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# Tax Sheltering and Corporate Investment Expenditure of Listed Financial Firms in Nigeria.

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## Abstract

The notion that tax planning activities are schemes to deprive the government of revenue continued to garner the concerns of other business stakeholders. Based on stakeholders and tax planning theoretical foundations, this study examined the effect of tax sheltering on the corporate investment expenditure of listed financial firms in Nigeria. The indicators of tax sheltering modelled in the study are effective tax rate, book tax difference, and tax savings while total investment expenditure was the dependent variable. The study selected 20 listed financial firms and generated data from the audited annual reports and accounts from 2012 to 2022. The three hypotheses were tested using the Multiple Correlated Panels Corrected Standard Errors (PCSEs) Model. The results revealed that the effective tax rate (ETR), exerted a statistically negative significant effect on the total investment expenditure; book-tax difference (BTD) exhibited a statistically non-significant effect on total investment expenditure while tax savings stimulated total investment expenditure. The overall result revealed a statistically significant explanatory power of the regressors on total investment expenditure which implies that tax sheltering could foster business growth opportunities and expansion when funds saved are invested in capital expenditure, particularly the non-current assets.

**Keywords:** Tax Sheltering, Effective Tax Rate, Book Tax Difference, Tax Savings & Corporate Investment Expenditure.

## Introduction

Earlier studies in business and management have posited that the role of corporate managers is to maximize shareholders' value (Jensen & Meckling, 1976 in Nicholson & Kiel, 2004). On the contrary, with recent development in corporate management approaches, particularly corporate governance and sustainability, contemporary studies have changed the narrative. Presently, the role of businesses is to create sustainable stakeholders' value (Lanis & Richardson, 2012; Karami & Rekabdar, 2020) and business managers should act in tandem with the interest of all business stakeholders (Ingrid, 2017; Udochukwu *et al.*, 2022). From

this stakeholder theory perspective, corporate managers are expected to act in a manner that will be fair to both internal and external business stakeholders. Internal business stakeholders include the shareholders, employees and executives while the external business stakeholders include the government, suppliers, and host communities among others. This means that wealth creation or profit maximization is still a major objective but no longer the sole objective of profit-oriented entities.

The government as one of the corporate stakeholders imposes taxes and provides the legal and regulatory environment for businesses to thrive. However, in as much as government needs money, the businesses need more money to grow the business, increase shareholders' value or wealth and sustain the going concern status (Olufemi & Olori, 2022). Consequently, corporate managers do engage in several strategic tax planning activities. They have been termed tax sheltering, tax avoidance, tax planning, tax minimization or tax aggressiveness in the legal form or tax evasion in the fraudulent aspect. From this perspective, these activities capture two limits, tax favoured transactions (legal practices) on one end and aggressive behaviours (illegal practices) on the other end, throwing out complexities in determining practices that are legal, optimal and illegal. Hence, the long age debate on these practices which skewed towards a region that magnifies tax structures against tax planning actors and sheltering practices in the accounting and finance researches. The proponents believed that these are schemes deployed to rub the government off the revenue required to run the economy.

For this reason, a large number of the tax accounting literature has shown considerable interest in the relationship between tax sheltering and business performance, cash flow, and firm value. However, the empirical evidence is not yet clear. The empirical results of the relationship between specific indicators of tax sheltering effective tax rate (ETR), the book-tax difference (BTD) (Temporary book-tax difference (TBD) and Permanent book-tax difference (PTB)) and tax savings (TS) on the financial performance, firm value and cash flows are largely inconsistent. Again, the question relating to the degree to which cash flow from tax sheltering increases corporate investment expenditure has been raised. These identifiable gaps in the empirical studies are the motivation for this study.

Therefore, the main objective of this study was to examine the effect of tax sheltering on corporate investment expenditure of listed financial firms in Nigeria. However, the specific objectives were to:

- i. Ascertain the effect of effective tax rate on corporate investment expenditure of listed financial firms in Nigeria.
- ii. Assess the effect of book-tax difference on corporate investment expenditure of listed financial firms in Nigeria.
- iii. Determine the effect of tax saving on corporate investment expenditure of listed financial firms in Nigeria.

