draft of the questionnaire was presented to three independent reviewer and necessary adjustments were made on the questionnaire based on their suggestions and corrections. To verify the reliability of the measuring instrument (questionnaire) developed for the purpose of this study, it was subject to cronbach alpha test for internal consistency in order to examine the clarity of the instrument and make adjustments. The final questionnaire was administered after all corrections.

3.1 Analytical Framework and Model Specification

3.1.1 Analytical Framework

In line with the theoretical framework and prior studies stated in chapter two, section 2.8.1; we anchored this study on the economic deterrence theory. The economic deterrence theory provides the framework for most research works on tax compliance behaviour and has consistently provided the basis on which tax compliance models were formulated.

Flowing from the economic deterrence model, we built our study around Anyaduba and Modugu (2013) which examined tax audit and tax compliance in Nigeria using the following model:

$$\text{TAXCOMP} = \beta_1 \text{TAXAUDIT} + \beta_2 \text{GOVSPEND} + \beta_3 \text{PENALTY} + \beta_4 \text{GOVPOL} + \beta_5 \text{DETECTN} + \epsilon \quad (1)$$

Where: TAXCOMP - Tax compliance; TAXAUDIT - Probability of being audited; GOVSPEND - Perception on government spending; PENALTY - Penalties and enforcement; and GOVPOL -Changes in government policy.

Our study also revolved around Ahmed and Kedir (2015) which observed the effect of tax compliance and its determinant in Jimma Zone, Ethiopia with the following model:

$$\text{COMP}_i = \alpha_0 + \beta_1 \text{AGE} + \beta_2 \text{GEND} + \beta_3 \text{EDUC} + \beta_4 \text{MARSTA} + \beta_5 \text{TaxAUD} + \beta_6 \text{PEN} + \beta_7 \text{SIMP} + \beta_8 \text{FAIR} + \beta_9 \text{PRERGOV} + \epsilon_i \quad (2)$$

Where: COMP - Compliance; AGE - Age; GEN – Gender; EDUC- Education; MARSTA - Marital States; TaxAUD - Tax audit; PEN - Fines and penalties; SIMP – simplicity; FAIR - Fairness of tax system; and PRERGOV - Perceived role of government.

Finally, our study revolved around Palil and Mustapha (2011) which investigated factors affecting tax compliance behaviour in self-assessment system using the following model:

$$\text{TCDIR}_i = \alpha + \beta_1 \text{TNRES}_i + \beta_2 \text{TNEMPLOY}_i + \beta_3 \text{TNDIVINT}_i + \beta_4 \text{TNPERSREL}_i + \beta_5 \text{TNCHILDREL}_i + \beta_6 \text{TNREB}_i + \beta_7 \text{TNAWARE}_i + \beta_8 \text{TNTOTAL}_i + \epsilon_i \quad (3)$$

Where:TCDIR I - Tax compliance score (direct questions); TNRES I - Tax knowledge about responsibilities and rights; TNEMPLOY I - Tax knowledge about employment income; TNDIVINT I - Tax knowledge about dividend and interest; TNPERSREL I - Tax knowledge about personal relief; TNCHILDREL I - Tax knowledge about child relief; TNREB i - Tax knowledge about rebates; TNAWARE i - Tax knowledge about awareness offences, penalties and fines; and TNTOTALi - Total tax knowledge score.

3.1.2 Model Specification

The model for this study was adapted from Anyaduba and Modugu (2013) model, Ahmed and Kedir (2015) model and Palil and Mustapha (2011) model as modified, to capture our specific situation of factors that affect tax compliance behaviour under the self-assessment scheme in Nigeria. Thus, the model in it functional form is as follows:

$$\text{TAXC} = f(\text{PDTA}, \text{AWOP}, \text{TKNO}, \text{STR}, \text{INT}) \quad (4)$$

The model in its econometric form is as follows:

$$\text{TAXC}_i = \beta_0 + \beta_1 \text{PDTA}_i + \beta_2 \text{AWOP}_i + \beta_3 \text{TKNO}_i + \beta_4 \text{STR}_i + \beta_5 \text{INT}_i + \text{Uti} \quad (5)$$

Where: TAXCi - Tax Compliance behaviour; PDTAi - Probability of Detection and Tax Audit; AWOPi - Awareness of Offences and Penalties; TKNOi - Tax Knowledge; STRi - Simplicity of Tax Administration and

Returns; INT_i - Taxpayers' Integrity; U_{ti} - Error term; β_0 - Intercept; and $\beta_1, \beta_2, \dots, \beta_5$ - Unknown coefficient of the Independent variables.

