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Tax Avoidance and Firm Value of Selected Firms in Nigeria

Malobi Gladys Okolie[1*], Moses Onyeka Chukuwendu[2]

[1,2]Delta State University Business School, Asaba, Delta State, Nigeria

E-mail: [1)] okoliemalobi503@gmail.co, [2)] moseschukuwendu@gmail.com

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ABSTRACT

This research investigates the relationship between tax avoidance strategies and company value among publicly traded non-financial corporations in Nigeria. The researchers developed two hypotheses to guide their investigation and utilized an ex-post facto research approach. They measured firm value using Tobin's Q as the outcome variable, while examining book-tax differences and cash effective tax rates as the key explanatory factors. The analysis focused on 76 publicly listed non-financial companies from the Nigerian Exchange Group, covering a ten-year period from 2014 to 2023. The researchers applied feasible generalized least squares regression analysis using STATA 14.2 software to process the data. The results revealed that book-tax differences significantly influence Tobin's Q among the studied Nigerian non-financial firms (with statistical significance at $p < 0.05$). However, cash effective tax rates showed no meaningful impact on firm value ($p > 0.05$). Based on these findings, the researchers suggest that companies should prioritize strategic tax planning to better manage disparities between book and tax reporting, which could improve their perceived financial performance and boost investor confidence.

Keywords: Book Tax Difference, Effective Tax Rate, Firm Value, Tobin's Q.

1. INTRODUCTION

Corporate income tax represents a compulsory fiscal obligation imposed on the earnings of all profitable firms, designed to contribute to national development and the provision of public goods and services (Edwards et al., 2012). Despite its significance, many firms actively engage in corporate tax avoidance—an umbrella term for a range of strategies, both legal and illicit, used to minimize tax liabilities. This behaviour is often measured by proxies such as the effective tax rate (ETR), which provides insight into how much tax firms actually pay relative to their pre-tax income (Chen et al., 2010).

In the Nigerian context, the complexity and perceived ambiguity of tax legislation and administration have been noted as key enablers of tax avoidance and non-compliance (Ezugwu & Akubo, 2014). The regulatory environment, characterized by weak enforcement mechanisms and administrative inefficiencies, provides opportunities for firms to manipulate financial reports to achieve favorable tax outcomes. As a result, corporate tax avoidance has grown into a widespread and increasingly sophisticated phenomenon, raising concerns about its implications for public revenue generation and the true financial health of firms (Hasan et al., 2016).

While numerous studies—both international and local—have examined tax avoidance through the lens of the income statement or financial position, these approaches may not fully capture the operational realities of firms. Recent scholarly efforts advocate for a shift towards cash flow-based analysis as it provides a more realistic picture of a firm's financial performance and market competitiveness (Aktaş & Karğın, 2012; Amuzu, 2010). This growing interest in the dynamic nature of cash flows has led to fresh investigations into how tax planning practices, including book-tax differences and varying definitions of effective tax rates, influence firm value and long-term performance.

Specifically in Nigeria, empirical research on the impact of book-tax differences and alternative measures of effective tax rates, like the cash effective tax rate, on corporate performance is lacking (Frank & James, 2014; Ogbonnaya et al., 2016). This gap is more pronounced within the non-financial firms, where financial manipulations tied to tax avoidance can significantly distort reported earnings and firm valuation. While international studies have proposed expanded proxies for tax avoidance to enhance the robustness of empirical findings (Khuong et al., 2019; Noga & Schnader, 2013), very few attempts have been made to test these propositions within the Nigerian setting. Nigeria therefore suffers from the complexity of tax laws and weak enforcement which has created loopholes for firms to minimize tax liabilities through aggressive planning (Ezugwu & Akubo, 2014). Despite this, few studies have examined how such tax avoidance practices influence firm value, particularly using forward-looking metrics like Tobin's Q in non-financial firms (Chen et al., 2010; Nwaiwu & Oluka, 2018).

Most existing studies focus on static accounting measures and overlook dynamic proxies like cash effective tax rate, which may better reflect a firm's operational reality (Khuong et al., 2019). Additionally, reliance on GMM techniques dominates local literature, leaving alternative methods underexplored (Salawu, 2017). The lack of research on the effects of tax avoidance on the market valuation of non-financial firms in Nigeria hinders our comprehension. As a result, this research aims to explore how tax avoidance, as indicated by differences between book and tax calculations and the effective cash tax rate, affects the value of publicly traded non-financial firms in Nigeria. By leveraging alternative methodologies and more comprehensive tax avoidance proxies, this study aims to deepen understanding and inform both corporate strategies and fiscal policy formulation. The main aim of this study is to explore the effects of tax avoidance on the overall success of non-financial firms that are part of the Nigerian Exchange Group. The emphasis is on studying the connection between differences in tax reporting and Tobin's Q for these businesses in Nigeria, along with evaluating how actual tax rates affect Tobin's Q for the same firms.

2. LITERATURE REVIEW

2.1. Conceptual Review

2.1.1. Tax Avoidance

Tax avoidance refers to the deliberate structuring of financial activities by firms to reduce tax liabilities within legal boundaries. While not illegal, it often involves exploiting ambiguities in tax regulations, raising questions about fairness and corporate accountability (Hanlon & Heitzman, 2010). As direct tax return data is not publicly available, scholars rely on indirect measures to capture tax avoidance behavior (Slemrod & Yitzhaki, 2002).

