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Abstract

This study examines the effect of corporate tax aggressiveness on the financial performance of listed non-financial firms in Nigeria. Using panel data spanning 2015 to 2023 across 40 firms listed on the Nigerian Exchange Group (NGX), the study employs the Effective Tax Rate (ETR) as the primary proxy for tax aggressiveness, supplemented by the Book-Tax Difference (BTD) as an alternative measure in robustness checks. Return on Assets (ROA) and Tobin's Q serve as the primary dependent variables, operationalising accounting-based and market-based performance respectively. Fixed-effects regression is adopted following the Hausman specification test. Additional robustness checks employ the System Generalized Method of Moments (GMM) estimator to address potential endogeneity, quintile regression to explore heterogeneous effects across the performance distribution, and an alternative ETR proxy to test for measurement sensitivity. Findings confirm that tax aggressiveness exerts a statistically significant positive effect on ROA but a negative and significant effect on Tobin's Q - a duality that persists robustly across all estimation strategies. These results suggest that while tax savings inflate reported earnings, capital markets discount firms perceived as tax aggressive owing to elevated regulatory and reputational risks, particularly in the post-Post-Finance Act environment. The study contributes to the sparse empirical literature on tax aggressiveness in sub-Saharan Africa and provides actionable guidance for corporate boards, investors, and regulators.

Keywords: Tax aggressiveness, effective tax rate, book-tax difference, financial performance, ROA, Tobin's Q, GMM, Panel data, FIRS, NTA 2025

1. Introduction

Corporate taxation represents one of the most consequential financial obligations confronting business enterprises operating in any jurisdiction. The manner in which firms navigate this obligation - ranging from full statutory compliance to aggressive avoidance strategies - has attracted sustained and growing scholarly attention at the intersection of corporate finance, accounting, and public policy. Tax aggressiveness, broadly defined as deliberate corporate strategies intended to reduce tax liability below the level implied by the statutory rate, occupies a particularly contested space: it may represent rational value-maximizing behaviour on behalf of shareholders, or it may expose the firm to regulatory sanction, reputational damage, and investor uncertainty that ultimately erodes enterprise value.

In Nigeria, this tension assumes heightened significance. Government revenues have been under persistent structural pressure as petroleum receipts remain volatile and dependent on global commodity cycles. The Federal Inland Revenue Service (FIRS) has consequently intensified its focus on non-oil tax collection, deploying increasingly sophisticated audit methodologies, mandatory transfer pricing documentation, and - most recently - the sweeping provisions of the Finance Act. The Finance Act consolidates and amends the Companies Income Tax Act (CITA), the Value Added Tax Act, the Capital Gains Tax Act, and several other fiscal statutes, introducing a General Anti-Avoidance Rule (GAAR) and revised thin-capitalization limits that substantially narrow the space available for aggressive tax planning. This shifting legislative landscape makes empirical examination of the performance effects of tax aggressiveness not merely academically valuable, but operationally urgent for corporate practitioners.

Despite the richness of the international literature on corporate tax aggressiveness - spanning the seminal work of Desai and Dharmapala (2009) on firm value effects to the market-reaction studies of Hanlon and Slemrod (2009) - evidence from the Nigerian context remains thin and methodologically limited. Existing Nigerian studies have largely employed cross-sectional designs, focused narrowly on single sectors such as manufacturing or consumer goods, and rarely subjected their findings to systematic robustness testing. The absence of panel-based evidence with multiple performance proxies and alternative estimation strategies represents a significant gap that the present study is designed to fill.

This study makes four principal contributions. First, it provides panel evidence on the ETR-performance nexus across a broad cross-section of non-financial sectors on the NGX over a nine-year horizon (2015–2023), encompassing the significant legislative changes introduced by the Finance Acts of 2019, 2020, and 2021 as well as the pre-cursor provisions to the Finance Act. Second, it employs dual performance metrics - ROA for accounting performance and Tobin's Q for market performance - enabling a direct comparison of how tax aggressiveness manifests differently across measurement dimensions. Third, it applies System GMM estimation to address the potential endogeneity of tax aggressiveness decisions, a methodological advance largely absent from extant Nigerian studies. Fourth, it conducts systematic robustness checks using an alternative ETR proxy (book-tax differences), quantile regression, and a sectoral sub-group analysis, providing confidence that findings are not artefacts of specific modelling choices. This research tries to find out following research questions

1. Does tax aggressiveness affect accounting performance (ROA)?
2. Does tax aggressiveness affect market performance (Tobin's Q)?
3. Are the effects robust across estimation techniques and sectors?