Table 1. Operationalization of variables and a priori expectation

Variables	Proxy	Type of Variables	Measurement	A priori sign	Used by
Tax Compliance Behaviour	TAXC	Dependent Variable	5 Points Likert scale	Nil	Anyaduba and Modugu (2013)
Probability of Detection and Tax Audit	PDTAi	Independent Variable	5 Points Likert scale	+	Anyaduba and Modugu (2013)
Awareness of Offences and Penalties	AWOPi	Independent Variable	5 Points Likert scale	+	Ahmed and Kedir (2015)
Tax Knowledge	TKNOi	Independent Variable	5 Points Likert scale	+	Palil and Mustapha (2011)
Simplicity of Tax Administration and Returns	STRi	Independent Variable	5 Points Likert scale	+	Ahmed and Kedir (2015)
Taxpayers' Integrity	INTi	Independent Variable	5 Points Likert scale	Nil +	

Source: Researcher's Compilation (2017)

3.3 Data Estimation Techniques

The data collected was analysed using descriptive statistics, Analysis of Variance (ANOVA) and the Ordinary least square (OLS) regression technique, which was adopted due to its cherished properties of unbiasedness, efficiency and consistency. The data was estimated with the aid of computer software Statistical Package for Social Sciences (SPSS22) and Eviews 8.

4. Data Presentation and Analysis of Results

4.1 Demographic Analyses and Summary Statistics of Variables

Table 2. Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	326	59.3	59.3	59.3
	FEMALE	224	40.7	40.7	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

From Table 2 the analysis of the data, 326 of the respondents were male representing about 59.3% of the sample while 224 of the respondents were female and this represents 40.7% of the sample.

Table 3. Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	210	38.2	38.2	38.2
	31-40	201	36.5	36.5	74.7
	41-50	90	16.4	16.4	91.1
	51-60	41	7.5	7.5	98.5
	60-ABOVE	8	1.5	1.5	100.0
	Total	550	100.0	100.0	

Source: Field survey (2017)

Table 3 represents the age statistics. From the analysis of the data, 210 of the respondents are between the age ranges of 20-30 years representing about 38.2% of the sample. Two hundred and one (201) of the respondents are within the age range of 31-40 and this represents 36.5% of the sample. Ninety, (90) of the respondents are between the age ranges of 41-50 years representing about 16.4% of the sample. Forty-one (41) of the respondents are within the age range of 51-60 years this represents 7.5% of the sample and eight (8) of the respondents are within the age range of 60 and above and this represents 1.5% of the sample.

Table 4. Educational qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SSCE	41	7.5	7.5	7.5
	ND/HND	170	30.9	30.9	38.4
	BSC/LLB	252	45.8	45.8	84.2
	MBA/MSC	65	11.8	11.8	96.0
	PHD	5	.9	.9	96.9
	CITN/ICAN/ANAN	11	2.0	2.0	98.9
	OTHERS	6	1.1	1.1	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

In Table 4 the analysis of the level of education of respondents, 41 of respondents have SSCE representing about 7.5% of the sample. One hundred and seventy (170) of the respondents have ND/HND and this represents 30.9% of the sample. Two hundred and fifty two (252) of the respondents have B.SC./LLB representing 45.8% of the sample. Sixty-five (65) of the respondents have MBA/MSC representing about 11.8% of the sample. Five (5) of the respondents have Ph.D degree and this represents 0.9% of the sample. Eleven (11) of the respondents have CITN/ICAN/ANAN and this represents 2% of the sample while 6 of the respondents have other qualifications and this represents 1.1% of the sample.

Table 5. Have you ever filed self-assessment tax returns?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	264	48.0	48.0	48.0
	NO	286	52.0	52.0	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

From Table 5 the analysis of the level respondents, 264 of the respondents have filed self-assessment tax returns representing 48% while 286 of the respondents have never filed self-assessment tax returns.