Two widely used empirical proxies for tax avoidance are book-tax differences (BTDs) and the cash effective tax rate (Cash ETR). These measures offer complementary perspectives: BTDs highlight the divergence between financial accounting income and taxable income, often indicating strategic reporting choices (Desai & Dharmapala, 2006), while Cash ETR focuses on the actual cash taxes paid relative to income, revealing the firm's real tax burden (Richardson & Lanis, 2007). Together, these proxies enable researchers to assess the extent and nature of corporate tax avoidance beyond what is observable through reported tax expense alone.

a. Book Tax Difference

BTDs refer to the variance between the earnings specified in a business's financial records pre-tax and the earnings reported to tax agencies (Tang, 2006). Taxable income is the total income that is subjected to taxes as determined by the government's tax regulations in a specific country (Evangelos, 2019). Thus, divergences in how revenue and expenses are handled under local accounting standards and tax regulations are the main reasons behind the existence of BTDs (Harrington et al., 2012). Previous research, for example Revsine et al. (2002) and Pratt & Kulsrud (2008) found that examining the ratio of pre-tax book earnings to taxable income is a method for assessing a company's financial choices.

There are three distinct components of BTDs that represent different origins of BTDs, including constant discrepancies, fleeting discrepancies, and variations in statutory tax rates (Harrington et al., 2012; Wei Ling & Abdul Wahab, 2018). Temporary discrepancies are differences in the timing of when certain items, like

warranty reserves and bad debt reserves, are recognized in financial statements and taxable income without accounting for taxes. These differences arise from the decisions made by a company regarding accruals for accounting purposes and the options available for tax purposes (Hanlon et al., 2012). Temporary variances may be either favorable or unfavorable. Positive variances happen when there is a surplus in accounting income compared to taxable income, whereas negative variances occur when accounting income falls short of taxable income (Hanlon & Heitzman, 2010).

b. Cash effective tax rate

According to Lee et al. (2015), a firm's tax strategy and practice are considered proprietary, as corporate tax returns are not publicly disclosed. To evaluate a firm's tax behavior, scholars rely on various empirical proxies. Several methods of taxation, both legal and illegal, are outlined by Lisowsky et al. (2012). The different factors to consider are the cash tax rate, GAAP tax rate, total differences between book and tax, permanent discrepancies between book and tax, optional permanent discrepancies between book and tax, and transactions that must be reported. The cash effective tax rate (Cash ETR) is commonly used to determine the real amount of taxes paid. It is calculated by comparing the cash taxes paid to either pre-tax income or, in certain situations, to the cash flow generated from operations (Richardson & Lanis, 2007). The Cash ETR provides insight into the real cash outflows related to taxes, making it a valuable indicator of a firm's tax avoidance practices.

2.1.2. Firm value

The assessment of a company's economic performance and future prospects by the market is reflected in the firm value. Numerous elements influence its formation, such as efficiency in operations, strategic choices, governance within the company, and financial strategies. In modern corporate finance studies, Tobin's Q is frequently employed as a key indicator to symbolize a company's worth. This indicator is determined by comparing the market value of a company's assets to the book value of its assets, reflecting how effectively a company's market success corresponds to its fundamental economic value (Kouki & Guizani, 2015). A higher Tobin's Q indicates strong investor confidence and expectations of future growth. Recent studies have investigated the impact of tax avoidance on firm value, with mixed findings—some suggest it enhances value through tax savings, while others highlight reputational risks and reduced transparency that may lower market valuation (Atan & Abdul-Rahman, 2018). For firms operating in emerging markets like Nigeria, understanding this relationship is crucial given institutional, regulatory, and governance challenges that influence both tax practices and market perception.

2.2. Theoretical Framework

2.2.1. Agency Theory

Agency theory originated from Means (2017) and was formalized by Ross (1973)in the 1970s. Meckling & Jensen (1976) first linked the theory to agency costs, defining an agency relationship as when principals hire an agent to perform services and delegate decision-making authority to them. According to Namazi (2013), the concept involves a scenario where one person (agent) is hired by another person (principal) to represent them for a set fee. Agency expenses include the costs of monitoring by the principal, bonding by the agent, and any leftover losses (Jensen & Meckling, 1976). In the business realm, managers are viewed as representatives, whereas shareholders are seen as authorities (Shafai et al., 2018). Thus, the concept of agency comes into play when shareholders delegate authority to managers to make decisions on behalf of the company (Ruangviset et al., 2014).

Agency theory offers a helpful framework for understanding interactions where the goals of different entities are in conflict, and can be better harmonized through effective supervision and a carefully designed reward structure (Davis et al., 1997). According to Daily et al. (2003), there are two reasons why agency theory has become important. The first reason is that the theory simplifies the corporation by focusing on just two key players: managers and shareholders. Secondly, the idea that people are motivated by self-interest is widely recognized. Agency theory can be used to analyze any contractual relationship where the principal and agent have different objectives and attitudes towards risk. This can include issues such as compensation, regulation, leadership, public image management, reporting wrongdoing, vertical integration, mergers and acquisitions, and setting prices (Eisenhardt, 1989).

