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FISCAL TRANSPARENCY, PUBLIC ACCOUNTABILITY AND VOLUNTARY TAX COMPLIANCE IN NIGERIA.

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ABSTRACT

This study examines the effect of fiscal transparency and public accountability on voluntary tax compliance in Nigeria, using a quantitative, ex-post facto design based on twenty quarterly secondary observations (Q1 2018 to Q4 2022) drawn from the Central Bank of Nigeria, the National Bureau of Statistics, and the Office of the Auditor General for the Federation. A Budget Disclosure Index and an Audit Compliance Score were constructed as proxies for fiscal transparency and public accountability respectively, and regressed against a Voluntary Tax Compliance Yield using Ordinary Least Squares. Diagnostic tests confirmed normally distributed residuals and the absence of multicollinearity (VIF ≈ 1.00), though mild autocorrelation and possible non-stationarity were noted as limitations typical of short macro-level time series. Regression results found that neither Budget Disclosure (β = 1.075, p = 0.398) nor Audit Compliance (β = 0.272, p = 0.444) had a statistically significant effect on tax compliance yield, and the overall model was not statistically significant (F = 0.642, p = 0.539); all three null hypotheses were therefore not rejected. Both relationships were nonetheless directionally positive, consistent with Fiscal Exchange Theory and Institutional Trust Theory, suggesting a real but statistically undetected relationship constrained by limited data variation arising from Nigeria's annual fiscal reporting cycle. The study recommends a transition toward genuinely quarterly, machine readable fiscal disclosure to enable more powerful future empirical testing.

Keywords: *fiscal transparency; public accountability; voluntary tax compliance; budget disclosure; audit compliance*

INTRODUCTION

Taxation remains the most sustainable source of government revenue in modern economies, yet its effectiveness depends heavily on the willingness of citizens to comply voluntarily rather than under coercion. A large body of research groups the drivers of this willingness commonly termed tax morale into formal institutional factors, such as government quality and trust in authorities, and informal factors, such as social norms and personal values (Horodnic, 2018). Among formal institutional factors, the transparency of public spending has repeatedly been identified as a determinant of tax morale, with citizens showing greater willingness to comply when they better understand the fiscal framework their contributions support (Capasso et al., 2020).

In Nigeria specifically, taxpayers' perceptions of government accountability, transparency, and the reduction of fiscal corruption have been shown to relate positively to voluntary tax compliance, with the combined presence of all three factors producing a stronger effect than any single factor alone (Adeyeye & Otusanya, 2015). Institutional transparency, open fiscal disclosures, and the broader field of fiscal sociology have emerged as critical determinants of public tax morale, particularly in developing economies where trust in government institutions is fragile (Al-Maghrebi et al., 2022). Over the past decade, several sub–Saharan African governments have begun transitioning from hidden, manually maintained ministerial records toward digital open ledger frameworks intended to improve public visibility into government spending. Nigeria's own move toward electronic tax filing portals and public budget dashboards reflects this broader shift, yet the persistence of low voluntary compliance suggests that digital infrastructure alone has not resolved the underlying trust deficit between citizens and the state.

This tension forms the central paradox this study investigates: despite the deployment of increasingly sophisticated payment and filing infrastructure, a significant proportion of Nigerian

citizens continue to withhold tax payments. Concerns about accountability and transparency in the Nigerian public sector persist despite successive legislative reforms, including the establishment of anticorruption bodies such as the Economic and Financial Crimes Commission and the Independent Corrupt Practices Commission, suggesting that institutional reform alone has not been sufficient to close the trust gap between citizens and government (Omoniyi & Akintoye, 2024). Corruption and the erosion of public trust have been shown to weaken the moral basis for compliance even where enforcement capacity improves; research in the Nigerian context suggests that anticorruption efforts can themselves strain the social contract between citizens and the state when they are not accompanied by visible improvements in fiscal accountability (Cheeseman & Peiffer, 2023). Consistent with this, recent evidence linking corruption perception and revenue leakages to non-oil revenue performance in Nigeria confirms that perceived corruption continues to erode the tax base independently of formal enforcement mechanisms (Femi Ayegbo & Omodero, 2025).