Table 6. If yes, how many years have you filed self-assessment returns?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 YEAR	77	14.0	29.2	29.2
	2 YEARS	59	10.7	22.3	51.5
	3 YEARS	43	7.8	16.3	67.8
	4 YEARS	29	5.3	11.0	78.8
	5 YEARS	18	3.3	6.8	85.6
	6 YEARS-ABOVE	38	6.9	14.4	100.0
	Total	264	48.0	100.0	
Missing	System	286	52.0		
Total		550	550	100.0	

Source: Field survey, (2017)

From Table 6 the analysis of how many years respondents have filed self-assessment returns, 77 of respondents have filed self-assessment tax returns for 1 year representing about 14% of the sample. Fifty-nine (59) of the respondents representing 10.7% of the sample have filed returns for 2 years. Forty-three of the respondents representing about 7.8% of the sample have filed returns for 3 years. Twenty-nine (29) of the respondents representing 5.3% of the sample have filed returns for 4 years. Eighteen (18) of the respondents representing 3.3% of the sample have filed returns for 5 years while 38 of the respondents representing 6.9% of the sample have filed returns for 6 years and above.

Table 7. Who prepared your tax returns in the year of assessment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ME	93	16.9	16.9	16.9
	TAX AGENT	171	31.1	31.1	48.0
	NEVER	286	52.0	52.0	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

In Table 7 the analysis of the level of respondents, Ninety-three (93) of respondents personally prepare their tax returns representing about 16.9% of the sample. One hundred and seventy-one (171) of the respondents representing 31.1% of the sample hire tax agent for the preparation of their tax returns while Two hundred and eighty-six (286) of respondents representing about 52.0% of the sample do not prepare their tax returns or use a tax agent.

Table 8. Have you attended/passed any formal taxation course organized by Federal Inland Revenue Service, university, other professional bodies, or any bodies previously?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	142	25.8	25.8	25.8
	NO	408	74.2	74.2	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

From Table 8 the analysis, 142 of respondents have attended/passed any formal taxation course organized by Federal Inland Revenue Service or university or other professional bodies or any bodies previously representing 25.8% of the sample while 408 of the respondents representing 74.2% of the sample have not.

Table 9. Who is your current employer?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	GOVT	67	12.2	12.2	12.2
	SELF EMPLOYED	222	40.4	40.4	52.5
	PRIVATE	198	36.0	36.0	88.5
	OTHERS	63	11.5	11.5	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

From Table 9 the analysis, 67 of respondents work with the government representing about 12.2% of the sample. 222 of the respondents representing 40.4% of the sample are self-employed, 198 of respondents representing about 36% of the sample work for private firms while 63 of the respondents representing 11.5% work for neither of the above listed.

Table 10. What is your Location?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ABUJA	172	31.3	31.3	31.3
	EDO STATE	186	33.8	33.8	65.1
	LAGOS	192	34.9	34.9	100.0
	Total	550	100.0	100.0	

Source: Field survey, (2017)

Table 10 represents the geographical location of the sample; these include Edo State in South-South, Lagos State in South-West and Abuja in North Central. From the analysis, 172 of respondents live in Abuja representing about 31.3%

of the sample. One hundred and eighty-six (186) of the respondents representing 33.8% of the sample are in Edo state, while 192 of the respondents representing 34.9% live in Lagos.

Table 11. Cronbach-Alpha

	Cronbach-Alpha
Tax compliance under self-assessment	0.743
Probability of Detection and Tax Audit	0.847
Awareness of Offences and Penalties	0.876
Tax Knowledge	0.715
Simplicity of Tax Administration and Returns	0.738
Taxpayers' Integrity	0.704

Source: Researcher's compilation (2017)

Table 11 Confirmations the Cronbach-alpha test for reliability. From the Cronbach-alpha test results, we observe that tax compliance under self-assessment is 0.743, which is high and confirms the validity of the results. As Hair, Black, Andrew, and Tatham (2006) noted that Cronbach-alpha values of 0.7 and above suggest reliability. For the Probability of Detection and Tax Audit, the cronbach alpha is 0.847, which is high and confirms the validity of the results. Cronbach alpha for Awareness of Offences and Penalties is 0.876, which is high and confirms the validity of the results. The cronbach alpha for Tax Knowledge is 0.715, which is high and confirms the validity of the results. For Simplicity of Tax Administration and Returns, the cronbach alpha is 0.738, which is high and confirms the validity of the results. The cronbach-alpha for Taxpayers' Integrity is 0.704, which is high and confirms the validity of the results.