A set of null hypotheses were formulated for the study as follows:

H₁: Tax aggressiveness does not significantly affects ROA.

H₂: Tax aggressiveness does not significantly affects Tobin's Q.

H₃: The relationship remains robust across alternative tax aggressiveness measures.

The study is organised as follows. Section 2 reviews the relevant conceptual, theoretical, and empirical literature. Section 3 describes the research methodology, variable measurement, and estimation strategy. Section 4 presents and discusses the empirical results, including all robustness checks. Section 5 concludes with policy and managerial recommendations, and directions for future research.

2. Review of Related Literature

2.1 Tax Aggressiveness

Tax aggressiveness encompasses a spectrum of behaviours along a continuum from fully legal tax avoidance at one end to illegal tax evasion at the other, with a broad and legally ambiguous grey zone of technically permissible but substantively aggressive planning strategies in between. Frank, Lynch, and Rego (2009) define tax aggressiveness as downward manipulation of taxable income through tax planning activities, irrespective of whether such activities are legal or illegal. Hanlon and Heitzman (2010) provide a broader conceptualisation, defining tax avoidance as the reduction of explicit taxes, a definition encompassing the full spectrum of tax planning behaviour.

The Effective Tax Rate (ETR), defined as income tax expense divided by pre-tax accounting income, is the most widely employed empirical proxy for tax aggressiveness, with lower ETRs relative to the statutory rate indicating greater aggressiveness. The Book-Tax Difference (BTD), computed as the gap between pre-tax book income and estimated taxable income, serves as an alternative that is less sensitive to the accounting treatment of deferred taxes. Both measures carry well-documented limitations: the ETR can be distorted by loss firms and one-off deferred tax adjustments, while the BTD conflates deliberate tax planning with legitimate accounting differences arising from depreciation schedules, provisioning, and revenue recognition timing. This study employs both proxies in a complementary fashion, with ETR as the primary variable and BTD deployed in robustness checks.

Financial performance, for the purposes of this study, is operationalised along two dimensions reflecting different stakeholder perspectives. Return on Assets (ROA) - net income divided by total assets - captures the internal efficiency with which a firm converts its asset base into profit and is therefore directly sensitive to tax savings that inflate net income. Tobin's Q - the ratio of market capitalisation plus total debt to total assets - reflects the expectations of capital market participants regarding future firm value, and may respond differently to tax aggressiveness depending on the market's assessment of associated risks.

2.2 Theoretical Framework

Three complementary theoretical perspectives inform the hypotheses of this study.

Agency Theory (Jensen & Meckling, 1976) posits that tax aggressiveness can serve as a vehicle for managerial opportunism. Where ownership and control are separated, managers may exploit the complexity of tax arrangements to create informational opacity that conceals resource extraction or inflates apparent performance. Under this lens, tax aggressiveness may produce short-term accounting gains while simultaneously destroying shareholder value through agency costs and reputational risk - a prediction consistent with the dual finding expected in this study.

Shareholder Value Theory holds that corporate tax minimisation is a legitimate and indeed obligatory managerial objective. Tax savings represent a direct transfer of wealth from the state to shareholders, and any reduction in tax burden that is not offset by risk or compliance costs unambiguously increases firm value. This perspective predicts that tax aggressiveness should positively influence both accounting and market performance, a prediction that will be examined critically against the evidence.

Legitimacy Theory (Suchman, 1995) contends that firms derive their social licence to operate from implicit public approval and the maintenance of norms aligned with societal expectations. In a period of heightened public scrutiny of corporate tax behaviour - reinforced in Nigeria by FIRS enforcement

initiatives and increased civil society attention following the Finance Act - firms perceived as excessively aggressive in their tax positions risk damaging their reputational standing with regulators, customers, and institutional investors. This erosion of legitimacy may manifest as a valuation discount, even when aggressive tax strategies successfully boost accounting earnings.

These three perspectives generate competing directional hypotheses: Shareholder Value Theory predicts uniformly positive effects, while the combination of Agency Theory and Legitimacy Theory predicts a positive short-term accounting effect but a negative market valuation effect. The empirical results of this study are interpreted against this theoretically pluralistic backdrop.

2.3 Empirical Review

The international empirical literature on the relationship between tax aggressiveness and firm performance is extensive but produces mixed and context-dependent findings, reflecting differences in institutional environments, tax systems, and empirical methodologies.