Similarly, qualitative evidence from Indonesia shows that where citizens perceive a lack of transparency and honesty in the management of public funds, their willingness to pay taxes voluntarily declines, and that this erosion of trust is often driven by visible instances of official corruption rather than the tax system's design itself (Saptono & Khozen, 2024). Where citizens perceive that fiscal reciprocity the visible return of public value for tax contributions has broken down, voluntary compliance predictably declines, regardless of how efficient the collection mechanism itself becomes.

STATEMENT OF THE PROBLEM

While the relationship between transparency and tax compliance has attracted growing scholarly attention globally, empirical literature specific to Nigeria remains notably thin at the macro level. Existing Nigerian studies, such as Adeyeye and Otusanya (2015), have relied on survey based, individual level perception data drawn from specific taxpayer groups, leaving a gap in empirical, macro level secondary data analysis capable of testing how institutional trust variables such as published budget disclosure indexes and independent audit compliance scores translate into aggregate voluntary compliance outcomes. This gap persists despite systematic reviews confirming that trust and transparency are among the most consistently studied, yet inconsistently measured, determinants of tax compliance across both developed and developing countries (Al-Maghrebi et al., 2022). This study addresses that gap by applying a quantitative, secondary data approach to national level fiscal transparency and tax compliance indicators, offering an empirical alternative to the largely anecdotal and perception-based debate that currently dominates public discourse on tax evasion in Nigeria.

OBJECTIVES OF THE STUDY

i. To examine the effect of public budget disclosure indexes on citizen voluntary tax filing rates.
ii. To evaluate the impact of independent audit compliance scores on voluntary tax compliance yields.
iii. To determine the combined effect of fiscal transparency and open reporting on curbing tax evasion.

HYPOTHESES OF THE STUDY

HO_1: Public budget disclosure indexes have no significant effect on citizen voluntary tax filing rates in Nigeria.

HO_2: Independent audit compliance scores do not significantly influence voluntary tax compliance yields in Nigeria.

HO_3: The combined framework of fiscal transparency and open reporting has no significant effect on mitigating tax evasion.

SCOPE OF THE STUDY

The study is limited to aggregate national public finance records, drawing on quarterly secondary data spanning from 2018 to 2022, sourced from the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the Office of the Auditor General for the Federation (OAuGF).

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

CONCEPTUAL CLARIFICATION

Fiscal transparency refers to the extent to which governments disclose accurate, timely, and comprehensible information about revenue collection, budget allocation, and public expenditure (Capasso et al., 2020). Public accountability, closely related but conceptually distinct, concerns the mechanisms through which government actors are answerable for the use of public resources, typically enforced through audits, oversight institutions, and public reporting. Voluntary tax compliance describes taxpayer behavior in the absence of direct enforcement that is, compliance driven by intrinsic motivation rather than fear of sanction and is most often explained through the broader construct of tax morale, defined as the range of non pecuniary motivations that shape a citizen's willingness to pay tax (Horodnic, 2018). Corruption perception, the citizen's subjective assessment of the extent to which public officials misuse entrusted power, has consistently been shown to erode tax morale across both developed and developing country contexts (Horodnic, 2018), and tax evasion the illegal underreporting or non-payment of tax owed has been repeatedly linked to this same perception of corruption within the Nigerian literature specifically (Fagbemi et al., 2010).

THEORETICAL FRAMEWORK

This study is anchored on two complementary theories.

Fiscal Exchange Theory, first formalized by Alm, Jackson, and McKee (1993), conceptualizes taxation as an implicit contract in which citizens comply more willingly when they perceive a fair exchange between the taxes they pay and the public goods and services they receive in return. Laboratory evidence from the original formulation showed that individuals respond positively when tax revenues are visibly directed toward programs they approve of, and when they feel some measure of participation in how those revenues are allocated (Alm et al., 1993).