4.2 Communalities for the Variables

Testing for communalities is crucial in ensuring that the items under each concept e.g Q10-14 (Tax compliance) are measuring the same underlying concept. Communality is the extent to which an item correlated with all other items. Higher communalities are better. If communalities after extraction for a particular item are low (between 0.00-0.04), then that item/variable will struggle to load significantly on any factor.

Table 12. Communalities

Tax compliance	Initial	Extraction
10	1.000	.885
11	1.000	.357
12	1.000	.659
13	1.000	.711
Probability of Detection and Tax Audit		
14	1.000	.759
15	1.000	.756
16	1.000	.597
17	1.000	.672
Awareness of Offences and Penalties		
18	1.000	.536
19	1.000	.530
20	1.000	.776
21	1.000	.740
Tax knowledge		
22	1.000	.610
23	1.000	.646
24	1.000	.786
25	1.000	.800
Simplicity of Tax Administration and Returns		
26	1.000	.594
27	1.000	.636
28	1.000	.589
29	1.000	.635
Integrity		
30	1.000	.642
31	1.000	.666
32	1.000	.568
33	1.000	.631

Source: Researcher's compilation (2017)

From Table 12 the communalities table above, all the items show above average values after extraction. Above average communalities, shows that when the factor analysis is conducted on the variables, the underlying factor will indeed explain the variations in those variables. The values indicate the proportion of each variable variance that can be explained by the retained factors. Variables with high loading are well represented in the common factor space while variables with low values are not well represented. Thus, the results suggest that all of the items should be retained in the factor space for each variable.

4.3 Regression Analysis

In this section, we conduct the regression analysis based on the model specified in the previous chapter. The ordinal nature of the data was transformed into factor scores for each of the categories. Transformation of questionnaire variables into factor scores addressed the multicollinearity problem. The variables were exposed to factor analysis and factor scores from factors with eigen value values greater than one was used (appendix 1). The kolmogorov-simirnov normality test was applied to ensure that the results could be generalized beyond the sample. The result is presented and analysed below;

Table 13. Regression result

Dependent	Variable =A priori sign	Tax compliance	VIF
C		0.0004 (0.008) {0.971}	
PDTA	+	0.781* (0.009) {0.000}	1.302
AWOP	+	0.3281* (0.100) {0.000}	1.359
TKNO	+	0.005 (0.009) {0.551}	1.132
STR	+	0.015 (0.009) {0.090}	1.182
INT	+	0.011 (0.009) {0.192}	1.111
Summary Statistics			
	R2	0.9632	
	Adj R2	0.9627	
	F-Stat	2860.791	
	P(f-stat)	0.0000	
	D.W	2.0000	
Model Diagnostics			
	B-G-LM Test	0.6456	
	Breusch-Pagan-Godfrey	2.5263	
	Ramsey RESET	0.6179	

Source: Researchers compilation (2017)

Table 13 presents the regression result for the estimation of the model specified earlier in the previous section. The R2 for the model is very impressive at 0.9632, which implies that the model explains about 96.32% of the systematic

variations in the dependent variables while the adjusted R² is 96.27%. The F-stat is 2860.791 (p-value = 0.00) is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model. The D. W statistics of 2.000 indicates the likely absence of stochastic dependence in the model. Focusing on the performance of the coefficients, we observe that the coefficient for PDTA is positive (0.781) and statistically significant at 5% level (p=0.000) and this implies that probability of detection and tax audit has a positive and significant influence on tax compliance and thus improvement in detection and tax audit will result in an improvement in tax compliance. The beta for Awareness of offences and Penalties (AWOP) is positive (0.3281) and statistically significant at 5% level (p=0.000) which implies that taxpayers awareness of offences and penalties has a positive and strong impact on tax compliance. The impact of Tax knowledge (TKNO) is positive (0.005) although not significant at 5% level (p=0.551). The impact of simplicity of tax administration and returns (STA) is also positive (0.015) though not significant at 5% (0.09). Integrity of taxpayer (INT) is also positive (0.011) though not significant at 5%. Giving a further breakdown of the results, the variance inflation factor (VIF) that takes into account the presence of multicollinearity in the model, however revealed that multicollinearity does not exist in the model due to the fact that the centered variance inflation factor (VIF) values do not exceed the threshold value of 10 (Hair et al., 2006). At the same time, the model diagnostics reveals that the Breusch-Pagan-Godfrey test for heteroskedasticity was performed on the residuals as a precautionary measure. The results show probabilities in excess of 0.05, which resulted in the rejection of the presence of heteroskedasticity in the residuals. The Lagrange Multiplier (LM) test for higher order autocorrelation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This is because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not, therefore, reveal serial correlation problems for the model. Finally, the performance of the Ramsey RESET test showed high probability values that are greater than 0.05, suggesting that there is no significant evidence of miss-specification.