## Literature Review

### Tax Sheltering

Tax sheltering is one of the concepts that have evolved in the literature on the study of tax aggressiveness (Mieseigha & Okewale, 2021). The term has been used interchangeably with tax aggressiveness, planning, avoidance and minimization (Dyreg *et al.*, 2016; Edwards *et al.*, 2016; Gebhart, 2017; Ogbeide & Iyafekhe, 2018; Delgado *et al.*, 2023). Although these terms were been used as a substitute Lanis *et al* (2015), they may have specific legal or economic meanings (McClure *et al.*, 2016). Accordingly, Dyreg *et al* (2016) referred to tax planning and

avoidance as a continuum of activities aimed at reducing the tax burden. Frank *et al* (2009) defined tax aggressiveness as any action that is designed to reduce the total amount of tax paid with an appropriate tax plan, which may be classified or unclassified as tax evasion. Hanlon and Heitzman (2010) defined it as an extensive range of measures starting from envisioning tax policies and actions to overcome tax evasion, which represents tax fraud. In recent times, academic researchers and policy activists have used several measures based on the estimates from financial statements to measure the degree of tax sheltering in corporate organizations. These measures were classified into three groups by Ogbeide and Iyafekhe (2018). According to them, one group develops the constructs that measure the proportion of tax amount to business income. These include the effective tax rate (ETR) Dyreng *et al.* (2016) (with several variants like accounting ETR, current ETR, cash ETR, long-run cash ETR, ETR differential, the ratio of income tax expense to operating cash flow and the ratio of cash taxes paid to operate cash flow). Another group looked at those measures that consider the multitude of the gap between book and taxable income (Manzon & Plesko, 2004; Desai & Dharmapala, 2006). These include the total book-tax gap, residual book-tax gap and tax-effect book-tax gap. The third group involves other measures such as discretionary permanent differences (Ogbeide & Iyafekhe, 2018). However, the choice of the proxies depends on their relevance to the topic. Lee *et al* (2015) averred that multiple proxies of tax sheltering or avoidance are much available; however, researchers tend to choose proxies that are relevant to their research topic.

- a. **Effective Tax Rate (ETR):** Effective tax rate (ETR) is the measure of total tax expenses deflated by the pretax income (Aliani & Zarai, 2012). The effective tax rate can also be regarded as the International Financial Reporting Standards (IFRS) effective tax rate (ETR). The effective tax rate is computed as the total tax expenses divided by the income before tax, reflecting the aggregate proportion of the accounting income payable as taxes (Chen *et al.*, 2010; Dyreng *et al.*, 2010; Salihu *et al.*, 2013). It is also a measure of the average tax rate per unit of earnings. The implication of using an effective tax rate is that it reveals the aggressive tax planning of firms through permanent book-tax differences. According to Lee *et al.* (2015) when the computed IFRS (ETR) is compared with the statutory rate or a control rate to gauge tax aggressiveness, it shows the degree of tax sheltering. They opine that the IFRS (ETR) shows permanent book-tax differences with statutory adjustments in that the total income tax expenses include both current and deferred tax expenses. Companies Income Tax Act (CITA), Cap C21, LFN 2004 (as amended) states that the statutory tax rate for companies with turnover greater than one hundred million (#100 Million) naira in Nigeria is 30%. Nonetheless, this study calculated the effective tax rate as follows:

$$ETR = \frac{\text{Total tax expenses}}{\text{Profit before tax}}$$

- b. **Book-Tax Difference:** The book-tax difference developed by Manzon and Plesko (2002) and supported by Desai and Dharmapala (2009) mostly computed from financial statement information focuses on the magnitude of the difference between the accounting income and taxable income (book-tax difference). It represents the most comprehensive measure and captures the temporary and permanent book-tax differences. Although the causes of book-tax difference (BTD) are numerous and usually classified as permanent and temporary differences, the size of the gap suggests the presence of tax avoidance practices (Kim *et al.*, 2011). According to Rego

