“Tax administration, trust in tax authorities, and personal income tax compliance: Evidence from Nigeria”

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ARTICLE INFO	Tajudeen John Ayoola, Odunayo Olamide Olaniyi, Peace Ebunoluwa Kolawole, Olateju Dolapo Aregbesola and Olatunde Wright (2023). Tax administration, trust in tax authorities, and personal income tax compliance: Evidence from Nigeria. *Public and Municipal Finance*, *12*(1), 12-21. doi:10.21511/pmf.12(1).2023.02
DOI	http://dx.doi.org/10.21511/pmf.12(1).2023.02
RELEASED ON	Thursday, 16 March 2023
RECEIVED ON	Thursday, 12 January 2023
ACCEPTED ON	Friday, 17 February 2023
LICENSE	This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Public and Municipal Finance"
ISSN PRINT	2222-1867
ISSN ONLINE	2222-1875
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
40	0	6

BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

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TAX ADMINISTRATION, TRUST IN TAX AUTHORITIES, AND PERSONAL INCOME TAX COMPLIANCE: EVIDENCE FROM NIGERIA

Abstract

Developing countries are characterized by a low level of tax compliance arising from weaknesses in tax administration and trust deficits. This poses a critical challenge toward the attainment of developmental goals. This paper aims to examine the moderating role of trust in tax authorities for the relationship between tax administration and personal income tax compliance in Nigeria. The study used a survey design to obtain data through a structured questionnaire administered to randomly selected individual taxpayers from Nigeria; 365 responses were collected. The OLS results revealed that tax administration significantly influences personal income tax compliance (β = 0.301, t = 4.068, and p-value = 0.000). Trust in tax authorities significantly influences personal income tax compliance (β = 0.183, t-value = 3.650, and p-value = 0.000). Furthermore, the result showed that trust in tax authorities positively moderates the relationship between tax administration and personal income tax compliance (β = 0.323, t = 4.098, and p-value = 0.000). This study concludes that tax administration significantly affects personal income tax compliance, and trust in tax authorities moderates this relationship in Nigeria.

Keywords slippery slope framework, tax compliance, trust, Nigeria

JEL Classification H11, H25, H30

Received on: 12th of January, 2023
Accepted on: 17th of February, 2023
Published on: 16th of March, 2023

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Conflict of interest statement:
Author(s) reported no conflict of interest

INTRODUCTION

Domestic revenue mobilization is crucial for enhancing a country's development as it ensures a stable flow of revenue for financing developmental goals (Modica et al., 2018). In addition, taxes provide a stable flow of domestic revenue crucial for state-building and indicate the social contract between citizens and the government (International Monetary Fund (IMF), 2018).

The revenue statistics by the Organization for Economic Cooperation and Development (OECD, 2021) showed that the tax-to-GDP ratio in some developing countries falls below 15% – a minimum threshold required to invest in public goods. This shortfall is caused by low or non-tax compliance arising from weakness in tax administration, corruption, low tax morale, trust deficit, and the large informal sector (Dom et al., 2022).

Isbell (2017), researching citizens' perception of the tax system in developing economies, revealed that when taxpayers pay taxes, it does not necessarily translate to improving public service. This, coupled with the corrupt practices of the tax officials, has resulted in a relationship of 'distrust' between the citizens and tax authorities, which invariably impedes tax compliance.

http://dx.doi.org/10.21511/pmf.12(1).2023.02

Tax compliance has continued to gain attention in the literature since the seminal work of Allingham and Sandmo (1972) on the income tax evasion economic model. The model suggested that tax compliance decision is influenced by four economic parameters: the taxpayer's income level, tax rate, chances of detection, and penalty rate.

Muehlbacher et al. (2011) noted that economic parameters must be revised to explain tax compliance. Asides from the economic factors, the influence of behavioral and psychological factors has also gained attention in the literature (Alm et al., 2010; Oats, 2012). Psychology researchers integrated both economic and non-economic factors to develop the slippery slope framework (SSF). The SSF culminated the factors influencing tax compliance into two dimensions: trust and authorities' power (Kirchler et al., 2008). The power of authorities represents the economic factors related to the power to enforce compliance through audit and penalty. Trust in tax authorities represents psychological factors that reflect taxpayers' perception of how benevolent, fair, and trustworthy tax authorities interact with them. Dom et al. (2022) noted that tax administration reform, which intended to increase tax compliance, focused on strengthening tax enforcement. The paradigm has recently shifted to the need to build citizens' trust in the state. The empirical literature is still scant on the relationship between tax administration, trust in tax authorities, and personal income tax compliance, which is the focus of this paper.