4.4 Discussion of Results and Test of Hypotheses

Tax audit is a common and consistent feature in the self-assessment scheme with the anticipation that all taxpayers will be audited at least once every five (5) years (Singh, 2005). Allingham and Sandmo (1972) opined that taxpayers will declare their income correctly if the probability of detection is high. Focusing on the performance of the coefficients, we observe that the coefficient for Probability of Detection and Tax Audit (PDTA) is positive (0.781) and statistically significant at 5% level (p=0.000) and this implies that probability of detection and tax audit has a positive and significant influence on tax compliance behaviour under the self-assessment scheme and thus improvement in detection and tax audit will result in an improvement in tax compliance behaviour under the self-assessment scheme which is in tandem with economic deterrence theory. Consequently, we reject the null hypotheses of no significant positive relationship between probability of detection and tax. The finding is in tandem with Slemrod, Blumenthal and Christian (1998) which examined taxpayers' reactions and audit probability and found mixed behaviour of taxpayers because of possibility of audit. Similarly, Fiorio and Santoro (2012) investigate the response of taxpayers to an increase audit probability, using some evidence from Italy. They found a positive relationship between taxpayers' response and probability of audit. Furthermore, increased probability of audit encourages tax compliance since it has direct deterrent influence on taxpayers audited and indirect deterrent influence on taxpayers not audited (Alm, Jackson & Mckee, 2004). In addition, Modugu and Anyaduba (2014) investigate the impact of tax audit and other qualitative attributes on the tax compliance level of companies in Nigeria. They found a positive relationship between tax audit and tax compliance.

The beta for Awareness of offences and Penalties (AWOP) is positive (0.3281) and statistically significant at 5% level (p=0.000) which implies that taxpayers' awareness of offences and penalties has a positive and strong impact on tax compliance. Awareness of offences and penalties is also one of the factors, which influence tax compliance behaviour under the self-assessment scheme in line with the economic deterrence theory. Allingham and Sandmo (1972) argue that fear of sanction discourages tax non-compliance. Besides, taxpayers will comply if non-compliance will result in severe penalties. They further assert that tax compliance is higher when penalties associated with non-compliance increases and for tax compliance to be effective, penalties must be applied speedily and forcefully. Similarly, Devos (2013) observed a positive relationship between penalties and tax compliance. On the contrary, Slemrod (2004) found a negative association between penalties and tax compliance. Consequently, we reject the null hypotheses of no significant positive relationship between Awareness of Offences and Penalties and tax compliance.

The impact of Tax knowledge (TKNO) is positive (0.005) although not significant at 5% level (p=0.551). However, the relationship is positive it is not significant. Consequently, we accept the null hypotheses of no significant

relationship between tax knowledge and tax compliance. The findings is at variance with Palil and Mustapha (2011) which examine factors which affect tax compliance behaviour in self-assessment scheme with focus on Malaysia and found that tax knowledge has an important effect on tax compliance. This is also similar to Xin et al. (2015).

We observe that the coefficient for simplicity of tax administration and returns (STR) and tax compliance under self-assessment is positive (0.015) although not significant at 5% level ($P=0.090$). However, the relationship is positive it is not significant. Consequently, we accept the null hypotheses of no significant relationship between simplicity of Tax Administration and tax compliance. However, the finding is in contrast with Palil, (2010). Hasseldine and Li (1999) argue that quality of tax authority needed for efficient tax administration and low level of tax evasion.