In the United States, Desai and Dharmapala (2009) found that tax sheltering is positively associated with firm value among well-governed firms, but neutral or negative in poorly governed firms, suggesting that the net effect of tax aggressiveness on value depends critically on the quality of corporate governance mechanisms that constrain managerial opportunism. Hanlon and Slemrod (2009) demonstrated using an event study methodology that news of corporate involvement in tax shelters causes significant negative stock price reactions, indicating that equity markets price the reputational and regulatory risk associated with aggressive tax positions. Wilson (2009) documented that firms engaging in tax shelters earn significantly higher abnormal returns prior to shelter discovery, consistent with a short-term earnings boost, but that these gains are reversed following regulatory action.

In European markets, Richardson, Lanis, and Taylor (2015) found that tax aggressiveness is negatively associated with firm value in Australia when controlling for corporate governance quality, while Kovermann and Velte (2019) identified a negative association between tax avoidance and firm performance in German family firms, attributable to the reputational costs borne by founding-family stakeholders. Khuong, Liem, Thu, and Khanh (2020) found, in a Vietnamese context, that moderate tax avoidance is associated with improved firm performance but that extreme avoidance destroys value, suggesting a non-linear relationship that warrants consideration.

In sub-Saharan Africa and Nigeria specifically, empirical evidence remains limited. Dada (2014) found that tax planning positively influenced profitability among quoted consumer goods firms in Nigeria, though the cross-sectional design and limited controls restrict the generalisability of this finding. Adeyemi and Olowookere (2020) noted that aggressive tax behaviour attracted FIRS audit attention among listed manufacturing firms, increasing compliance costs that partially offset tax savings. Nwaobia, Kwarbai, and Ogundajo (2016) found a significant positive relationship between tax planning and corporate performance in Nigeria, though without disentangling accounting and market-based performance effects. Adeleke and Alade (2022) found in a sample of NGX-listed consumer goods companies that lower ETRs were associated with higher net profit margins but with diminished price-to-book ratios, providing preliminary support for the duality hypothesis tested here.

The present study extends this literature in several important respects: by employing a balanced multi-sector panel over a long time horizon, by applying System GMM to address endogeneity, and by subjecting all findings to multiple robustness checks - methodological standards that have not been simultaneously achieved in the existing Nigerian literature.

3. Methodology

3.1 Research Design and Sample

The study adopts a quantitative, longitudinal research design employing a balanced panel of 40 non-financial firms listed on the Nigerian Exchange Group (NGX), drawn proportionally from the consumer goods, industrial goods, healthcare, and services sectors. The sample period spans fiscal years 2015 through 2023, yielding 360 firm-year observations. The sample is constructed on the following criteria: continuous listing on the NGX throughout the study period; availability of complete audited financial data for all nine years; and classification as a non-financial entity - the financial services sector is excluded due to sector-specific tax treatment under both CITA and the Finance Act, including the special provisions governing banks under the Banks and Other Financial Institutions Act (BOFIA). Financial data are sourced from audited annual reports and accounts retrieved from the NGX fact book and company investor relations portals. Statutory tax rate data are sourced from FIRS publications. All monetary variables are denominated in Nigerian Naira and deflated using the GDP deflator sourced from the National Bureau of Statistics.

3.2 Variable Specification

Dependent Variables

Variable	Symbol	Measurement	Expected Direction
Accounting Performance	ROA	Net Income $\div$ Total Assets	-
Market Performance	Tobin's Q	(Market Cap + Total Debt) $\div$ Total Assets	-

Independent Variable (Tax Aggressiveness)

Proxy	Symbol	Measurement	Notes
Effective Tax Rate	ETR	Income Tax Expense $\div$ Pre-tax Income	Primary proxy; lower ETR = more aggressive
Book-Tax Difference	BTD	(Pre-tax Book Income – Est. Taxable Income) $\div$ Total Assets	Alternative proxy used in robustness checks. The formula for estimated taxable income is Taxable Income = Current Tax Expense $\div$ Statutory Tax Rate.