(2003), tax-aggressive activities can create book-tax differences which are either temporary or permanent differences between a company's financial accounting and taxable income. Thus, the numerator is based on taxable income, and the denominator is based on financial accounting income to accommodate book-tax differences. The book-tax difference (BTD) is also used as a proxy for the measurement of tax avoidance activity. Several studies have suggested that book-tax differences could be used as a signal for tax planning activities (Mills, 1998; Badertscher *et al.*, 2010). For our purpose, we used the book-tax gap to capture the extent of tax sheltering activities in the listed financial firms in Nigeria which we computed thus:

$$\text{Book Tax Difference} = \text{Profit Before Tax} - \frac{\text{Tax Expenses}}{\text{Statutory Tax Rate}}$$

- c. **Tax Saving:** The sole purpose of any tax sheltering, planning, avoidance, aggressiveness or minimization activities as they are used interchangeably in research (Ogbeide & Iyafekhe, 2018) is to optimize tax expenses or burden. Therefore the bottom line of the tax sheltering strategy is to save tax legally and ensure compliance with the Tax Law. It is the value of the reduction in the amount of tax paid by a firm or taxpayer. Studies such as Ftouhi *et al.*, (2010); Kawor and Kpportorgbi (2014); Ilaboya *et al.* (2016); Obasi *et al.*, (2020) highlighted that where a firm operates across a number of jurisdictions with varying statutory rates, tax rate differentials can provide a tax saving recognized in investment. As a variable used in this study, we calculated tax savings thus:

$$\begin{aligned} \text{Tax Saving (TS)} \\ &= \text{Corporate Statutory Tax Rate (STR)} \\ &- \text{Effective Tax Rate (ETR)} \end{aligned}$$

### Corporate Investment Expenditure

According to Helpman *et al* (2004), firms engage in investments with some motives which include the value of exercising corporate control, firms' expansion and wealth growth, trade friction and job creation. Osegbue *et al* (2021) defined corporate investment as the allocation of money with the hope of some kind of future benefit in return. They opined that the inflow of capital investments is dependent on many factors including taxation, legal and regulatory framework and degree of openness and so on. In their view, corporate investment is one of the drivers of technological development, infrastructural development, wealth creation, employment and empowerment and the improvement in the standard of living and social well-being of the people in an economy. Consistent with this argument, Federicil and Parisi (2015); Adegbite and Shittu (2017) documented that corporate investment is among the drivers of the economy that spurs economic growth.

For the purpose of this study, corporate investment expenditure was decomposed into three as follows:

- i. Total Corporate Investment Expenditure (TCIE) as was used in Richardson (2006); Armstrong *et al.*, (2012).

$$\begin{aligned} \text{Total Corporate Investment Expenditure (TCIE)} \\ &= \text{Capital Expenditure (CE)} \\ &+ \text{Research and Development Expenditure (RDE)} \\ &+ \text{Assets Acquisition(AA)} \\ &- \text{Property Plants and Equipment (PPE)} \end{aligned}$$



Logically, taxation is an expense that reduces the income of the taxpayer and tax sheltering is legitimate way of optimizing the tax burden through the exploitation of the loopholes in the tax law and regulatory guidelines. Therefore naturally, it is apriori that tax sheltering activity if effectively anticipated, planned and implemented would reduce the tax burden, result to tax savings and spur corporate investment expenditure.

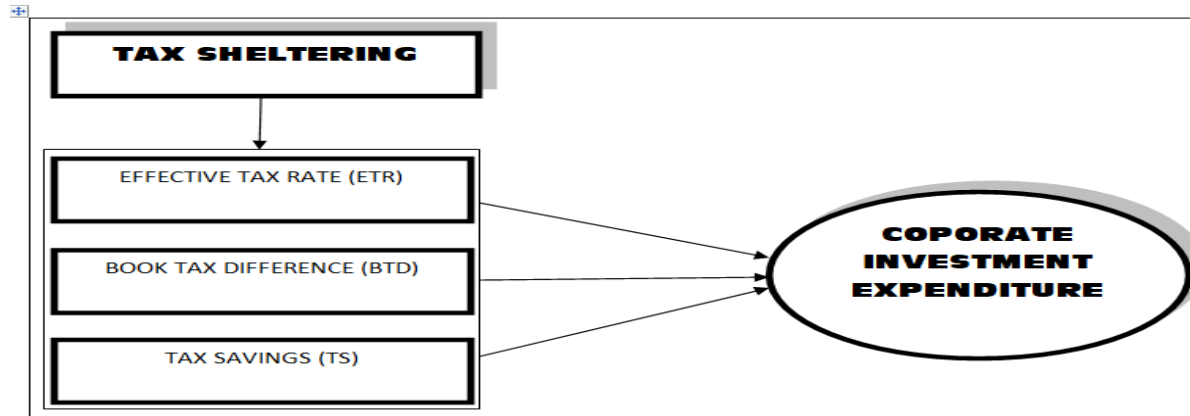


Figure 2.1: The Relationship between Tax Sheltering and Investment Expenditure  
Source: Author's Conceptualization, 2023.