The study targets the Nigerian environment where tax compliance is low, coupled with taxpayers' distrust in government and tax authorities (Oyedele, 2016; IMF, 2018). An effort to address this challenge motivated the Nigerian government to embark on reforms, such as the implementation of a self-assessment scheme, the Integrated Tax System (ITAS), the Voluntary Assets and Income Declaration Scheme (VAIDS), and the Voluntary Offshore Assets Regularisation Scheme (VOARS) (Olise & Emeh, 2020). However, despite these efforts and other initiatives by the government, tax compliance is persistently low, as reflected by the country's low tax-to-GDP ratio; hence, this study aims to investigate this research gap.

1. LITERATURE REVIEW

Researchers seek to identify factors responsible for (non)-tax compliance. Extant literature has identified various elements that influence taxpayers' compliance behavior based on economic and behavioral approaches (which may either be sociological or psychological). While the economic approach presumes that individual taxpayers' compliance decision is based on an economic consideration of the benefit of compliance against the cost of non-compliance, the behavioral approach centers around taxpayers' perception of fairness, tax knowledge, tax morale and social norm (Mardhiah et al., 2019).

Prior to the traditional or economic approach to tax compliance, early researchers asserted that a taxpayer's attitude toward the government and taxes is significant in explaining tax compliance (Alm et al., 2012). Allingham and Sandmo (1972) identified the influence of four economic parameters on tax compliance: taxpayer's income, tax rate, the likelihood of detection, and penalty. A taxpayer is presumed to be a rational being who evaluates the gains of undetected cheating by not declaring his total income to reduce his tax liability against the risk of detection through audit and punishment before deciding whether to accurately report or evade all or a portion of the tax due (Muehlbacher et al., 2011).

Studies from the behavioral approach emphasized that the capacity of the tax authority may also impact tax compliance, their interactions with taxpayers, as well as the degree of taxpayers' satisfaction with how government delivers public goods and services (Muehlbacher & Kirchler, 2010; Yesegat & Fjeldstad, 2016). Richardson (2006) discovered that taxpayers' attitudes toward tax compliance are significantly influenced by their view of the government's responsiveness to the yearnings of the citizens. Ali et al. (2013) pointed out that taxpayers' perceptions of the fairness of the tax system and their conviction that tax revenue will be prudently spent on the provision of desirable public goods influences tax compliance. Taxpayers may act in a non-compliant manner, such as declining to register for taxes or underreporting their income, if they believe the tax system is unfair (Gilligan & Richardson, 2005). Additionally, there is a propensity for taxpayers to withhold some of their taxable income when they believe the tax system is unjust due to various taxes or high tax rates. Batrancea et al. (2019) posited that citizens' perception of authorities and administrative actions, which relate to the administration's efficiency, effectiveness, and equity, influences tax behavior.

Kirchler et al. (2007) found two distinct societal climes that influence tax compliance: one is the societal clime of trust, and the other is the societal clime of distrust. They argued that in an environment of trust between taxpayers and the government, determinants of tax compliance would include tax knowledge, fairness, and moral appeals. On the other hand, increasing fines, audit probabilities, and the high power of tax authorities will determine tax compliance in an environment of distrust.

Kirchler et al. (2008) fused the psychological and economic factors of tax compliance into a two-dimensional framework of trust and power of authorities: the slippery slope framework. They emphasized that both dimensions can solve the social issue of tax compliance since the former will lead to voluntary tax compliance and the latter will lead to enforced tax compliance (Faizal et al., 2017).

Gangl et al. (2015) conceptualized power and trust dynamics and how they may affect tax compliance concerning the two climes established by Kirchler et al. (2007). Taxpayers' assessments of the tax authorities' capacity to identify (through audits) and punish (via penalties) tax evaders were used to capture their power. On the other side, trust in tax authorities represents psychological elements that affect tax compliance, which is connected to taxpayers' opinions of the clarity of tax rules, the fairness with which tax authorities apply the law, and their concern for the welfare of the community. How tax authorities interact with taxpayers may result in voluntary or enforced tax compliance. Voluntary compliance may be low in developing countries with a high level of distrust in government and its taxing agents. Tax authorities may need to rely on aggressive strategies to enforce compliance.