2.3. Empirical Review

Khuong et al. (2019) examined 125 non-financial firms from Vietnam's Ho Chi Minh City and Hanoi stock exchanges over the period 2010-2016. Using Thomson Reuters EIKON financial data and two-step GMM estimation for hypothesis testing, they discovered that current effective tax rate, cash effective tax rate, and book-tax differences all showed positive associations with corporate cash holdings. Kim & Jang (2018) investigated the connection between tax avoidance strategies and crucial financial metrics within Korea's construction waste disposal sector. Their analysis covered 23 Korean companies in this industry from 2006 to 2016, utilizing secondary financial data from the Korean Financial Supervisory Service's DART database. Through multiple regression analysis, they found that operational cash flows positively and significantly related to book-tax differences, non-current asset financing ratios showed positive significant effects, while debt levels were positive but statistically insignificant.

Rui (2019) examined how corporate tax avoidance affects the sensitivity between investment decisions and cash flow. The study analyzed 5,056 firm-year observations from Chinese A-share companies listed on Shanghai and Shenzhen exchanges between 2009 and 2015, using Wind Economic Database information. Regression analysis revealed that companies engaging in higher levels of tax avoidance exhibit greater investment-cash flow sensitivity. Goldman (2016) assessed the impact of aggressive tax strategies on investment efficiency across 12,876 firm-year observations. Drawing from Compustat and Execucomp databases covering fiscal years 1992-2014 and applying multiple regression techniques, the research found that tax aggressiveness correlates with increased investment among firms with available capital. Additionally, auditor-provided tax services significantly influenced the relationship between tax aggressiveness and investment efficiency. Santa & Rezende (2016) analyzed the relationship between corporate tax avoidance and firm valuation in Brazil. Their study encompassed 323 publicly traded companies (totaling 1,704 firm-year observations) from the BM&FBovespa exchange between 2006 and 2012, using data from Brazil's securities regulator (CVM) and Economatica. Multiple regression analysis indicated that tax avoidance measured through book-tax differences negatively and significantly affected Tobin's Q, while net income relative to total assets showed a positive significant relationship.

3. RESEARCH METHODS

3.1. Research Design

The research design links theories with data collection methods (Denzin & Lincoln, 2011). The study employed a retrospective research design, indicating that data was gathered post-occurrence of events. The decision to use this design was made because the study utilized historical accounting data from annual reports and accounts.

3.2. Population of the Study

The research centers on non-financial corporations that are part of the Nigerian exchange group (NGX) as of the conclusion of the 2023 fiscal year.

Table 1. Number of Firms by Sector

S/No	Sector	Number of firms
1	Agriculture	5
2	Conglomerates	5
4	Consumer Goods	20
6	Health Care	10
8	Industrial Goods	13
9	Service	16
10	Oil and gas	8
11	ICT	5
12	Natural resources	4
13	Construction	2
	Total	88

Source: NGX, (2024)

3.3. Sample Size of the Study

The research focused on a total of 76 non-financial companies that were chosen through a purposive sampling method. The selection was based on the categorization of the companies as non-financial according to the activities listed on the Nigerian exchange group (NGX) website. Details of the criteria for selecting the sample are presented in the following table.

Table 2. Sample Selection

Sector/criteria	Number of firms
No of firms	88
Less: Consumer goods (Delisted firm)	04
Less: Industrial goods non-available	03
Less: Healthcare (Delisted firm)	04
Less: Agriculture (Delisted firm)	01
Total sample size	76

Source: NXG (2024)

Other industries were not included, which aligned with previous research findings (Abid et al., 2018). During the data analysis phase, any companies with missing or incomplete data were not included in the sample. The final sample consists of approximately 86.36% of all non-financial companies listed on the Nigerian exchange group.

3.4. Methods of Data Analysis

Ordinary least square (OLS) regression was be used to validate the hypotheses. The model was fine-tuned and improved using GLS technique with robust panel. Other initial diagnostic tests were also conducted, including the Variance Inflation Factor (VIF) for examining multicollinearity, the Shapiro-Wilk normality test, a serial correlation test, the Ramsey RESET test for model fit, and a heteroskedasticity test. These assessments assisted in identifying the optimal model to utilize. The model's fitness was evaluated using the Coefficient of Determination (R-squared), with analysis carried out using STATA statistical software version 14.2.

The model specification in Hair et al. (2006), as presented in their book *Multivariate Data Analysis* (6th edition), revolves around the application of multivariate statistical methods in data analysis, particularly in the fields of social sciences and business. Their model specification typically emphasizes different statistical methods for analyzing data, including Factor analysis, Structural equation modeling (SEM), Path analysis, Multiple regression analysis, Cluster analysis, and Discriminant analysis. Hair et al. (2006) emphasize the importance of correctly specifying models and providing methods for model evaluation, including goodness-of-fit tests, as well as adjusting for potential issues like multicollinearity and sample size considerations. One of the fundamental models discussed by Hair, et al., (2006) is multiple regression, which is specified as:

$Y = \beta_0+\beta_1X_1+\beta_2X_2+\cdots+\beta nXn+\epsilon$ ……..[n]

Where:

Y = Dependent variable (outcome)

$X_1,X_2,\ldots,Xn$ = Independent variables (predictors)

$\beta 0$ = Intercept

$\beta 1,\beta 2,\ldots,\beta n$ = Coefficients of independent variables

ϵ = Error term (random disturbance)

Hence, this particular model is utilized to approximate how various separate factors influence a particular outcome. A unique model was developed to analyze the effects of different factors on the resources of specific manufacturing companies, considering various aspects of the study. This strategy aligns with Hair et al. (2006).