### Theoretical Review

This study is anchored on two underlining theory namely the Tax planning theory and Stakeholders theory.

Tax planning theory proposed by William Hoffman in 1961 explained that taxpayers have the capacity to organize their financial activities in order to suffer a minimum expenditure for taxes through effective tax planning. The supporters of this theory including Kumbour *et al* (2017); Bonner *et al* (1992) cited in Kportorgbi and Gadzo (2018) believed that managers are engaged to use their expertise to improve the business through cost reduction (effectiveness) and profit maximization. Hence, Kumbour *et al* (2017) posited that there are basically four conditions that must be met by managers for effective tax planning activities:

- a. Proficiency in understanding the tax law,
- b. Capabilities of identifying the opportunities in the prevailing tax law,
- c. Capacity to set out the scheme to exploit the identified opportunities, and
- d. Ability to implement the scheme in the form of policies in the company.

Supporting this view, Bonner *et al.* (1992) cited in Kportorgbi and Gadzo (2018) averred that this sequence of events requires cognitive skills and personal disposition. Hence the impotence of these two theories in explaining the argument put forward in this study is indisputable. Tax planning theory is very vital to this work because it depicts the skill level required for effective tax sheltering activities. The tax planning activity theories initiate conceptions and philosophies that are usually applicable to tax practitioners (Hoffman, 1961 in Mgammal & Ismail, 2015). This suggests that tax planning strategies must be time-oriented and proportionate in the logic that "the past, the present and the future limit require consistency (Ogbeide & Iyafekhe, 2018). It must be flexible because it is mainly valid in situations tax regulation ambiguities and loopholes.

On the order hand, Edward R. Freeman's 1984 stakeholders theory assumes that shareholders does not represent the sole interest in a business, and that businesses must identify and model the groups which are their stakeholders in order to give due regards to the interests of those groups. Hence, in as much as the government is an interested party, other interests

exist which requires the managers to balance all interests. Regarding internal governance, the stakeholders' approach expects the managers to take into consideration the needs of an increasing number of different stakeholder groups, including interest groups linked to social, environmental, and ethical considerations (Ogbechie, 2012). Therefore, this theoretical perspective reinforces the concern that the board shall consider all stakeholders including the government in their management strategy.

### Empirical Literature Review

Summary of some of the empirical literature review is presented in table 2.1

Table 2.1

S/N	Author/s	Year	Area of Study	Title	Methodology	Finding
1	Ayers et al.	2009	Pakistan	Taxable income as a performance measure: the effects of tax planning and earnings quality	Ex-post facto & Simple regression analysis	A significant negative effect of the long-term cash effective tax rate on earnings quality, meaning that taxation is evidence of low earning quality
2	Dyreng et al.	2010	United States	The effects of executives on corporate tax avoidance	Ex-post facto & Multiple regression technique	A significant positive effect of the effective tax rate on earning quality, which suggests that investors relied on after-tax results to assess firms earning quality
3	Armstrong, et al.	2012	United States	The incentives for tax planning	Ex-post facto & Multiple regression technique	A significant positive effect of the effective tax rate on

						earning quality
5	Zemzem and Ftouhi	2013	France	The effects of board of directors' characteristics on tax aggressiveness	Ex-post facto & Cross sectional time-series research design	The results revealed that ROA and FSIZE were statistically and positively significant with ETR, BSIZE was statistically and negatively significant while DUA, DIV and INDEP were non-significant.
6	Rafay and Ajmal	2014	Pakistan	Earnings management through deferred taxes recognized under IAS 12	Ex-post facto & Multiple regression analysis	The effect of temporary tax difference on earnings quality was statistically significant but negative.
7	Martinez and de Souza	2015	Brazil	Book-tax differences, earnings persistence and tax planning before and after the adoption of IFRS	Ex-post facto & Pooled ordinary least squares (OLS) regression	Less persistence of earnings, besides indicating that earnings became less persistent after adoption of IFRS.
8	Evers, et al.	2016	United States	The implications of book-tax differences: a meta-analysis.	Ex-post facto & A Meta-Analysis	A significant negative effect of tax book gap on earnings management, which means that a higher