The theoretical underpinning for this study is the slippery slope framework (SSF) developed by Kirchler et al. (2008). The SSF incorporates economic and psychological factors into the tax compliance framework to explain two different outcomes- voluntary and enforced compliance. Gangl et al. (2015) expanded this further by conceptualizing the dynamics of power and trust and their effect on tax compliance (Inasius, 2019). The framework describes "trust in tax authorities" as a strong predictor of voluntary compliance, while "power of tax authorities" results in enforced compliance. The SSF differentiates between a synergistic and antagonistic climate that may lead to voluntary and enforced tax compliance.

1.1. Tax administration and tax compliance

The empirical literature on tax administration, trust in tax authorities, and personal income tax compliance needs to be more conclusive. For example, Hassan et al. (2021) examined the relationship between economic, social, behavioral, and institutional aspects affecting individual taxpayers' voluntary tax compliance behavior in Pakistan. The study adopted a correlational design and collected primary data via a questionnaire. The study discovered that support services and education influence tax compliance. In addition, tax morale (the motivation to pay taxes) and tax compliance are mediated by the taxpayers' perceptions of fairness.

Mzalendo and Chimilila (2020) assessed the effect of tax administration, focusing on its ability to detect evasion, awareness, trust, corruption, and tax compliance and reciprocity in Tanzania using data from the Afrobarometer survey. The findings revealed that tax compliance is influenced by trust in the tax administration, corruption in the tax administration, and the tax administration's capacity to identify tax evaders.

Susuawu et al. (2020) explored the impact of quality tax administration service on taxpayers' compliance in Ghana. The study identified reliability,

http://dx.doi.org/10.21511/pmf.12(1).2023.02

responsiveness, empathy, and assurance of tax officials as service quality indicators. The findings revealed that the measures of tax administration service quality have a considerable impact on taxpayers' compliance. Tax administration should inculcate the indicators in their service delivery to taxpayers.

Peprah et al. (2020) evaluated income tax administration and compliance among Ghana's micro, small, and medium-sized firms. The study was anchored on Allingham and Sandmo's and social psychology theories. Employing a mixed method, the study interviewed ten officers and sent a structured questionnaire to 200 MSMEs to gather information on tax administration. The findings indicated that factors affecting tax compliance include a lack of tax education and income level, a high tax rate, and household consumption. Tax administration also needed more institutional ability, resources, and a favorable public attitude toward tax payments.

De Neve et al. (2019) investigated the effect of the tax administration's simplification of information, deterrent strategies, and tax morale on filing, reporting, and payment compliance of personal income taxpayers in Belgium. The study examined information simplification at several communication phases between tax administration and taxpayers by employing five-population-wide experiments on tax filing and reminders to pay taxes. The study discovered that simplifying information provided to taxpayers by the tax administration increased voluntary compliance and helped the tax administration save money on enforcement.

Paramaduhita and Mustikasari (2018) sought to determine the influence of taxpayers' perception of tax penalties, enforcement, law, and treatment on tax compliance. Using primary data obtained through a questionnaire administered to 110 registered taxpayers in Indonesia, the study revealed that taxpayers' perception of sanctions and enforcement influences non-employee tax compliance.

1.2. Trust and tax compliance

Mardhiah et al. (2019) examined the factors affecting trust and power as the major predictors in the slippery slope framework. Data were obtained through a survey conducted on 500 selected individual taxpayers in Jakarta, Indonesia. The result of partial least squares-structural equation modeling revealed that tax penalties and fairness affect trust in tax authorities. They further established that trust in tax authorities increases voluntary and overall tax compliance.

Lisi (2019) theoretically analyzed and empirically tested the integration of the components of SSF (trust and power), tax morale, and the economic model of taxpayer behavior. The study found that trust and tax morale effectively increased voluntary tax compliance. Kostritsa and Sittler (2017) adopted the structural model of Jimenez and Iyer (2016) to examine the influence of social factors on voluntary tax compliance among Austrian taxpayers. A survey was conducted using both online and offline questionnaires to reach a sample of 333 respondents. Analyzing the data using correlations and regression analysis, the findings revealed that social factors significantly influence tax compliance, which is consistent with Jimenez and Iyer (2016).