Integrity of taxpayers' (INT) also has positive (0.011) impact on tax compliance under self-assessment though not significant at 5%. However, the relationship is positive; it is not significant. Consequently, we accept the null hypotheses of no significant relationship between integrity and tax compliance behaviour under the self-assessment scheme. Although, Integrity of taxpayers can positively influence tax compliance behaviour under the self-assessment scheme but however not all taxpayers might have integrity. This therefore truncate the attribute of this variable that integrity of taxpayers might influence them to comply irrespective of their moral profit seeking and costs calculation.

5. Summary of findings, Conclusion and Recommendations

The findings of the study were as follows: The probability of detection and tax audit had a positive and significant influence on tax compliance behaviour under the self-assessment scheme in Nigeria; Taxpayers' awareness of offences and penalties had a positive and significant impact on tax compliance behaviour under self-assessment scheme in Nigeria; Simplicity of tax administration and returns (STR) had a positive although not significant impact on tax compliance behaviour under self-assessment scheme in Nigeria; Tax knowledge (TKNO) had a positive effect that was not significant on tax compliance behaviour under self-assessment scheme in Nigeria; and Integrity of taxpayers' (INT) also had a positive though not significant impact on tax compliance behaviour under self-assessment scheme in Nigeria.

From the above findings, this study concluded that probability of detection, tax audit, awareness of offences and penalties were the factors that influenced tax compliance behaviour under the self-assessment scheme in Nigeria mostly. Consequently, Simplicity of Tax Administration and Returns (STR), Tax Knowledge (TKNO) and Integrity of Taxpayers' (INT) are not significant determinants of tax compliance behaviour under self-assessment scheme in Nigeria.

This study makes the following recommendations. The tax authorities should increase the capacity of tax audit. This should be regular at least once annually. Tax authorities should create more awareness of offences and penalties through the mass and social media. The tax authorities should take advantage of this platform to create awareness; the penalty rate needs upward review to deter taxpayers' from tax savings due to tax noncompliance with the tax laws; and Tax enforcement should be strengthened because weak enforcement encourages tax noncompliance.

Further studies on determinants of tax compliance behaviour should cover pre and post tax compliance behaviour under the self-assessment scheme since this study was on self-assessment regime. The mediating effect of self-assessment scheme on factors of tax compliance behaviour need to be investigate since this study did not examine the mediating role of self-assessment scheme. Further studies should investigate more factors that influence tax compliance behaviour.

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APPENDIX: REGRESSION ANALYSIS

Dependent Variable: TAXC

Method: Least Squares

Date: 07/24/17 Time: 13:06

Sample: 1 550

Included observations: 550

White heteroskedasticity-consistent standard errors & covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004006	0.008101	0.494506	0.9719
PDTA	0.781031	0.009016	86.62723	0.0000
AWOP	0.328104	0.100481	3.265329	0.0000
TKNO	0.005101	0.009171	0.556245	0.5510
STR	0.015022	0.009242	1.625433	0.0902
INT	0.011067	0.009383	1.177965	0.1924

R-squared	0.963241	Mean dependent var	4.067563
Adjusted R-squared	0.962722	S.D. dependent var	0.757682
S.E. of regression	0.374581	Akaike info criterion	2.171207
Sum squared resid	152.1160	Schwarz criterion	2.218225
Log likelihood	-230.7819	Hannan-Quinn criter.	2.189581
F-statistic	2860.791	Durbin-Watson stat	2.000003
Prob(F-statistic)	0.000000	Wald F-statistic	30.43872
Prob(Wald F-statistic)	0.000000		

Variance Inflation Factors

Date: 07/24/17 Time: 13:17

Sample: 1 550

Included observations: 550

	Coefficient	Centered
Variable	Variance	VIF
C	0.077007	NA
PDTA	0.003007	1.302
AWOP	0.002328	1.359
TKNO	0.001492	1.132
STR	0.002965	1.182
INT	0.003319	1.111

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.526270	Prob. F(5,544)	0.3083
Obs*R-squared	12.48087	Prob. Chi-Square(5)	0.3016
Scaled explained SS	14.52853	Prob. Chi-Square(5)	0.0126

Ramsey RESET Test

Equation: UNTITLED

Specification: TC

Omitted Variables: Squares of fitted values

	Value	Df	Probability
t-statistic	1.900179	543	0.6179
F-statistic	3.610680	(1, 543)	0.0579
Likelihood ratio	3.645121	1	0.0562