TQ = f (btd, etr, fsize, flev) …… *(1)*

Equations 1 can be expressed in an econometric manner as shown in equations 2 in the following way.

$TQ_{it} = B_0 + B_1btd_{it} + B_2etr_{it} + B_3fsize_{it} + B_4flev_{it} +++ \sum_t$..... (2)

Where:

TQ =Tobin's Q

etr = Effective tax rate

btd = Book tax differences

fsize = Firm size

flev = Firm leverage

roa = Return on assets

t = Time dimension of the variables

η_0 = Constant or Intercept.

η_{1-4} = Coefficients to be estimated or the Coefficients of slope parameters.

The expected signs of the coefficients (a priori expectations) are such that η_2 and $\eta_3 > 0$; while, η_1 and $\eta_4 < 0$

3.5. Description of Variables

Table 3. Variables

Proxy	Label	Variable type	Measurement	Source
Tobin's Q	TQ	Dependent	The ratio of a company's market value of assets to its total assets book value is utilized for measurement.	Ruan et al. (2011)
Cash effective tax rate	ETR	Independent	Expressed as the relationship between the amount of cash taxes paid and pre-tax income, special items not included.	Manzon, Jr. & Plesko (2001)
Book tax difference	BTD	Independent	Calculated by subtracting pre-tax book income from the current tax expense, then divided by the statutory tax rate.	Manzon, Jr. & Plesko (2001)
Firm size	FS	Control	The logarithm of the total assets' numerical value.	Innocent et at (2018)
Firm leverage	Leverage	Control	Expressed as the ratio of liabilities to overall assets during the specified timeframe.	Wijaya & Atahau (2021)

Source: Authors' Compilation, 2025

3.6. Decision Rule

Decision-making in regression analysis is influenced by the significance level of the t-statistic. When the p value falls below .05, the alpha level set by the researcher, the null hypothesis is refuted and it is determined that the variable being studied has a noteworthy impact.

4. RESULTS AND DISCUSSION

4.1. Data Presentation

Table 4. Descriptive Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
tobin_qx	756	.895	1.30427	.01	11.2
casheffect~x	756	27.52351	100.174	-370	1229.79
btd	756	5628786	2.89e+07	-1.71e+08	3.70e+08
firmsize	756	7.108413	.8204043	5.24	9.31
leverage	756	-2.397989	115.1574	-3123.06	202.9

Source: SATA 14.2/Author (2025)

In the study, 756 firm-year observations were used to analyze the variables, and Table 4 displays the descriptive statistics for these variables. The average Tobin's Q is 0.895, suggesting that, on average, the market values the firms slightly below the book value of their assets, with some firms reaching as high as 11.2. The Cash Effective Tax Rate (CashETR) has a mean of 27.52%, but a very high standard deviation (100.17) and

wide range (from -370 to 1229.79), indicating significant variability and the presence of outliers or aggressive tax behavior in some firms.

Book-Tax Differences (BTD) also show a high degree of dispersion, with an average of approximately 5.6 million and values ranging from large negative to large positive figures, reflecting varying degrees of tax planning or income reporting strategies. Firm Size, measured in log terms, averages 7.11, with a fairly narrow distribution, while Leverage shows a surprising mean of -2.40 and a very large standard deviation (115.16), suggesting some extreme values—possibly due to negative equity or unusual financing structures in some firms.

4.2. Data Analysis

4.2.1. Correlation Analysis

Table 5. Correlation Analysis

	tobin_qx	cashef~x	btd	firmsize	leverage
tobin_qx	1.0000				
casheffect~x	-0.0406	1.0000			
btd	0.2618	-0.0181	1.0000		
firmsize	0.0570	0.0081	0.3575	1.0000	
leverage	0.0072	0.0103	0.0051	0.0836	1.0000

Source: SATA 14.2/Author (2025)

Table 5 displays the Pearson correlation coefficients between the main variables examined in the research. The results indicate a weak negative correlation between Tobin's Q and Cash Effective Tax Rate (-0.0406), suggesting that higher cash tax payments may be slightly associated with lower firm value, though the relationship is not strong. Book-Tax Difference (BTD) has a moderate positive correlation with Tobin's Q (0.2618), indicating that firms with greater BTDs may experience higher market valuation, possibly due to effective tax planning strategies.

Firm Size shows weak positive correlations with both Tobin's Q (0.0570) and BTD (0.3575), implying that larger firms might engage more in tax planning or are perceived more favorably by the market. Leverage has very low correlations with all variables, suggesting minimal linear relationships in this sample. Conclusively, the correlations are generally low, indicating limited multicollinearity among the explanatory variables, which is favourable for regression analysis.

4.2.2. Regression Analysis

Table 6. OLS Regression

Source	SS	dF	MS	Number of obs	= 755	
Model	91.6998019	4	22.9249505	F(4, 750)	= 14.42	
Residual	1192.20309	750	1.58960412	Prob > F	= 0.0000	
Total	1283.90289	754	1.70278898	R-squared	= 0.0714	
				Adj R-squared	= 0.0665	
				Root MSE	= 1.2608	
tobin_qx	**Coef.**	**Std. Error**	**t**	**P>|t|**	**[95% Conf. Interval]**	
casheffecti~x	-.000461	.0004582	-1.01	0.315	-.0013606	.0004386
btd	1.25e-08	1.70e-09	7.33	0.000	9.14e-09	1.58e-08
firmsize	-.0671783	.0601503	-1.12	0.264	-.1852613	.0509048
leverage	.0001096	.0004	0.27	0.784	-.0006757	.0008949
_cons	1.316159	.4268468	3.08	0.002	.4782022	2.154115

Source: SATA 14.2/Author (2025)

The findings from the OLS regression in Table 6 demonstrate the link between tax avoidance strategies and firm value, which is represented by Tobin's Q. Overall, the model shows significant statistical relevance ($F(4, 750) = 14.42$, $p < 0.01$), indicating that the predictor variables collectively forecast firm value. Nevertheless, with an R-squared value of 0.0714, only approximately 7.1% of the Tobin's Q variability can be accounted for by the model, hinting at the existence of other unconsidered elements impacting firm value.