Control Variables

Variable	Symbol	Measurement	Expected Sign
Firm Size	SIZE	Natural log of Total Assets	+
Financial Leverage	LEV	Total Debt $\div$ Total Assets	-
Firm Age	AGE	Number of years since incorporation	+
Sales Growth	GROWTH	(Salest – Salest-1) $\div$ Salest-1	+

Capital Intensity	CAPINT	Net Fixed Assets ÷ Total Assets	–
Profitability Lag	ROA(t-1)	Prior-year ROA (in GMM only)	+

3.3 Model Specification

Two baseline panel regression models are estimated, corresponding to the two dependent variables:

Model 1 (ROA) :

$$ROA_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 AGE_{it} + \beta_5 GROWTH_{it} + \beta_6 CAPINT_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Model 2 (Tobin's Q) :

$$TQ_{it} = \beta_0 + \beta_1 ETR_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 AGE_{it} + \beta_5 GROWTH_{it} + \beta_6 CAPINT_{it} + \mu_i + \lambda_t + \varepsilon_{it}$$

Where μ_i denotes the unobserved firm-specific fixed effect, λ_t denotes time-fixed effects (year dummies included in all specifications), and ε_{it} is the idiosyncratic error term. The Hausman test is used to select between fixed-effects (FE) and random-effects (RE) estimators. Heteroskedasticity-robust standard errors are clustered at the firm level throughout. Variance Inflation Factors (VIF) are computed to confirm the absence of problematic multicollinearity.

3.4 Robustness Check Strategies

Robustness Check 1 - System GMM: The baseline fixed-effects model may be subject to endogeneity bias if tax aggressiveness is simultaneously determined with firm performance (reverse causality), or if unobserved time-varying factors influence both variables. To address this, the study applies the two-step System GMM estimator (Blundell & Bond, 1998), which instruments the differenced equation with lagged levels and the levels equation with lagged differences. The validity of instruments is assessed using the Hansen J-test of overidentifying restrictions, and the absence of second-order serial correlation is verified using the Arellano-Bond AR (2) test.

Robustness Check 2 - Quantile Regression: Mean regression results may mask heterogeneous effects of tax aggressiveness across the performance distribution. A firm in the lowest quartile of ROA may respond differently to tax aggressiveness than a high-performing firm. Quantile regression at the 25th, 50th, and 75th percentiles of the dependent variable distribution is employed to capture these distributional effects.

Robustness Check 3 - Alternative ETR Proxy (BTD): To test whether findings are sensitive to the choice of tax aggressiveness proxy, the study re-estimates both models replacing ETR with BTD. A positive BTD (pre-tax book income exceeding estimated taxable income) represents a form of tax aggressiveness, providing a complementary and measurement-independent test of the main hypotheses.

Robustness Check 4 - Sectoral Sub-Analysis: The full sample is partitioned into consumer goods, industrial goods, healthcare, and services sub-samples, and the baseline fixed-effects model is re-estimated for each sector. This tests whether the aggregate findings mask meaningful cross-sector heterogeneity driven by sector-specific tax incentives (e.g., pioneer status reliefs concentrated in industrial goods and healthcare).

4. Results and Discussion

4.1 Descriptive Statistics

Variable	N	Mean	Std. Dev.	Minimum	Median	Maximum	Skewness
ROA	360	0.087	0.061	-0.112	0.081	0.294	0.71
Tobin's Q	360	1.243	0.682	0.411	1.094	4.837	1.43
ETR	360	0.198	0.091	0.031	0.194	0.412	0.18

BTD	360	0.041	0.053	-0.088	0.037	0.291	1.09
SIZE (₦ billion)	360	47.3	62.1	1.4	27.8	411.6	2.82
LEV	360	0.381	0.189	0.041	0.368	0.871	0.38
AGE (years)	360	28.4	14.7	5	26	71	0.61
GROWTH	360	0.114	0.183	-0.341	0.097	0.892	1.21
CAPINT	360	0.442	0.201	0.091	0.441	0.891	0.09

Several features of the descriptive statistics merit discussion. The mean ETR of 19.8% is notably and substantially below the 30% statutory Companies Income Tax rate applicable to large companies throughout most of the sample period, providing compelling preliminary evidence of widespread tax planning activity across the NGX-listed non-financial sector. The wide dispersion in ETR — ranging from a minimum of 3.1% (consistent with firms utilising pioneer status reliefs or investment tax credits under the Industrial Development (Income Tax Relief) Act) to a maximum of 41.2% (consistent with firms facing additional levies, deferred tax liabilities crystallising, or operating in multiple tax jurisdictions) — reflects substantial heterogeneity in planning sophistication and access to sector-specific tax incentives.

The mean positive BTD of 4.1% of total assets confirms that, on average, sample firms report higher income for financial reporting purposes than they declare for taxation, a pattern consistent with earnings management and/or aggressive tax planning. The positive skewness of BTD (1.09) indicates that a smaller subset of firms exhibit particularly large book-tax differences, warranting the quantile regression analysis employed in robustness checks.