Institutional Trust Theory, developed most notably through Feld and Frey's (2007) concept of the "psychological tax contract," extends this logic by arguing that tax compliance depends not only on the fairness of the exchange itself but on the broader relationship between taxpayers and tax administrators encompassing the political process that produces fiscal decisions and the fairness with which taxpayers are treated in practice. Under this framework, citizens may comply even without receiving a full public good equivalent to their tax contribution, provided the political process is perceived as legitimate and administrators are perceived as trustworthy (Feld & Frey, 2007). Together, these two theories justify the study's core proposition: that fiscal transparency and audit-based accountability operate as observable proxies for both the fairness of the fiscal exchange and the trustworthiness of the institutions administering it.

EMPIRICAL REVIEW

A substantial body of empirical work supports the link between institutional transparency and tax compliance outcomes. Using multilevel modeling on World Values Survey data spanning more than fifty countries, Capasso et al. (2020) found that higher fiscal transparency, measured through the IMF's Government Finance Statistics disclosure index, was significantly associated with higher tax morale, and that this relationship held even after controlling for corruption indicating that transparency exerts a direct effect on compliance attitudes independent of its role in curbing corruption. This finding is important for the present study because it demonstrates that transparency and anti corruption efforts, while related, operate through partially distinct channels and should therefore be modeled separately rather than treated as a single composite construct a distinction directly reflected in this study's separation of Objectives 1 and 2.

A systematic review by Al-Maghrebi, Sapiei, and Abdullah (2022), synthesizing 66 studies on the determinants of tax compliance, similarly concluded that coercive power alone is insufficient to sustain compliance, and that trust and transparency function as necessary complements to enforcement based strategies. Notably, their review found that empirical evidence on the specific relationship between "relationship transparency" and tax compliance remains comparatively underdeveloped relative to the power and trust literatures, with only twelve of the sixty-six reviewed studies addressing transparency directly a gap this study seeks to help close using Nigerian macro level data. Complementing this quantitative literature, qualitative evidence from Indonesia offers a grounded account of the mechanism at work: in interviews with religious community leaders in Depok City,

Saptono and Khozen (2024) found that perceived corruption and a lack of transparency in state fund management directly weakened respondents' willingness to comply with tax obligations, while respondents consistently linked their willingness to pay to visible evidence that revenues were being directed toward public welfare.

Within the Nigerian context specifically, empirical evidence remains sparser but points in a consistent direction. Using survey data from tradesmen and artisans in Lagos State, Adeyeye and Otusanya (2015) found that taxpayers' perceptions of government accountability, transparency, and reduced fiscal corruption were each significantly and positively associated with voluntary tax compliance, with the combined presence of all three factors producing a stronger effect than any single factor in isolation an early indication that the interaction of these constructs, rather than any single one, may best explain compliance behavior, and direct empirical support for this study's third hypothesis (H_{03}/H_{13}) on the combined effect of transparency and reporting. On the specific question of tax evasion, Fagbemi, Uadiale, and Noah (2010) surveyed Nigerian taxpayers and found that the level of tax evasion was significantly higher when government was perceived as corrupt compared to other justifications such as unfair treatment or tax affordability, directly linking corruption perception to evasion behavior in a Nigerian sample. Using survey data from Gombe State, Mansor and Gurama (2016) similarly found that the structure of the tax system, income level, and education level held significant positive relationships with tax evasion, although tax rate and corruption showed only a positive but statistically insignificant relationship in their sample a divergence from Fagbemi et al. (2010) that this study's own hypothesis testing (H_{03}) may help clarify at the macro-level.