Among the predictors, Book-Tax Difference (BTD) has a positive and statistically significant effect on firm value ($\beta = 1.25e\text{-}08$, $p < 0.001$), implying that higher BTDs—which may indicate effective tax planning—

are associated with greater market valuation. In contrast, Cash Effective Tax Rate has a negative but statistically insignificant coefficient (β = -0.000461, p = 0.315), suggesting no meaningful impact on firm value in this sample. Both Firm Size and Leverage also show statistically insignificant relationships with firm value (p = 0.264 and p = 0.784, respectively), indicating that, within this model, they do not significantly influence Tobin's Q. Overall, the findings suggest that book-tax differences may be a more relevant indicator of tax avoidance behavior linked to firm value than cash-based tax measures in the context of selected Nigerian firms.

Table 7. Variance Inflation Factor (VIF)

Variable	VIF	1/VIF
firmsize	1.16	0.865307
btd	1.15	0.871128
leverage	1.01	0.992231
casheffect~x	1.00	0.999349
Mean VIF	1.08	

Source: SATA 14.2/Author (2025)

Table 7 showcases the Variance Inflation Factors (VIFs) for the independent variables in the regression model, which are utilized for evaluating multicollinearity. The VIF values all fall comfortably below the standard threshold of 10, and the average VIF is 1.08. This suggests that multicollinearity is not something to worry about in this particular model. Specifically, the VIFs range from 1.00 for Cash Effective Tax Rate to 1.16 for Firm Size, suggesting that the independent variables do not show strong correlation with each other, implying that the regression coefficients remain consistent and trustworthy. Consequently, the models provide a clear and unbiased understanding of how tax avoidance influences firm values amongst non-financial firms in Nigeria.

Table 8. Ramsey RESET Test

Ramsey RESET test using powers of the fitted values

Ho: model has no omitted variables	F(3, 747)	Prob > F
Tobin's Q	38.05	0.0000

Source: SATA 14.2/Author (2025)

The Ramsey RESET examination was performed to determine if the regression model is affected by the presence of omitted variables. The test produced a statistically significant result ($F(3, 747) = 38.05$, $p < 0.0001$), indicating that the null hypothesis of no omitted variables is rejected. This suggests that the current model specification may be incomplete and that relevant explanatory variables may have been left out. Therefore, the model could benefit from including additional predictors or nonlinear terms to improve its explanatory power.

The presence of omitted variable bias in the ROA model suggests that additional factors influencing firm value should be considered for a more accurate estimation. Possible missing variables could include macroeconomic indicators, regulatory policies, or operational efficiency metrics. To improve this model, further analysis was conducted. The study therefore employed generalized least square (GLS) regression models as this can help to control for unobserved heterogeneity that may be causing the omitted variable bias.

Table 9. Heteroskedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance, Variable fitted values	Chi2(1)	Prob > chi2
Tobin's Q	101.42	0.0000

Source: SATA 14.2/Author (2025)

The analysis in table 9 included the Breusch-Pagan/ Cook-Weisberg test to identify any heteroskedasticity in the regression model. The test outcome showed statistical significance ($\chi^2(1) = 101.42$, $p < 0.0000$), indicating a rejection of the assumption of constant variance in the data. This indicates that the error terms in the model are not homoskedastic—i.e., the model suffers from heteroskedasticity, which can bias the standard errors and lead to inefficient estimates. Since the presence of heteroskedasticity may indicate potential model misspecification, meaning that omitted variables or incorrect functional forms should be reconsidered, the

generalized least squares (GLS) with robust panel was therefore explored to obtain more efficient estimates and to correct autocorrelation in the model.

4.2.3. Fine-tuning the models – Robustness check

After conducting the initial OLS regression analysis, diagnostic tests revealed the presence of heteroskedasticity and potential model misspecification in the model. To ensure the reliability and accuracy of the estimates, the model requires fine-tuning through appropriate corrective measures. This involves transforming the dependent variables while considering alternative estimation techniques such as Generalized Least Squares (GLS) with robust panel. These refinements aim to improve the model's validity, ensuring that the estimated relationships between tax avoidance and firm value are both statistically sound and economically meaningful.