Tobin's Q averages 1.243, indicating that the aggregate market valuation of sample firms modestly exceeds their book value, a result consistent with the presence of intangible value — brand equity, regulatory licences, and human capital — that is not fully captured on historical cost balance sheets. The distribution is positively skewed, driven by a handful of high-growth firms in the healthcare and consumer goods sectors.

4.2 Correlation Analysis

	ROA	Tobin's Q	ETR	BTD	SIZE	LEV	AGE	GROWTH	CAPINT
ROA	1.000								
Tobin's Q	0.481* **	1.000							
ETR	- 0.340* **	0.291* **	1.000						
BTD	0.312* **	- 0.248* **	- 0.419* **	1.000					
SIZE	0.201* **	0.318* **	- 0.091*	0.142* **	1.000				

LEV	- 0.418* **	- 0.361* **	0.063	- 0.201* **	0.218* **	1.000			
AGE	0.148* **	0.182* **	-0.044	0.031	0.412* **	-0.082	1.000		
GROWTH	0.391* **	0.284* **	- 0.101* *	0.218* **	0.031	- 0.214* **	-0.062	1.000	
CAPINT	- 0.182* **	- 0.094* **	0.038	- 0.148* **	0.301* **	0.219* **	0.184* **	-0.131**	1.000

Note: ***, **, * denote significance at the 1%, 5%, and 10% levels respectively (two-tailed).

The Pearson correlation matrix reveals that ETR is negatively correlated with ROA ($r = -0.340$, $p < 0.01$) and positively correlated with Tobin's Q ($r = 0.291$, $p < 0.01$), suggesting that firms with lower effective tax rates tend to show higher accounting performance but lower market valuations — precisely the duality predicted by the theoretical framework. BTD exhibits the expected opposite-direction correlations with performance (positive with ROA, negative with Tobin's Q) and a strong negative correlation with ETR ($r = -0.419$, $p < 0.01$), confirming convergent validity between the two aggressiveness proxies.

No pair of independent variables exceeds the conventional 0.70 multicollinearity threshold, and a maximum VIF of 2.31 (for SIZE) in the regression models confirms that multicollinearity does not pose a threat to the validity of the estimated coefficients. The positive correlation between SIZE and AGE ($r = 0.412$) is expected, as older firms have had greater time to accumulate assets, and is well within acceptable tolerance.

4.3 Hausman Specification Test

Model	Chi-squared Statistic	Degrees of Freedom	p-value	Selected Estimator
Model 1: ROA	24.17	6	0.001	Fixed Effects
Model 2: Tobin's Q	19.83	6	0.003	Fixed Effects

The Hausman test strongly rejects the null hypothesis of no systematic difference between fixed and random effects in both models ($p < 0.01$), confirming that firm-specific effects are correlated with the regressors. The fixed-effects estimator is therefore preferred throughout the baseline analysis, as it eliminates the bias arising from time-invariant unobserved heterogeneity (e.g., persistent differences in firm governance, management quality, or regulatory relationships).

4.4 Baseline Fixed-Effects Regression Results

Table 4: Baseline Fixed-Effects Regression Results (Dependent Variables: ROA and Tobin's Q)

Variable	Model 1: ROA		Model 2: Tobin's Q	
	Coefficient	t-statistic	Coefficient	t-statistic
ETR (H1/H2)	-0.142***	(-4.81)	0.531***	(6.14)

SIZE	0.021**	(2.43)	0.187***	(3.92)
LEV	-0.083***	(-3.67)	-0.412***	(-5.21)
AGE	0.004*	(1.78)	0.018**	(2.11)
GROWTH	0.061***	(4.02)	0.244***	(5.67)
CAPINT	-0.039**	(-2.19)	-0.108*	(-1.88)
Constant	0.043	(1.12)	0.711***	(4.33)
Year dummies	Included		Included	
R ² (within)	0.487		0.531	
F-statistic	31.42***		38.74***	
Observations	360		360	
Number of firms	40		40	

Note: ***, **, * denote significance at 1%, 5%, and 10% levels. Robust standard errors clustered at the firm level. Year fixed effects included in all specifications.

The ETR coefficient in Model 1 is -0.142 and is statistically significant at the 1% level ($t = -4.81$). Because a lower ETR represents greater tax aggressiveness, this negative coefficient confirms that more aggressive tax behaviour is associated with higher ROA. Economically, a ten-percentage-point reduction in ETR is associated with a 1.42-percentage-point increase in ROA, a substantial effect relative to the sample mean ROA of 8.7%. This finding is consistent with Shareholder Value Theory and the accounting-performance literature: retained tax savings flow directly into after-tax net income, boosting the numerator of ROA without a corresponding change in total assets.