More recent work has examined the institutional side of this relationship. Omoniyi and Akintoye (2024) documented that, despite successive legislative interventions such as the Economic and Financial Crimes Commission Act and the Independent Corrupt Practices and Other Related Offences Act, concerns about transparency and accountability in the Nigerian public sector have persisted, suggesting that formal anti corruption architecture alone has not been sufficient to restore citizen trust. Consistent with this, Cheeseman and Peiffer (2023), using survey experiment data from Nigeria, found that anticorruption messaging can, under certain conditions, actually undermine the social contract between citizens and the state when it is not accompanied by visible improvements in fiscal accountability a finding with direct relevance to how this study interprets the relationship between audit disclosure (Objective 2) and compliance. Most recently, Femi Ayegbo and Omodero (2025), using their own secondary monthly data from the Central Bank of Nigeria and the Federal Inland Revenue Service covering 2015 to 2022 (a distinct data period from the 2018 to 2022 quarterly dataset constructed for the present study), found that corruption perception and revenue leakages through tax evasion significantly and negatively affected non-oil revenue performance in Nigeria offering direct methodological precedent for the present study's own use of secondary CBN and FIRS adjacent data, and empirical support for this study's first and third hypotheses regarding disclosure and evasion.

BRIDGING THE LITERATURE TO THE STUDY'S HYPOTHESES

Taken as a whole, this body of evidence maps closely onto the three hypotheses this study tests. The positive association between disclosure and compliance documented by Capasso et al. (2020) and Adeyeye and Otusanya (2015) directly supports the theoretical basis for H_{11}, that public budget disclosure indexes significantly affect voluntary tax filing rates. The link between institutional trust, audit related accountability, and compliance outlined by Al-Maghrebi et al. (2022) and Omoniyi and Akintoye (2024) underpins H_{12}, concerning the effect of independent audit compliance scores on compliance yields. Finally, the combined effect finding in Adeyeye and Otusanya (2015), together with the corruption evasion link established by Fagbemi et al. (2010) and Femi Ayegbo and Omodero (2025), provides the empirical basis for H_{13}, that fiscal transparency and open reporting jointly affect tax evasion outcomes. Where the literature diverges as between Fagbemi et al. (2010) and Mansor and Gurama (2016) on the significance of corruption specifically this study's macro-level secondary data design is positioned to offer clarifying evidence at the national-scale.

SUMMARY AND RESEARCH GAP

Taken together, this literature establishes three points of consensus: fiscal transparency and institutional trust are significant, theoretically grounded determinants of tax compliance; the effect of

transparency on compliance operates independently of, though alongside, corruption control; and Nigerian evidence to date has relied almost entirely on survey-based, individual-level, or sub national data, producing inconsistent findings on the specific role of corruption in tax evasion. What remains absent from the literature is a macro-level, national scale econometric study that tests the joint effect of budget disclosure indexes and independent audit compliance scores on aggregate voluntary tax compliance outcomes in Nigeria using quarterly secondary data. This study addresses that specific gap, extending the methodological precedent set by Femi Ayegbo and Omodero (2025) and Capasso et al. (2020) to a Nigerian macro fiscal dataset spanning 2018 to 2022.

METHODOLOGY

This study adopts a quantitative longitudinal/time series research design based on secondary data. The design is ex post facto in nature because it examines pre-existing fiscal transparency and audit accountability conditions reflected in published government records and their relationship with tax compliance outcomes without manipulation by the researcher. The study follows a time Series structure because the same national unit, Nigeria, is observed repeatedly across twenty quarters. **3.1 Research Design**

The study adopts a quantitative longitudinal/time series research design based on secondary data. The ex post facto element is appropriate because the variables have already occurred and are measured from published records rather than manipulated experimentally. The longitudinal/time series element reflects the repeated quarterly observation of Nigeria over the study period.

3.2 Population/Unit of Analysis

The population/unit of analysis comprises national quarterly observations for Nigeria. The study covers 2018 to 2022, giving twenty quarterly observations. The analysis is conducted at the national aggregate level rather than at the level of individual taxpayers, firms, states or local governments.

3.3 Data Sources

The study uses secondary data from official Nigerian public sector sources. The Budget Disclosure Index (BUDGET) is constructed from the Central Bank of Nigeria (CBN) Annual Statistical Bulletin, particularly the Public Finance Statistics series containing Federal Government finances and State and Local Government summary information. The Audit Compliance Score (AUDIT) is constructed from annual reports of the Office of the Auditor General for the Federation (OAuGF) concerning MDA financial statement submission and audit outcomes. The Voluntary Tax Compliance Yield (VOLUNTARY_YIELD), the dependent variable, is obtained from CBN and National Bureau of Statistics (NBS) quarterly revenue publications, with CBN figures cross checked against NBS data. No variable is included unless its source, frequency, coverage and measurement are established for the study period.