						tax book gap affects earnings quality.
11	Salawu et al.	2017	Nigeria	Granger causality between corporate tax planning and firm value of non-financial quoted companies	Ex-post facto & Pairwise VAR Granger Causality test	No directional relationship between tax planning and firm value.
12	Kurawa and Saidu	2018	Nigeria	Corporate tax and financial performance of listed Nigerian consumer goods	Ex-post facto & Panel data analysis	ETR, AGE and RISK had non-significant relationships with ROA but SIZE significantly explain variations in ROA.
13	Ahnan and Murwaningsari	2019	Indonesia	The effect of book-tax differences, and executive compensation on earnings persistence with real earnings management as moderating variable	Ex-post facto & Multi regression moderation analysis	Current tax, permanent and temporary differences have a significant positive effect on earnings persistence; executive compensation has a significant negative effect with earnings persistence while operating cash flows have a positive and

						insignificant effect on earnings persistence.
14	Karami, et al.	2020	Iran	The impact of effective corporate governance on the relationship between tax gap and future profit changes	Multivariate regression test	A significant inverse relationship between the tax gap and future earnings changes.
15	Aondohemba et al.	2021	Nigeria	Corporate tax mix and financial performance of listed manufacturing firms	Ex-post facto & Pooled OLS regression	The connection between company income tax and net income was positive but significant while the connection between deferred tax and tax incentive and net income were non-significant.
16	Liu and Zhao	2022	China	Cannot investors really price the book-tax differences correctly? Evidence from accelerated depreciation policies.	Ex-post facto & Multiple regression model using Newey–West adjusted standard errors	Both the long window and short-window stock return tests show that investors misprice OthBTD but correctly price AccBTD.

Source: Author's compilation, 2023

### Methodology

The study adopted *Ex-post facto* research design, was carried out in Nigeria, and on a sample of 20 listed financial firms in Nigeria. Specifically, the sample size consists of 10 commercial banks, 2 mortgage banks and 8 firms from insurance and reinsurance sector.

However, the study adopted the classical linear regression (CLR) form of Ordinary Least Squares (OLS) regression technique. The panel multiple regression models are specified as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \dots + \beta_5X_5 + \beta_nX_n + \mu_t \quad (3.1)$$

Substituting for the variables:

$$TIE_t = \beta_0 + \beta_1ETR_t + \beta_2BTD_t + \beta_3TS_t + \beta_4(OPC/TA)_t + \beta_5FLVR_t + \beta_6LnFAGE_t + \mu_t \quad (3.2)$$

Where,

- $TIE_t$  = Total Investment Expenditure at time t,
- $\beta_0$ , = Constants,
- $\beta_1, \beta_2, \beta_3, \beta_4, \dots, \beta_5, \beta_n$  = Coefficient of the independent variables in the model,
- $ETR_t$  = Effective Tax Rate at time t,
- $BTD_t$  = Book Tax Difference at time t,
- $TS_t$  = Tax Savings at time t,
- $OPC/TA_t$  = Operating Cash Flow deflated by Total Assets at time t,
- $FLVR_t$  = Financial Leverage at time t,
- $LnFAGE_t$  = Natural Logarithm Firm age at time t,
- $\mu_t$  = Stochastic error associated with the model.

**Variables, Measurement and Proxies**

Table 3.