Additionally, it was discovered that taxpayers' trust in the government affected their perceptions of fairness and tax compliance. Jimenez and Iyer's (2016) study was similar to Kostritsa and Sittler's (2017) study though conducted in different countries; the former examined the influence of social actors on individual tax compliance intentions. A survey of 217 United States (US) taxpayers found that trust in government influences both the perceived fairness of the tax system and compliance intentions.

Olaoye et al. (2017) investigated how tax administration, taxpayers' knowledge, and tax information influence tax compliance. The study identified the factors affecting tax compliance in Nigeria: income level, education, corruption, lack of information, the dominance of the shadow economy, and ineffective tax administration. Using a sample size of 250 respondents, the study indicated that taxpayers' knowledge and information on the operation of tax administration influences tax compliance. It affirmed the importance of taxpayers' education in improving tax compliance.

2. AIM AND HYPOTHESES

Based on the literature review, the study identified three research gaps. First, the literature offers scant empirical evidence on the effect of tax administration on personal income tax compliance. For example, when measuring tax administration, earlier studies did not incorporate a service-oriented attitude (tax education, tax support service), tax penalty, and administrative efficiency, as described by Okello (2014). Second, only a few studies have tested the assumptions of the slippery slope framework in the context of a developing economy. Third, there is a need for more data on the relationship between tax administration, trust in tax authorities, and personal income tax compliance.

Therefore, the study aims to determine the relationship between tax administration, trust in tax authorities, and personal income tax compliance in Nigeria. The paper suggests the following hypotheses:

H_1: *Tax administration does not significantly affect personal income tax compliance.*

H_2: *Trust in tax authorities does not significantly affect personal income tax compliance.*

H_3: *Trust in tax authorities does not moderate the relationship between tax administration and personal income tax compliance.*

3. METHODOLOGY

3.1. Research design, data, and sample description

The study adopted descriptive research relying on quantitative methods. The survey research design provided the privilege of checking unobservable data (for example, attitude and behavior) and allowed for the remote collection of data about a population that is too large to observe directly.

The study population comprised individual taxpayers from three selected States in the Southwest region of Nigeria with a population of 600,000 registered taxpayers. The sample size of 400 was determined using the Taro Yamane formula; however, it was increased to 550 to account for nonresponse, as suggested by Hair et al. (2008). A total of 440 responses were obtained, from which 365 (83%) were deemed fit for analysis, and the remaining 75 (17%) were discarded due to anomalies such as incomplete filing of the questionnaire (Table 1).

The survey used a five-point Likert scale. Tax compliance was measured using a scale from Always (5) to Never (0). Tax administration was measured by tax education and enlightenment, tax support service, tax enforcement policies, and tax administration efficiency, using a five-point Likert scale of Strongly agree (4), Agree (3), Disagree (2), Strongly Disagree (1), and Undecided (0).

Table 1. Questionnaire distribution and response rate

Developed questionnaires	Frequency	Percentage (%)
Distributed questionnaires	550	100
Unreturned questionnaires	(110)	20
Retrieved questionnaires	440	80
Rejected questionnaires	(75)	14
Retained copies of the questionnaire	365	66

Note: Values in parentheses are deducted.

3.2. Model specification and measurement of variables

The econometric model for achieving the objective is presented by:

$$PITC = \beta_0 + \beta_1 TA_i + \beta_2 TRUST + \\ + \beta_3 TA \cdot TRUST + \beta_4 EQ + \beta_5 AG + \\ + \beta_6 GEN \cdot \varepsilon_i, \quad (1)$$

where *PITC* = personal income tax compliance, *TA* = tax administration, *TRUST* = trust in tax authorities, *EQ* (control variable) = educational qualification, *AG* (control variable) = age, *GEN* (control variable) = gender.

The dependent variable, personal income tax compliance (*PITC*), was measured with seven items that covered reporting, filing, and payment compliance. Tax administration (*TA*) was measured with 11 items covering enforcement, facilitation, and efficiency of operations. Trust in tax author-

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ities (*TRUST*) was measured with three questions on tax officials' trustworthiness, honesty, and reliability in their interaction with taxpayers. Data analysis was done using the ordinary least squares (OLS) approach.