Table 10. Feasible Generalized Least Square (FGLS)

Cross-sectional time-series FGLS regression

Coefficients : generalized least squares
Panels : heteroskedastic
Correlation : no autocorrelation

Estimated covariances = 76
Estimated autocorrelations = 0
Estimated coefficients = 5

Number of obs = 755
Number of groups = 76
Obs per group:
Min = 8
avg = 9.934211
max = 10
Wald chi2(4) = 57.93
Prob > chi2 = 0.0000

tobin_qx	Coef.	Std. Error	t	P>|t|	[95% Conf.	Interval]
casheffecti~x	-.0002502	.0002049	-1.22	0.222	-.0006518	.0001514
btd	1.27e-08	1.75e-09	7.27	0.000	9.28e-09	1.61e-08
firmsize	-.1117961	.0266289	-4.20	0.000	-.1639878	-.0596045
leverage	-.0002654	.0008146	-0.33	0.745	-.001862	.0013312
_cons	1.374177	.1849201	7.43	0.000	1.01174	1.736613

Source: SATA 14.2/Author (2025)

The researchers used FGLS regression to deal with heteroskedasticity that was present in the OLS model. The results of the FGLS analysis indicate that the model has significant statistical relevance, as evidenced by a Wald chi-square statistic of 57.93 and a p-value of 0.000. This implies that the independent variables collaborate in elucidating variations in firm worth, as quantified by Tobin's Q.

Book-Tax Difference (BTD) continues to show a positive and statistically significant relationship with Tobin's Q at the 1% level. This suggests that firms with higher BTDs—often reflecting aggressive but legal tax planning strategies—tend to be more highly valued by the market. This finding reinforces the notion that tax avoidance through accounting measures may signal financial sophistication or profit-maximizing behavior that investors reward. Conversely, the Cash Effective Tax Rate (CashETR) maintains a negative coefficient, although it remains statistically insignificant. This implies that variations in the actual cash taxes paid by firms do not have a meaningful or consistent influence on firm value within the sample studied. It supports the view that investors may pay less attention to cash tax outflows than to book-tax accounting strategies when evaluating firm performance.

Interestingly, firm size now emerges as a statistically significant predictor with a negative coefficient, indicating that larger firms are associated with lower Tobin's Q values. This could suggest that market participants perceive large firms in the sample as having lower growth potential or efficiency, possibly due to organizational complexity or reduced flexibility. Leverage, on the other hand, continues to show no significant impact on firm value, aligning with earlier results and indicating that capital structure does not appear to be a key driver of market valuation for these firms. Conclusively, the FGLS model confirms the robustness of the positive impact of book-tax differences on firm value while highlighting the insignificance of cash-based tax measures. It also reveals new insights regarding firm size, suggesting that scale may have an inverse relationship with market valuation in the Nigerian context.

4.3. Hypotheses testing

After the conversation mentioned earlier, the FGLS model with a strong panel, as shown in Table 10, was utilized in this research to evaluate the hypotheses. A thorough analysis of every separate factor using a viable generalized least square model and a trustworthy standard deviation is outlined below.

4.3.1. Hypothesis one

$H0_1$: There is no significant effect of book tax difference on tobin's q of quoted non-financial firms in Nigeria.

Based on the findings from the FGLS regression analysis, the coefficient for the book-tax difference was determined to be positive and highly significant with a p-value of 0.000, indicating a strong effect on the company's overall value. This leads to a strong indication to reject the null hypothesis (H_{01}) and confirm that the difference between book and tax values plays a significant role in affecting Tobin's Q for non-financial companies in Nigeria that are publicly traded. This result implies that tax planning strategies reflected in book-tax differences may enhance how investors perceive firm performance, thereby influencing market valuation positively. It suggests that in the Nigerian context, accounting-based tax avoidance plays a significant role in shaping firm value.

4.3.2. Hypothesis two

$H0_2$: Cash effective tax rate have no significant effect on tobin's q of quoted non-financial firms in Nigeria.

According to the findings from FGLS regression analysis, the cash effective tax rate coefficient shows a negative, yet statistically insignificant result ($p = 0.222$), suggesting that there is no significant correlation between cash tax payments and the value of the company. As a result, the research does not disprove the null hypothesis (H_{02}). The implication of this finding is that investors may not place substantial weight on the actual cash taxes paid by firms when assessing their market value. Instead, they may focus more on accounting-based tax strategies, as reflected in book-tax differences, when evaluating a firm's performance and growth prospects

4.4. Discussion of findings

This study highlights the effects of tax avoidance on the valuation of non-financial firms in Nigeria, as determined by Tobin's Q. It was discovered that the difference between book and tax values positively impacts firm value in a statistically significant way ($p < 0.05$), whereas the cash effective tax rate does not have a significant effect ($p > 0.05$). These findings add to the discussion on how tax avoidance tactics can affect a company's worth in the market.

The significant effect of book-tax difference aligns with the findings of Khuong et al. (2019), who observed a positive relationship between BTD and corporate cash holdings in Vietnam. Although the context differs, both studies suggest that higher BTDs, which may reflect aggressive tax strategies, are not necessarily penalized by investors and may even enhance perceived financial sophistication or flexibility. Similarly, Kim and Jang (2018) found a positive and significant association between book-tax difference and cash flow from operations, reinforcing the idea that such discrepancies may signal effective resource management strategies. However, the result contrasts with Santa and Rezende (2016), who reported a negative and significant effect of tax avoidance (proxied by BTD) on Tobin's Q for Brazilian firms. This divergence may be attributed to contextual differences in market perception, regulatory environment, or investor sentiment across emerging economies. In Nigeria's case, investors may view book-tax differences not as red flags but as indications of tax planning efficiency that preserve earnings and improve firm valuation.