Variables	Name	Measurement	Source	Proxy
<b>Dependent Variables</b>	Total Investment Expenditure (TIE)	(TCIE) = Capital Expenditure (CE) + (RDE) + Assets Acquisition(AA) – income Sales (PPE)	Osegbue <i>et al.</i> 2021	Corporate Investment Expenditure
	Effective Tax Rate (ETR)	$\frac{Income\ Tax\ Expenses}{Pre_{tax}\ Income}$	Abdul-Wahab and Holland (2014); Osegbue <i>et al.</i> 2021	Tax Sheltering
	Book-tax Difference (BTD)	$\frac{(Pre - tax\ Profit - Tax\ paid)}{Statutory\ Tax\ Rate} / Total\ Assets$	Abdul-Wahab and Holland (2014); Koubaa and Jarbuei (2017)	Tax Sheltering
<b>Independent Variables</b>	Tax Savings (TS)	$\frac{STR(PreTax_{profit} - TaxPaid)}{Total\ Assets}$	Osegbue <i>et al.</i> 2021	Tax Sheltering
	Operating Cash Flow to Total Assets	$\frac{Operating\ Cash\ Flow}{Total\ Assets}$	Abdul-Wahab and	

<b>Control Variables</b>	Financial Leverage	$\frac{\text{Total Liability}}{\text{Total Asset}}$	Holland (2014) Egbadju & Odey (2022)
	Firm age	Natural Log of Firm age	Egbadju & Odey (2022)

Source: Author's Compilation, (2023)

## Data Analysis

### Summary Statistics and Normality Test

Table 4

#### Summary Statistics of Variables for the Financial Firms in Nigeria

<i>stats</i>	<i>tie</i>	<i>etr</i>	<i>btd</i>	<i>ts</i>	<i>ocf</i>	<i>flvr</i>	<i>Infa</i>
<b>Summary Stats</b>							
Minimum	0.0102	-7.9583	-0.2339	-0.0702	-0.1884	0.1277	0.0000
Maximum	0.4459	0.8809	0.1486	0.0446	0.4505	1.6616	4.654
Mean	0.0992	0.0768	0.0156	0.0047	0.0429	0.6883	3.3209
Median	0.0559	0.1466	0.0123	0.0037	0.0407	0.8143	3.3673
Standard Deviation (SD)	0.0977	0.6181	0.0376	0.0113	0.0890	0.2365	0.8127
SE(Mean)	0.0066	0.0417	0.0025	0.0008	0.0060	0.0159	0.0548
<b>Normality Test</b>							
Skewness	1.8793	-10.6890	-0.7137	-0.7153	0.6922	-0.4065	-1.5951
Pr(Skewness)	0.0000	0.0000	0.0000	0.0000	0.0001	0.0142	0.0000
Kurtosis	5.8621	134.0882	13.3242	13.3339	5.8443	3.3499	6.7422
Pr(Kurtosis)	0.0000	0.0000	0.0000	0.0000	0.0000	0.2357	0.0000
----- joint -----							
chi2(2)	64.1700	-	51.2900	51.3500	27.7100	7.0200	59.4100
<b>Prob&gt;chi2</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0299</b>	<b>0.0000</b>
<b>Shapiro-Wilk W test ( Prob&gt;z)</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Source: Authors' STATA 14.2 Outputs, 2023

Table 4 depicts the summary statistics conducted on the data. The closeness between the mean and median in almost all the variables particularly the explanatory variables suggest the existence of uniformity in the performance of the financial firms in Nigeria which indicates that the disparity in the sizes of the firms has no effect on their tax management performance, indicating no material extreme values. On the contrary, the standard deviation, a measure of dispersion is not large suggesting that annual values of each of the variables are very close to the mid-point. These outcomes were supported by the quite small values of standard errors of the mean. These variables recorded standard error values of less than 10% for all variables. Also, normality tests were performed to determine whether a data set is modeled for normal distribution. Skewness is a measure of the asymmetry of the probability distribution of a random variable about its mean. Table 4.2 also presents the outcome of skewness/kurtosis tests and Shapiro-Wilk W' test conducted to determine whether or not the skewness and

kurtosis of a variable are consistent with the normal distribution. The probabilities ( $Pr(\text{Skewness})$  and  $Pr(\text{Kurtosis})$ ) of both skewness/kurtosis, in this case, equate to zero for all the entered variables and the joint probability ( $Prob > \chi^2$ ) of all the variables also equates to zero. These outcomes suggest that the distribution is not normally distributed. Also, the Shapiro-Wilk 'W' normality tests carried out depicted p-values equate to zero for all the entered variables. This outcome strengthens the skewness/kurtosis tests results that the values are not approaching normal distribution.