4. RESULTS

4.1. Diagnostic results

The research instrument was tested for reliability using Cronbach's alpha. Cronbach's alpha values for the study's constructs were *PITC* = 0.838, *TA* = 0.776, and *TRUST* = 0.867. Cronbach's alpha values of all constructs were above the threshold of 0.7 and, therefore, suitable for achieving the study's objective.

4.2. Demographic profile of respondents

Table 2 shows the demographic characteristics of the respondents. The results showed that the study's respondents were spread across different age brackets. The majority of the respondents (62.2%) had a graduate degree, which showed they were literate and knowledgeable about tax. Finally, the result showed that the respondents are business owners whose businesses are in different life cycle stages.

Table 2. Demographic profile of respondents

Variables	Categories	Frequency	Percentage
Gender	Male	195	53.4
	Female	170	46.5
	Total	**365**	**100.0**
Age	18-28	59	16.1
	29-39	105	28.8
	40-50	139	38.1
	51 and above	62	17
	Total	**365**	**100.0**
Educational qualification	SSCE	15	4.1
	OND/NCE	43	11.8
	Graduate degree	227	62.2
	Postgraduate degree	73	20
	Others	7	1.9
	Total	**365**	**100.0**
Length of years in business	1-10	182	49.9
	11-20	117	32.0
	21-30	47	12.9
	31 and above	19	5.2
	Total	**365**	**100.0**

4.3. Descriptive statistics

Table 3 shows the descriptive statistics, namely the mean and standard deviation of the questionnaire items. The mean score of tax administration (TA) was 2.30 (SD = 0.6267), which tended toward "Agree"; this indicates that respondents have a mild perception of the tax administration. The mean score of trust in tax authorities (TRUST) was 3.33 (SD = 0.8210), which tended toward "Strongly Agree"; this demonstrates that respondents have a higher perception of trust in tax authorities. Furthermore, personal income tax compliance has a mean score of 3.25 (SD = 0.8078), demonstrating a rather mild compliance with their income tax obligation of reporting, filing, and payment.

Table 3. Descriptive statistics

Variables	Mean	Standard Deviation
TA	2.30	.6267
TRUST	3.33	.8210
PITC	3.25	.8079

Note: TA = tax administration, TRUST = trust in tax authorities, PITC = personal income tax compliance.

4.4. Regression results

Table 4 presents the regression results of the study's model. Tax administration has a significant and positive relationship with personal income tax compliance (β = 0.301, t-value = 4.068, p = 0.000). The results showed that trust in tax authorities demonstrates a significant and positive relationship with personal income tax compliance (β = 0.183, t-value = 3.650, p = 0.000). Similarly, the results revealed that trust in tax authorities positively moderates the relationship between tax administration and personal income tax compliance (β = 0.323, t-value = 4.098, p = 0.000).

Furthermore, while controlling for the influence of demographic variables (age, gender and educational qualification), age and gender are negatively related to personal income tax compliance (β = –0.194, t-value = –4.627, p = 0.000 and β = –0.083, t-value= –1.058 and p = 0.291 respectively). On the other hand, educational qualification is positively related to personal income tax compliance (β = 0.110, t-value = 2.412, p = 0.016).

Table 5 presents the regression result showing the coefficient of determination (R^2). Specifically, the result revealed that a unit increase in tax administration would result in a 9% increase in personal tax compliance. Additionally, when trust in tax authorities moderates the relationship between tax administration and personal income tax compliance, there is a 19% increase in personal income tax compliance. This indicates that the relationship between tax administration and personal income tax compliance is better strengthened when taxpayers trust the tax authorities.

Table 6 shows the ANOVA result which is essential to ascertain the statistical significance of the model of the study. The F-statistic of the model (that is, 1 and 2) of 17.975 and 13.590 respectively are statistical significant with $p < 0.05$. This indicates that the impact of tax administration and trust in tax authorities on personal income tax compliance is statistically significant. Also, the moderating effect of trust in tax authorities on the relationship between tax administration and personal income tax compliance is also statistically significant. The null hypotheses (H_1, H_2 and H_3) are rejected, therefore the alternative hypotheses that H_1 – tax administration significantly affect personal income tax compliance, H_2 – trust in tax authorities significantly affect personal income tax compliance and H_3 – trust in tax authorities does not moderate the relationship between tax administration and personal income tax compliance are therefore accepted.