The ETR coefficient in Model 2 is $+0.531$ and is significant at the 1% level ($t = 6.14$). The positive sign indicates that a higher ETR — representing less aggressiveness — is associated with a higher Tobin's Q. Equivalently, a ten-percentage-point reduction in ETR corresponds to a decrease in Tobin's Q of approximately 0.053 units. Given the sample mean Tobin's Q of 1.243, this represents approximately a 4.3% reduction in market value for a substantial increase in aggressiveness. This finding is consistent with Legitimacy Theory: capital markets appear to penalise firms perceived as excessively aggressive in their tax positions, pricing in the risk of FIRS audit assessments, penalties under the Finance Act's GAAR provisions, and the reputational costs associated with perceived tax non-compliance.

Among the control variables, firm size exerts a consistently positive effect on both performance measures, consistent with economies of scale and the market recognition of larger franchise values. Leverage significantly reduces both ROA and Tobin's Q, reflecting the financial risk and interest burden associated with high debt levels. Sales growth is a robust positive predictor of both metrics, confirming that revenue momentum translates into both reported earnings and market optimism. Capital intensity reduces performance on both dimensions, likely reflecting the relative illiquidity of fixed asset-heavy balance sheets and the higher depreciation charges that suppress net income.

4.5 Robustness Check 1: System GMM Estimation

Table 5 presents the results of the two-step System GMM estimation, which addresses the potential endogeneity of tax aggressiveness decisions. The Hansen J-test of overidentifying restrictions is not rejected in either model (p-values of 0.341 and 0.287 respectively), confirming instrument validity. The Arellano-Bond AR(2) test fails to reject the null of no second-order serial correlation (p-values of

0.412 and 0.371), validating the GMM moment conditions. The number of instruments is maintained below the number of panel groups in both models to prevent instrument proliferation bias.

Table 5: System GMM Robustness Check (Two-Step Estimator)

Variable	GMM Model 1: ROA		GMM Model 2: Tobin's Q	
	Coefficient	z-statistic	Coefficient	z-statistic
ETR	-0.163***	(-3.94)	0.612***	(5.41)
ROA (t-1) / TQ (t-1)	0.318***	(5.21)	0.441***	(7.84)
SIZE	0.018**	(2.11)	0.201***	(3.44)
LEV	-0.091***	(-3.12)	-0.448***	(-4.81)
GROWTH	0.054***	(3.81)	0.219***	(4.92)
Constant	0.031	(0.88)	0.584**	(2.41)
Hansen J-test (p-value)	0.341		0.287	
AR(1) test (p-value)	0.012		0.009	
AR(2) test (p-value)	0.412		0.371	
Number of instruments	28		28	
Observations	320		320	

Note: ***, ** denote significance at 1% and 5% levels. Windmeijer (2005) finite-sample corrected standard errors applied.

The GMM results are strikingly consistent with the baseline fixed-effects estimates. The ETR coefficient for ROA remains negative and significant ($\beta = -0.163$, $z = -3.94$), and the Tobin's Q coefficient remains positive and significant ($\beta = 0.612$, $z = 5.41$), in both cases slightly larger in magnitude than the fixed-effects estimates — a pattern consistent with the baseline estimates being modestly attenuated by measurement error, which GMM partly corrects. The significant positive lagged dependent variable in both models confirms that firm performance exhibits persistence over time, validating the dynamic panel specification. These results confirm that endogeneity does not materially distort the baseline findings: the negative effect of tax aggressiveness on market value and its positive effect on accounting performance are not artefacts of reverse causality or simultaneity bias.

4.6 Robustness Check 2: Quantile Regression

Table 6 presents quantile regression estimates at the 25th, 50th, and 75th percentiles of the ROA distribution. The results reveal meaningful heterogeneity in how tax aggressiveness affects performance across the conditional distribution of firm profitability.

Table 6: Quantile Regression – Dependent Variable: ROA

Variable	Q25 (Low Performers)	Q50 (Median)	Q75 (High Performers)
ETR	-0.071** (-2.14)	-0.138*** (-4.91)	-0.221*** (-5.83)

SIZE	0.012 (1.44)	0.019** (2.38)	0.031*** (3.11)
LEV	-0.102*** (-4.21)	-0.081*** (-3.54)	-0.064** (-2.41)
GROWTH	0.038** (2.18)	0.059*** (3.87)	0.088*** (4.44)
CAPINT	-0.044** (-2.31)	-0.036** (-2.04)	-0.028* (-1.81)
Pseudo-R ²	0.218	0.311	0.362

Note: t-statistics in parentheses. ***, **, * denote significance at 1%, 5%, and 10% levels.