### Pairwise Correlations

The Pearson correlation coefficients measure the degree of relationship between the different variables. The probability of each correlation coefficient is beneath each variable. Further, the P-values that are less than 5 percent show strong statistical significance.

Table 4.5

*Correlation Matrix with P-values involving 220 Observations*

	<i>tie</i>	<i>etr</i>	<i>btd</i>	<i>ts</i>	<i>ocf</i>	<i>flvr</i>	<i>Infa</i>
<i>tie</i>	1.0000						
<i>etr</i>	-0.1011	1.0000					
	0.1350						
<i>btd</i>	0.0246	0.0987	1.0000				
	0.7170	0.1445					
<i>ts</i>	0.0245	0.0983	1.0000*	1.0000			
	0.7173	0.1460	0.0000				
<i>ocf</i>	-0.1923*	0.1425*	0.1076	0.1076	1.0000		
	0.0042	0.0346	0.1115	0.1116			
<i>flvr</i>	-0.7467*	0.1165	-0.1350*	-0.1349*	0.1403*	1.0000	
	0.0000	0.0848	0.0455	0.0456	0.0376		
<i>Infa</i>	0.1695*	-0.1304	0.0208	0.0210	-0.0612	-0.1225	1.0000
	0.0118	0.0534	0.7586	0.7566	0.3662	0.0697	

Source: Authors' STATA 14.2 Outputs, 2023

The operating cash flows and financial leverage depicts a negative significant relationship while the natural logarithm of firm age displayed a positive significant connection with total investment expenditure. However, the association between effective tax rate, book tax difference and tax savings is non-significant.

### Diagnostic Test

To select the regression model for the test of the hypotheses proposed in this, several diagnostic tests were performed. They include *Levin-Lin-Chu unit-root test* Based on *Augmented Dickey-Fuller tests*, *Breusch-Pagan Test for Heteroskedasticity (All-Inclusive Model)*, *Ramsey RESET Mis-specification Test*, *Variance Inflation Factor for for Multicollinearity*, *Durbin-Watson tests for Serial Autocorrelation*, *Breusch and Pagan Lagrangian Multiplier test for Random effects* and *Hausman Test of All-Inclusive Model Validity*. The outcome of these tests informed the decisions on the preferred model adopted for hypotheses test.

## Test of Hypotheses

Table 6

Panel Regression Results of Tax Sheltering Indicators, Control Variables and Corporate Investment Expenditure of Listed Financial firms in Nigeria

Method	Regressors	Pooled OLS	Fixed Effect	Random Effect (Recommended Model)	PCSEs (Preferred Model)
etr	p-value	0.779	0.202	0.178	<b>0.000*</b>
	t-statistic	0.28	-1.28	-1.35	<b>-3.61</b>
	coefficient	-.0020655	-0.005144	-0.006203	<b>-.0026085</b>
btd	p-value	0.888	0.887	0.885	<b>0.026*</b>
	t-statistic	0.14	-0.14	0.14	<b>2.23</b>
	coefficient	6.463275	-3.455404	4.031168	<b>11.60817</b>
ts	p-value	0.926	0.526	0.699	<b>0.435</b>
	t-statistic	0.09	0.64	0.39	<b>-0.78</b>
	coefficient	13.26082	47.92244	33.61028	<b>-12.33408</b>
ocf	p-value	0.081	0.315	0.426	<b>0.152</b>
	t-statistic	-	1.01	0.74	<b>-1.43</b>
	coefficient	0.0886617	0.0281372	0.0235908	<b>-.0113669</b>
flvr	p-value	0.000*	0.001*	0.000*	<b>0.000*</b>
	t-statistic	-	-3.36	-7.30	<b>-18.51</b>
	coefficient	0.3049537	-0.0771574	-0.1616139	<b>-.1652166</b>
infa	p-value	0.11	0.062	0.979	<b>0.000*</b>
	t-statistic	1.61	-1.88	-0.03	<b>6.19</b>
	coefficient	0.0092339	-0.0160179	-0.0001993	<b>.0102448</b>
_cons	p-value	0.000	0.000	0.0000	<b>0.000</b>
	t-statistic	10.95	6.64	7.02	<b>22.42</b>
	coefficient	0.2848017	0.2054517	0.2121882	<b>.177882</b>
<b>R-Squared</b>		<b>57.67</b>	<b>0.2615</b>	<b>0.5479</b>	<b>0.3877</b>
<b>F-statistic (Prob)/ Wald chi2 (Prob)</b>		<b>35.93 (0.0000)</b>	<b>3.31(0.0015)</b>	<b>59.16 (0.0000)</b>	<b>38.06 (0.0000)</b>
<b>rho (fraction of variance due to u_i)</b>			<b>.87062491</b>	<b>.49943843</b>	
<b>Poolability Test (Breusch-Pagan LM)</b>				<b>340 (0.0000)</b>	
<b>Hausman test</b>			<b>129.44 (0.0000)</b>		
<b>Original Durbin-Watson statistic</b>			<b>2.04</b>		
<b>No of Observations = 220</b>			<b>Number of Firms = 20</b>		
<b>Dependent Variable: KCE, significant at *1%, **5%, t-statistics</b>					