5. DISCUSSION

The study investigates the relationship between tax administration, trust in tax authorities, and personal income tax compliance in Nigeria. It also analyzes the moderating role of trust in tax authorities in the relationship between tax admin-

Table 4. Regression results of study variables

Model		Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
		B	Std. error	Beta			Tolerance	VIF
1	(Constant)	1.930	.223		8.646	.000		
	TA	.301	.074	.207	4.068	.000	.971	1.030
	TRUST	.183	.050	.186	3.650	.000	.971	1.030
2	(Constant)	4.312	.613	–	7.040	.000	–	–
	TA	–.739	.264	–.509	–2.801	.005	.069	14.519
	TRUST	–.482	.175	–.490	–2.758	.006	.072	13.884
	TA·TRUST	.323	.079	1.101	4.098	.000	.031	31.753
	Gender	–.083	.079	–.052	–1.058	.291	.959	1.043
	Age	–.194	.042	–.230	–4.627	.000	.922	1.084
	Educational qualification	.110	.046	.120	2.412	.016	.920	1.088

Note: TA = tax administration, TRUST = trust in tax authorities.

Table 5. Model summary

Model	R	R square	Adjusted R square	Std. error of the estimate
1	.301[a]	.090	.085	.77267
2	.431[b]	.186	.172	.73521

Table 6. ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.463	2	10.732	17.975	.000[b]
	Residual	216.119	362	.597	–	–
	Total	237.582	364	–	–	–
2	Regression	44.073	6	7.346	13.590	.000[c]
	Residual	193.509	358	.541	–	–
	Total	237.582	364	–	–	–

Note: a. Dependent Variable: PITC; b. Predictors: (Constant), TRUST, TA; c. Predictors: (Constant), TRUST, TA, Age, Gender, Educational qualification, TA·TRUST.

http://dx.doi.org/10.21511/pmf.12(1).2023.02

istration and personal income tax compliance. Using SPSS version 21, the hypotheses were tested through ordinary least square (OLS) regression, and a 5% significance level was adopted.

The empirical findings revealed that tax administration is significantly and positively related to personal income tax compliance. Based on this result, the first hypothesis (H_1) is rejected: thus, tax administration significantly influences personal income tax compliance. Furthermore, the result also shows that trust in tax authorities is positively and significantly related to personal income tax compliance, rejecting the second hypothesis (H_2). This finding supports the theoretical postulation of the slippery slope framework that trust in tax authorities is a strong predictor of tax compliance.

This study supported earlier empirical evidence (Batrancea et al., 2019; Inasius, 2019; Kogler et al., 2015; Lisi, 2019; Mardiah et al., 2019) but contradicted the findings of Hauptman et al. (2015). Damayanti and Supramono (2019) further suggest that trust reciprocity significantly influences tax compliance. The findings demonstrate that trust in tax authorities positively moderates the relationship between tax administration and personal income tax compliance, rejecting the third hypothesis (H_3). This result aligns with Adekoya et al. (2020), where trust was a moderator in the relationship between tax service and voluntary tax compliance behavior.

CONCLUSION

This paper investigated the relationship between tax administration, trust in tax authorities, and personal income tax compliance in Nigeria. It sought to precisely assess the moderating role of trust in tax authorities in the relationship between tax administration and personal income tax compliance while controlling for the effect of demographic variables. As a result, trust in tax authorities was held as a moderating variable to test the postulation of the slippery slope framework. In contrast, the power of authorities through penalties was held as part of the tax administration measures.

The paper concludes that tax administration enhances personal income tax compliance. Such compliance will be more substantial when trust is exhibited in the interaction between tax authorities and taxpayers. The study proffers that addressing the effectiveness of tax administration and trust deficit is crucial for enhancing personal income tax compliance in Nigeria.

AUTHOR CONTRIBUTIONS

Conceptualization: Odunayo Olamide Olaniyi.
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Writing – original draft: Odunayo Olamide Olaniyi.
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