Conversely, the lack of a meaningful correlation between the cash effective tax rate and Tobin's Q indicates that investors in the Nigerian market may not place much importance on actual cash tax payments when assessing the value of companies. This finding diverges from Khuong et al. (2019), where cash ETR showed a significant effect on firm cash holdings, possibly due to different investor priorities or market structures. It also supports Rui (2019) and Goldman (2016), who found that tax avoidance generally influences corporate investment behavior more directly than it does valuation metrics like Tobin's Q. Overall, the findings imply that while accounting-based tax avoidance measures such as BTD are relevant to firm value in Nigeria, cash-based tax measures like cash ETR may be less influential in the eyes of market participants. This emphasizes the importance of understanding local market dynamics when interpreting the effects of tax strategies on firm performance.

5. CONCLUSIONS

This research delved into how avoiding taxes impacts the worth of companies in Nigeria that are not in the financial sector. It used the difference between book and tax values, as well as the actual cash tax rate, as indicators of tax avoidance. The study also utilized Tobin's Q to measure company value. The findings show that book-tax difference has a significant positive effect on firm value, indicating that accounting-based tax strategies may enhance how investors perceive firm performance. In contrast, the cash effective tax rate was not significantly related to firm value, suggesting that investors may give less importance to actual tax payments when assessing firm worth. These results imply that strategic tax planning, as reflected in book-tax differences, could be a key factor in market valuation. The research also adds to our knowledge of how tax strategies can impact the value of a company and emphasizes the significance of firms implementing tax practices that match investor expectations and financial reporting standards.

The research provides various suggestions for policymakers, corporate executives, and investors. It is suggested that companies prioritize the optimization of accounting methods for tax purposes in order to effectively handle discrepancies between book and tax figures. This can help improve the perceived financial standing of the company and increase trust among potential investors. Although the cash effective tax rate does not directly impact firm value, firms are encouraged to manage cash tax outflows efficiently. Minimizing these outflows through well-planned tax strategies can contribute to the company's overall financial health.

6. REFERENCES

Abid, A., Shaique, M., & Anwar ul Haq, M. (2018). Do Big Four Auditors Always Provide Higher Audit Quality? Evidence from Pakistan. *International Journal of Financial Studies*, *6*(2), 58. https://doi.org/10.3390/ijfs6020058

Aktaş, R., & Karğın, S. (2012). Predictive Ability of Earnings and Cash Flows: Evidence from Turkish Firms' Cash Flow Statements Prepared by IAS 7. *Journal of Money, Investment and Banking*, *25*, 171–180.

Amuzu, M. S. (2010). Cash flow ratio as a measure of performance of listed companies in emerging economies: The Ghana example. *Unpublished PhD Dissertation. Retrieved from Http://Stclements. Edu/Grad/Gradmaxw. Pdf*.

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics*, *95*(1), 41–61. https://doi.org/10.1016/j.jfineco.2009.02.003

Daily, C. M., Dalton, D. R., & Cannella, A. A. (2003). Corporate Governance: Decades of Dialogue and Data. *The Academy of Management Review*, *28*(3), 371. https://doi.org/10.2307/30040727

Davis, J. H., Schoorman, F. D., & Donaldson, L. (1997). Toward a Stewardship Theory of Management. *The Academy of Management Review*, *22*(1), 20. https://doi.org/10.2307/259223

Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE Handbook of Qualitative Research*. Sage Publications.

Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics*, *79*(1), 145–179. https://doi.org/10.1016/j.jfineco.2005.02.002

Edwards, A. S., Schwab, C., & Shevlin, T. J. (2012). Financial Constraints and the Incentive for Tax Planning. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2163766

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review*, *14*(1), 57. https://doi.org/10.2307/258191

Evangelos, C. (2019). The informative value of taxes: The case of temporal differences in tax accounting. *Journal of Accounting and Taxation*, *11*(8), 130–138. https://doi.org/10.5897/JAT2019.0350

Ezugwu, C. I., & Akubo, D. (2014). Effect of High Corporate Tax Rate on the Liquidity of Corporate Organizations in Nigeria-A study of Some Selected Corporate Organizations. *Global Journal of Management and Business Research: D Accounting and Auditing*, *14*(3).

Frank, B. P., & James, O. K. (2014). Cash flow and corporate performance: A study of selected food and beverages companies in Nigeria. *European Journal of Accounting Auditing and Finance Research*, *2*(7), 77–87.

Goldman, N. C. (2016). *The effect of tax aggressiveness on investment efficiency*. The University of Arizona.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis: Pearson prentice Hall. *Upper Saddle River, NJ*, 1–816.

Hanlon, M., & Heitzman, S. (2010). A Review of Tax Research. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1476561

Hanlon, M., Krishnan, G. V., & Mills, L. F. (2012). Audit Fees and Book-Tax Differences. *Journal of the American Taxation Association*, *34*(1), 55–86. https://doi.org/10.2308/atax-10184

Harrington, C., Smith, W., & Trippeer, D. (2012). Deferred tax assets and liabilities: tax benefits, obligations and corporate debt policy. *Journal of Finance and Accountancy*, *11*, 1.