3.4 Measurement of Variables

Budget Disclosure Index (BUDGET): Fiscal transparency is operationalised through a Budget Disclosure Index constructed from three components extracted from CBN's Annual Statistical Bulletin: (i) a data maturity score, reflecting whether the year's fiscal figures were published as 'Revised' (1.0) or remained 'Provisional' (0.5) at the time of release (ii) the completeness of the State Government finance summary table, measured as the proportion of non missing data rows; and (iii) the completeness of the Local Government finance summary table, measured in the same way. The three component scores are averaged to produce a single annual index ranging from 0 to 1. Since the CBN bulletin is annual, the annual index is assigned uniformly to the four quarters of the corresponding year. This variable is a proxy for fiscal transparency and specifically captures the disclosure dimension.

Audit Compliance Score (AUDIT): Public accountability is proxied by an Audit Compliance Score constructed from OAuGF annual reports. It comprises (i) the Submission Compliance Rate, calculated as the number of MDAs that submitted financial statements for audit divided by the total number of MDAs required to submit and (ii) the Audit Quality Rate, calculated as the number of MDAs

receiving an unqualified (clean) audit opinion divided by the number that submitted. Where an audit opinion breakdown is not disclosed for a given year, the Submission Compliance Rate alone is used. The resulting annual score is assigned uniformly across the four quarters of the corresponding year. Audit compliance is treated as a proxy for public accountability, not as an identical construct. Direct inspection of OAuGF's own annual reports found that a consistently disclosed MDA circularization/discrepancy figure comparable across years was available for 2019 but not for 2020 or 2021, and that OAuGF's 2021 report explicitly indicated that mandatory audited stand-alone MDA financial statements, as opposed to unaudited trial balances, were not expected to be implemented until the 2023 financial year; both observations directly inform the policy recommendations in Section 5.3.

Voluntary Tax Compliance Yield (VOLUNTARY_YIELD): This is the dependent variable and is calculated as actual quarterly tax revenue collected divided by the expected or assessed tax revenue target for the quarter, with the corresponding quarter of the immediately preceding year used as the expected/assessed benchmark in the absence of a publicly disclosed official quarterly tax revenue target. Because this benchmark requires one prior year of data, 2017 quarterly tax revenue figures were obtained solely to compute the expected-value benchmark for the 2018 quarters; 2017 itself is not treated as part of the twenty-quarter study sample and no independent or dependent variable values are reported for it. Actual tax revenue data are sourced from CBN and cross-verified against NBS. Because aggregate revenue performance can also reflect enforcement and economic conditions, this measure is interpreted as an aggregate proxy for voluntary tax compliance rather than a direct observation of individual taxpayer filing behaviour.

Tax evasion is not included as a separate dependent variable in the principal regression because the supplied methodology does not establish a consistent quarterly national tax evasion series.

3.5 Model Specification

The principal multiple regression model is specified as:

$VOLUNTARY\ YIELD_t = \beta_0 + \beta_1 BUDGET_t + \beta_2 AUDIT_t + \varepsilon_t$

Where $VOLUNTARY\ YIELD_t$ represents voluntary tax compliance yield in quarter t, $BUDGET_t$ represents the Budget Disclosure Index (fiscal transparency), $AUDIT_t$ represents the Audit Compliance Score (public accountability); β_0 is the intercept, β_1 and β_2 are the estimated coefficients, and ε_t is the stochastic error term.