The quantile regression results reveal a gradient in the ETR effect across the ROA distribution: the coefficient becomes more negative as one moves from low-performing (Q25: $\beta = -0.071$) to high-performing (Q75: $\beta = -0.221$) firms. This suggests that tax aggressiveness confers the largest accounting performance benefit on firms that already generate high returns — arguably because high-performing firms have greater pre-tax income from which to shelter taxes, and because the efficiency gains from tax reduction compound with underlying operational performance. For low-performing firms in the bottom quartile, the relationship is still statistically significant but economically more modest, possibly reflecting the fact that near-loss firms have less taxable income to shelter and may be subject to minimum tax provisions under Nigerian tax law. This non-linear finding has important implications: policy recommendations on tax planning should be calibrated to the firm's performance context, as the risk-reward calculus of aggressiveness differs across the profitability spectrum.

4.7 Robustness Check 3: Alternative Proxy (Book-Tax Difference)

Table 7: Alternative Proxy – BTD Replacing ETR (Fixed-Effects)

Variable	BTD Model 1: ROA	t-statistic	BTD Model 2: Tobin's Q	t-statistic
	Coefficient		Coefficient	
BTD	0.219***	(3.88)	-0.684***	(-5.12)
SIZE	0.019**	(2.21)	0.172***	(3.44)
LEV	-0.079***	(-3.41)	-0.391***	(-4.91)
AGE	0.003*	(1.69)	0.016**	(1.98)
GROWTH	0.058***	(3.91)	0.231***	(5.11)
CAPINT	-0.037**	(-2.08)	-0.099*	(-1.81)
R ² (within)	0.461		0.508	
F-statistic	28.91***		35.44***	

Substituting the BTD for ETR as the measure of tax aggressiveness yields qualitatively identical conclusions, with sign and significance patterns that mirror the baseline results precisely. A higher BTD — indicating a larger gap between book and taxable income, and thus greater tax aggressiveness — is associated with higher ROA ($\beta = 0.219$, $p < 0.01$) and lower Tobin's Q ($\beta = -0.684$, $p < 0.01$). The slightly weaker within-R² in these specifications (0.461 vs. 0.487 for ROA) is consistent with BTD being a noisier proxy for deliberate tax aggressiveness, as it also captures legitimate accounting differences not related to tax planning. Nevertheless, the directional consistency and statistical significance of the results across both proxies substantially reinforce confidence in the core findings.

4.8 Robustness Check 4: Sectoral Sub-Analysis

Table 8: Sectoral Sub-Analysis – ETR Coefficient Only (Fixed-Effects)

Sector	N (firms)	ETR→ROA Coeff.	t-stat	ETR→TQ Coeff.	t-stat
Consumer Goods	12	-0.161***	(-3.84)	0.488***	(4.21)
Industrial Goods	10	-0.108**	(-2.41)	0.391**	(2.88)
Healthcare	8	-0.194***	(-3.11)	0.612***	(4.88)
Services	10	-0.118**	(-2.18)	0.471***	(3.91)

The sectoral sub-analysis reveals that the baseline findings hold consistently across all four sectors represented in the sample. The ETR effect on ROA is negative and significant in every sector, ranging from -0.108 (industrial goods) to -0.194 (healthcare). The stronger effect in healthcare is noteworthy and is likely attributable to the higher pre-tax margins in that sector, which amplify the per-Naira impact of tax savings on net income. The industrial goods sector exhibits the weakest ETR-ROA relationship, consistent with the prevalence of pioneer status and investment allowance reliefs in that sector that mechanically reduce ETR through legitimate incentives rather than aggressive planning, thereby providing smaller incremental profit from further tax reduction. The ETR effect on Tobin's Q is positive and significant in all sectors, confirming that the market valuation penalty for tax aggressiveness is a general phenomenon not confined to any single sector.

5. Conclusions and Recommendations

5.1 Summary of Findings

This study provides robust panel evidence — validated across four distinct estimation strategies — that corporate tax aggressiveness produces systematically divergent effects on financial performance depending on the performance dimension examined. Tax-aggressive firms in Nigeria record higher accounting returns (ROA), with the retained tax savings flowing directly and predictably into net income. However, the same firms attract lower market valuations (Tobin's Q), as capital market participants appear to capitalise the regulatory and reputational risks associated with aggressive tax positions into lower equity prices.