Hasan, I., Kim, I., Teng, H., & Wu, Q. (2016). The Effect of Foreign Institutional Ownership on Corporate Tax Avoidance: International Evidence. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2829327

Innocent, Onyali, C., & Gloria, Okafor, T. (2018). Effect of Corporate Governance Mechanisms on Tax Aggressiveness of Quoted Manufacturing Firms on the Nigerian Stock Exchange. *Asian Journal of Economics, Business and Accounting*, *8*(1), 1–20. https://doi.org/10.9734/AJEBA/2018/38594

Khuong, N. V., Ha, N. T. T., Minh, M. T. H., & Thu, P. A. (2019). Does corporate tax avoidance explain cash holdings? The case of Vietnam. *Economics & Sociology*, *12*(2), 79–93. https://doi.org/10.14254/2071-789X.2019/12-2/5

Kim, W. J., & Jang, G. B. (2018). Relationship between Tax Avoidance and Key Financial Indicators in Korea's Construction Waste Disposal Industry. *Academy of Accounting and Financial Studies Journal*, *22*(3), 1–12.

Kouki, M., & Guizani, M. (2015). Outside directors and firm performance: The moderating effects of ownership and board leadership structure. *International Business Research*, *8*(6), 104.

Lee, B. B., Dobiyanski, A., & Minton, S. (2015). Theories and Empirical Proxies for Corporate Tax Avoidance. *Journal of Applied Business & Economics*, *17*(3).

Lisowsky, P., Robinson, L. A., & Schmidt, A. P. (2012). Do Publicly Disclosed Tax Reserves Tell Us About Privately Disclosed Tax Shelter Activity? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1481488

Manzon, Jr., G. B., & Plesko, G. A. (2001). The Relation Between Financial and Tax Reporting Measures of Income. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.264112

Means, G. (2017). *The modern corporation and private property*. Routledge.

Meckling, W. H., & Jensen, M. C. (1976). *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*. Springer.

Namazi, M. (2013). Role of the agency theory in implementing managements control. *Journal of Accounting and Taxation*, *5*(2), 38–47. https://doi.org/10.5897/JAT11.032

Noga, T. J., & Schnader, A. L. (2013). Book-Tax Differences as an Indicator of Financial Distress. *Accounting Horizons*, *27*(3), 469–489. https://doi.org/10.2308/acch-50481

Nwaiwu, N. J., & Oluka, N. O. (2018). Environmental cost disclosure and financial performance of oil and gas in Nigeria. *International Journal of Advanced Academic Research*, *4*(2), 1–23.

Ogbonnaya, A. K., Ekwe, M. C., & Uzoma, I. J. (2016). Relationship of Cash Flow Ratios and Financial Performance of Listed Banks in Emerging Economies – Nigeria Example. *European Journal of Accounting, Auditing and Finance Research*, *4*(4). https://doi.org/10.37745/ejaafr.2013

Pratt, J. W., & Kulsrud, W. N. (2008). *Individual Taxation*. Cengage Learning. https://books.google.co.id/books?id=pvjDLwAACAAJ

Revsine, L., Collins, D. W., & Johnson, W. B. (2002). *Financial Reporting & Analysis*. Prentice Hall. https://books.google.co.id/books?id=WgNFAAAAYAAJ

Richardson, G., & Lanis, R. (2007). Determinants of the variability in corporate effective tax rates and tax reform: Evidence from Australia. *Journal of Accounting and Public Policy*, *26*(6), 689–704.

https://doi.org/10.1016/j.jaccpubpol.2007.10.003

Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. *The American Economic Review*, *63*(2), 134–139. http://www.jstor.org/stable/1817064

Ruan, W., Tian, G., & Ma, S. (2011). Managerial Ownership, Capital Structure and Firm Value: Evidence from China's Civilian-run Firms. *Australasian Accounting, Business and Finance Journal*, *5*.

Ruangviset, J., Jiraporn, P., & Kim, J. C. (2014). How does Corporate Governance Influence Corporate Social Responsibility? *Procedia - Social and Behavioral Sciences*, *143*, 1055–1057. https://doi.org/10.1016/j.sbspro.2014.07.554

Rui, J. (2019). Effect of Corporate Tax Avoidance on the Investment-cash Flow Sensitivity. *Journal of Physics: Conference Series*, *1237*(2), 022050. https://doi.org/10.1088/1742-6596/1237/2/022050

Salawu, R. O. (2017). Corporate Governance and Tax Planning Among Non-Financial Quoted Companies in Nigeria. *African Research Review*, *11*(3), 42. https://doi.org/10.4314/afrrev.v11i3.5

Santa, S. L. L., & Rezende, A. J. (2016). Corporate tax avoidance and firm value: from Brazil. *Revista Contemporânea de Contabilidade*, *13*(30), 114–133.

Shafai, N. A. B., Amran, A. Bin, & Ganesan, Y. (2018). Earnings management, tax avoidance and corporate social responsibility: Malaysia evidence. *Management*, *5*(3), 41–56.

Slemrod, J., & Yitzhaki, S. (2002). Tax avoidance, evasion, and administration. In *Handbook of public economics* (Vol. 3, pp. 1423–1470). Elsevier.

Tang, T. Y. H. (2006). *Book-tax differences: a function of accounting tax misalignment, earnings management and tax management*. The Australian National University. https://doi.org/10.25911/5d626fd2c89b2

Wei Ling, T., & Abdul Wahab, N. S. (2018). Roles of tax planning in market valuation of corporate social responsibility. *Cogent Business & Management*, *5*(1), 1482595. https://doi.org/10.1080/23311975.2018.1482595

Wijaya, L. A., & Atahau, A. D. R. (2021). Profitability and sustainable growth of manufacturing firms: Empirical evidence from Malaysia and Indonesia. *Jurnal Riset Akuntansi Dan Keuangan*, *9*(1), 13–24.