The first and second objectives are assessed through the statistical significance and direction of β_1 and β_2 respectively. The third objective concerns the joint contribution of the explanatory variables and is assessed using the overall F statistic of the regression model. Objective 3 and H_{03} are therefore operationalized not through a direct tax evasion measure but through the joint statistical significance (overall F-statistic) of the VOLUNTARY_YIELD regression model specified above, since a reliable quarterly national tax evasion

measure is not established for this study. This proxy-substitution approach to H_{03} is noted here explicitly so that the F-statistic reported in Section 4.3 is correctly understood as a test of the joint significance of BUDGET and AUDIT on VOLUNTARY_YIELD, rather than a direct test on a tax evasion measure.

3.6 Estimation Technique

The study employs Ordinary Least Squares (OLS) multiple regression to estimate the relationship between fiscal transparency, public accountability and voluntary tax compliance yield. The analysis begins with descriptive statistics and correlation analysis, followed by diagnostic testing. Because the observations form a quarterly time series, stationarity is examined before interpreting regression results. If the variables are stationary at levels and the regression assumptions are reasonably satisfied, OLS is estimated in levels. If non stationarity is detected, an appropriate transformation or time series procedure will be considered based on the order of integration. Given the small sample of twenty observations, the model remains parsimonious.

3.7 Diagnostic Tests

Normality: The Shapiro Wilk test and inspection of the residual distribution are used to assess whether regression residuals are approximately normally distributed.

Multicollinearity: Variance Inflation Factor (VIF) and, where appropriate, tolerance statistics are used to assess excessive correlation between the explanatory variables.

Heteroskedasticity: The Breusch Pagan or White test is used to assess whether the variance of regression errors is constant. Where heteroskedasticity is detected, robust inference will be considered.

Autocorrelation: The Durbin Watson statistic is used as an initial test of first order serial correlation. Where necessary, an appropriate time series serial correlation test may also be considered.

Stationarity: The Augmented Dickey Fuller (ADF) test is used to determine whether each time series contains a unit root. The order of integration informs the appropriate estimation procedure and helps guard against spurious regression.

Model Specification: Ramsey's Regression Equation Specification Error Test (RESET) is used, where appropriate, to assess whether the functional form is correctly specified and whether important nonlinear terms may have been omitted.

Because only twenty quarterly observations are proposed, diagnostic results and inferential statistics are interpreted cautiously, and unnecessarily complex time-series models are avoided.

3.8 Decision Rule

All hypotheses are tested at the 5% level of significance ($\alpha = 0.05$). The null hypothesis is rejected where the relevant p value is less than 0.05 and is not rejected where the p value is greater than or equal to 0.05. Individual hypotheses are assessed using the relevant regression coefficient, while the joint hypothesis is assessed using the overall F statistic.

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Presentation of Quarterly Secondary Data

Using 2017 quarterly tax revenue solely as the expected-value benchmark for the dependent variable, as described in Section 3.4, the full twenty-quarter dataset spanning Q1 2018 to Q4 2022 was successfully constructed for all three variables.

Table 4.1: Descriptive Statistics (n = 20)

Variable	Mean	Std. Dev.	Minimum	Maximum
Budget Disclosure Index (BUDGET)	0.8660	0.0322	0.8100	0.9000
Audit Compliance Score (AUDIT)	0.2240	0.1149	0.0000	0.2800
Voluntary Tax Compliance Yield (Y)	1.2061	0.1703	0.8862	1.5917

4.2 Data Diagnostics and Model Fitness Tests

Table 4.2: Diagnostic Test Results

Test	Statistic	Interpretation
normality)	p = 0.998	Shapiro Wilk (residual W = 0.9902, Residuals are normally distributed; assumption satisfied
Variance Inflation Factor (BUDGET)	1.004	No multicollinearity concern (well below the conventional threshold of 10)
Variance Inflation Factor (AUDIT)	1.004	No multicollinearity concern
Durbin-Watson (autocorrelation)	1.001	Below the conventional threshold of ~1.5, indicating possible mild positive autocorrelation
Augmented DickeyFuller (Y)	$\tau = -1.808$	Fails to reject the null of a unit root at the 5% level (critical value ≈ −3.00); some evidence of non stationarity, consistent with the short time series length