This duality is not a fragile artefact of a single estimation approach. It survives the correction for endogeneity via System GMM, the exploration of distributional heterogeneity via quantile regression, the substitution of the primary tax aggressiveness proxy with an alternative measure (BTD), and the disaggregation of the full sample into four sector-specific sub-panels. The consistency of these findings across methodologically diverse specifications provides a high degree of confidence in their validity. An additional finding of theoretical interest is the gradient revealed by quantile regression: the accounting performance benefit of tax aggressiveness is significantly larger for high-performing firms than for low-performing ones. This suggests that the shareholder value gains from tax planning are distributed unevenly across the performance spectrum, with implications for the corporate governance literature on the appropriate scope of executive discretion in tax planning decisions.

5.2 Policy and Managerial Recommendations

For Corporate Boards and Management: The findings strongly caution against the pursuit of ETR minimization as an overriding strategic objective. While aggressive tax planning reliably boosts quarterly and annual earnings, it simultaneously imposes a sustained market value discount that appears to outweigh the accounting benefit for many firms — particularly in a post-Finance Act environment where regulatory risk has materially escalated. Boards should adopt an integrated tax risk management framework that sets a target ETR range (suggested: 22–26%, modestly below the 30%

statutory rate but within a defensible planning bandwidth) and requires explicit approval for any arrangement that would push the ETR below this floor. The Chief Financial Officer and Group Tax Director should jointly report annually to the Audit and Risk Committee on the firm's tax risk posture, the key drivers of any ETR deviation from the statutory rate, and the potential regulatory and reputational exposure of material tax positions.

For Regulators — FIRS: The Federal Inland Revenue Service should continue and accelerate the enforcement trajectory established by the Finance Act 's GAAR provisions, transfer pricing documentation requirements, and Country-by-Country Reporting obligations. The findings suggest a need for enhanced monitoring of aggressive tax practices, but this is unlikely to be sufficient on its own. FIRS should publish sector-specific ETR benchmarks annually, enabling firms to assess the relative aggressiveness of their positions and providing investors and analysts with a reference framework for performance evaluation.

For Regulators — SEC: The Securities and Exchange Commission of Nigeria should consider incorporating a mandatory Tax Transparency Disclosure into its Corporate Governance Rating Framework, consistent with global trends toward enhanced tax reporting under the OECD's Base Erosion and Profit Shifting (BEPS) project. At a minimum, listed companies should be required to include in their annual reports a full ETR reconciliation — already partially mandated under IFRS IAS 12 — supplemented by a qualitative narrative describing significant tax positions, ongoing assessments by FIRS, and the potential financial exposure of unresolved tax disputes.

For Investors and Financial Analysts: The ETR should be routinely incorporated as a screening variable in fundamental equity analysis of NGX-listed non-financial firms. A firm whose ETR falls more than 10 percentage points below the statutory rate warrants enhanced due diligence regarding the sustainability of its tax positions, the likelihood of retrospective FIRS assessments, and the reputational costs of public scrutiny. Specifically, the inverse relationship between ETR and Tobin's Q documented in this study implies that the market is already pricing some of this risk — but the magnitude of the GMM-estimated coefficients suggests the discount may be systematically underestimated by analysts relying solely on earnings-based valuation multiples.

5.3 Limitations and Directions for Future Research

This study is subject to several limitations that offer productive avenues for future inquiry. First, the ETR and BTM measures, while standard in the literature, do not permit precise identification of the specific tax planning mechanisms deployed — whether transfer pricing, thin capitalisation, accelerated depreciation, or treaty-shopping arrangements. Future research employing hand-collected data on specific tax transactions would enable a more granular assessment of mechanism-level effects. Second, the study period ends in 2023, prior to the full implementation of the NTA 2025; a longitudinal follow-up covering 2024–2027 would be valuable in assessing whether the narrowing of aggressive planning opportunities under the new legislation materially changes the ETR-performance relationship. Third, the study does not measure the direct compliance costs associated with tax aggressiveness — legal fees, internal tax department expenditures, and audit management costs — which would need to be netted against tax savings to determine the true net benefit to shareholders. Fourth, future research should explore the moderating role of corporate governance quality (board independence, audit committee financial expertise, and institutional ownership concentration) on the ETR-performance relationship, as the international evidence suggests that governance significantly conditions the firm-value effects of tax planning.

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