The correlation matrix shows a weak positive association between BUDGET and Y (r = 0.192) and between AUDIT and Y (r = 0.171), and a very weak negative association between the two predictors (r = −0.064), confirming that multicollinearity is not a concern in this model. It should be noted that the Durbin-Watson and Augmented Dickey-Fuller diagnostics are most meaningfully interpreted with respect to the dependent variable, VOLUNTARY_YIELD, which retains genuine quarter-to-quarter variation; AUDIT, by contrast, takes only two distinct values across the twenty-quarter sample (0.00 in 2018 and 0.28 thereafter) as a direct consequence of the annual-to-quarterly step-function conversion described in Section 3.4, and standard time-series diagnostics applied to this near-constant series should therefore be interpreted with caution rather than as evidence of genuine time-series behaviour in AUDIT itself.

4.3 Regression Model Estimation and Hypothesis Testing

Table 4.3: Multiple Regression Results $Y = \beta_0 + \beta_1 BUDGET + \beta_2 AUDIT + \varepsilon$

Parameter	Coefficient	Std. Error	T statistic	P value
Intercept (β_0)	0.2139	1.0826	0.198	0.846
BUDGET (β_1)	1.0753	1.2403	0.867	0.398
AUDIT (β_2)	0.2720	0.3474	0.783	0.444

$R^2 = 0.0702$ | Adjusted $R^2 = -0.0392$ | F-statistic = 0.642 (p = 0.539)

Hypothesis testing outcomes (α = 0.05):

- **H_{01}** (Public budget disclosure indexes have no significant effect on citizen voluntary tax filing rates): $\beta_1 = 1.075$, $p = 0.398 > 0.05$. **H_{01} is not rejected.** Budget disclosure shows a positive but statistically insignificant relationship with tax compliance yield.
- **H_{02}** (Independent audit compliance scores do not significantly influence voluntary tax compliance yields): $\beta_2 = 0.272$, $p = 0.444 > 0.05$. **H_{02} is not rejected.** Audit compliance shows a positive but statistically insignificant relationship with tax compliance yield.
- **H_{03}** (The combined framework of fiscal transparency and open reporting has no significant effect on mitigating tax evasion): The overall model F statistic (0.642, p = 0.539) is not statistically significant. **H_{03} is not rejected.** BUDGET and AUDIT jointly explain only 7.0% of the variation in tax compliance yield ($R^2 = 0.070$), and this explanatory power is not distinguishable from zero at conventional significance levels.

4.4 Discussion of Findings

None of the three hypotheses achieved statistical significance in this sample. This finding, while not supporting the study's directional expectations, is substantively informative rather than a null result to be dismissed. Both predictors move in the theoretically expected positive direction higher budget disclosure and higher audit compliance are each associated with higher tax compliance yield, which is directionally consistent with Fiscal Exchange Theory (Alm et al., 1993) and Institutional Trust Theory (Feld & Frey, 2007); however, given the weak correlation coefficients observed (r = 0.192 and r = 0.171 respectively) and the statistical insignificance of both coefficients, this directional consistency should

be characterized as weak and inconclusive rather than as meaningful support for the theoretical framework.

Several factors plausibly explain the lack of statistical significance. First, both BUDGET and AUDIT exhibit relatively limited variation across the study period (BUDGET ranges only from 0.81 to 0.90; AUDIT takes only two distinct values across the entire period, 0.00 and 0.28), a direct consequence of the annual reporting cycle of Nigerian fiscal institutions and the step function conversion necessitated by this cycle (see Section 3.4). Limited independent variable variation constrains the statistical power available to detect a true underlying effect, even where one may exist. Second, the small sample size (n = 20) is typical of macro level single country time series studies but limits the precision of coefficient estimates, reflected in the relatively wide standard errors reported in Table 4.3.

This pattern of directionally consistent but statistically insignificant findings echoes the broader literature reviewed in Chapter Two: Al-Maghrebi et al. (2022) similarly found inconsistent empirical support for the effect of relationship transparency on tax compliance across the studies they reviewed, while Mansor and Gurama (2016) found that corruption held only a positive but statistically insignificant relationship with tax evasion in their Nigerian sample a strikingly similar pattern to the present study's own results. Taken together, this suggests that the transparency compliance relationship in Nigeria may be real but modest in magnitude, more readily detected with larger samples, longer time series, or more granular (quarterly native, rather than step function converted) institutional data than is currently publicly available.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study examined the effect of fiscal transparency and audit based accountability on voluntary tax compliance in Nigeria using twenty quarters of secondary data (2018 to 2022). Descriptive analysis showed a mean Budget Disclosure Index of 0.866, a mean Audit Compliance Score of 0.224, and a mean Voluntary Tax Compliance Yield of 1.206. Diagnostic testing confirmed normally distributed residuals and the absence of multicollinearity (VIF ≈ 1.00 for both predictors), though mild positive autocorrelation and possible non stationarity were noted as limitations typical of short macro level time series. Regression analysis found that neither Budget Disclosure ($p = 0.398$) nor Audit Compliance ($p = 0.444$) had a statistically significant effect on tax compliance yield, and the overall model was not statistically significant ($F = 0.642$, $p = 0.539$). All three null hypotheses were therefore not rejected.

5.2 Conclusion

This study concludes that, within the twenty quarter period examined, there is insufficient statistical evidence that Nigeria's Budget Disclosure Index or Audit Compliance Score significantly predict voluntary tax compliance yield. However, both relationships were directionally positive, consistent with theoretical expectations drawn from Fiscal Exchange Theory and Institutional Trust Theory. The study further concludes that the limited variation in Nigeria's disclosed fiscal transparency and audit compliance data over this period itself a reflection of the annual, rather than quarterly, reporting cycle of key institutions such as the Office of the Auditor General for the Federation constrains the ability of macro level econometric analysis to detect effects that may nonetheless be present. The persistently low Audit Compliance Score (never exceeding 0.28, as reported in Table 4.1) remains, independent of the regression results, substantive evidence of a continuing fiscal accountability deficit in Nigeria.

5.3 Policy Recommendations

i. Transition to genuinely quarterly fiscal disclosure: The step function conversion necessitated in this study's methodology is a direct consequence of Nigeria's annual reporting cycle. A shift toward quarterly, machine readable public finance disclosure as already piloted through the Open Treasury Portal would materially improve both public accountability and the precision of future empirical research.

ii. Standardize OAuGF audit compliance metrics year on year: The absence of a consistently disclosed MDA circularization/discrepancy figure across 2020 and 2021 limited this study's ability to construct a fully time varying Audit Compliance measure. A standardized, annually consistent disclosure format is recommended.

iii. Accelerate mandatory audited stand-alone MDA financial statements: OAuGF's own reports indicate this was not expected to begin until 2023; expediting this transition would directly strengthen the audit accountability construct examined in this study.

iv. Expand the evidence base through longer time series. Given this study's finding that limited data variation constrains statistical power, future data collection efforts by government or subsequent researchers should prioritize extending comparable series over longer periods.

5.4 Contributions to Knowledge and Future Directions

This study contributes to the fiscal transparency and tax compliance literature by providing one of the few Nigeria specific, macro level, secondary data empirical tests of the relationship between fiscal transparency, audit accountability, and tax compliance yield, extending the methodological approach of Capasso et al. (2020) to the Nigerian context using triangulated data from the Central Bank of Nigeria, the National Bureau of Statistics, and the Office of the Auditor General for the Federation. It also demonstrates a transparent, reproducible methodology for constructing composite fiscal transparency and audit compliance indices from primary government source documents, including explicit handling of data availability constraints through the uniform annual-to-quarterly step-function assignment described in Section 3.4. Future research should revisit this model as Nigeria's public financial management institutions move toward higher frequency disclosure, and should consider extending the study period both backward and forward in time to increase statistical power and test the robustness of the directionally positive, if not yet statistically significant, relationships identified here.

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(Plus Alm, Jackson, & McKee, 1993, and Feld & Frey, 2007, added previously.)