Source: Authors' STATA 14.2 Outputs, 2023



- i. Effective tax rate has no significant effect on corporate investment expenditure of listed financial firms in Nigeria.

From table 6, the coefficient ( $\beta$ ) indicates that a unit change in account effective tax rate will translate to -0.000606 increases in the corporate investment expenditure of the listed financial firms in Nigeria. Specifically, effective tax rate exhibited a very strong negative effect on the corporate investment expenditure of the firms with a p-value = 0.000. However, we reject the null hypothesis and conclude that effective tax rate exerted a statistical significant negative effect on the corporate investment expenditure of the listed financial firms in Nigeria, since the p-value > 0.05 at 0.000, and t-statistic < |2| at -5.40. This result aligned with the outcome of previous studies such as Hanlon and Slemrod (2009); Zemzem and Ftouhi (2013); Demere *et al* (2017); Fagbemi (2019) among others. On the contrary, it negates the findings of (Armstrong *et al.*, 2013; Hope *et al.*, 2012; Oyeleke *et al.*, 2016). These studies found a statistical significant effect of effective tax rate on earnings quality of the firms.

- ii. Book tax difference has no significant effect on corporate investment expenditure of listed financial firms in Nigeria.

In respect of the coefficient ( $\beta$ ), table 6 indicates that a unit change in the book tax difference will increase corporate investment expenditure of the listed financial firms in Nigeria by -0.449150. Precisely, the book tax difference demonstrated a very weak negative effect on corporate investment expenditure of the listed financial firms in Nigeria with a p-value = 0.569. Since the p-value > 0.05 at 0.569, and t-statistic > |2| at -0.57, we accept the null hypothesis and conclude that corporate investment expenditure does not respond significantly to changes in book tax difference of the listed financial firms in Nigeria. The result is inconsistent with the findings in Addul-Wahab and Halland (2014) that found a positive effect of book tax difference on earning management in the United Kingdom; Hu *et al.* (2015) that found a significant effect of book tax difference on earnings management in China.

- iii. Tax savings has no significant effect on corporate investment expenditure of listed financial firms in Nigeria.

Table 6 indicates that a unit change in the tax savings will decrease the corporate investment expenditure of the listed financial firms in Nigeria by 5.539031. Principally, this variable showcased a strong positive effect on the corporate investment expenditure of the listed financial firms in Nigeria with a p-value = 0.045. Since the p-value > 0.05 at 0.045, and t-statistic < |2| at 2.00, we accept the alternate hypothesis and conclude that tax savings has a significant effect on the corporate investment expenditure of the listed financial firms in Nigeria. This outcome trialed the results of some previous studies including Thomas and Zhang (2010) which found a significant positive impact of tax savings on earnings management; Kawor and Kportorgbui (2014) that found a significant positive effect of tax savings on the firm earnings quality.

## Conclusion

Following the findings of the study, it was possible to conclude that the *effective tax rate (ETR)*, *temporary book-tax difference (TBD)*, *permanent book-tax difference (PBD)* and *tax savings (TS)* are significant predictors of corporate investment expenditure of listed financial firms in Nigeria. The results also affirmed that *effective tax rate (ETR)*, *temporary book-tax difference (TBD)*, and *permanent book-tax difference (PBD)* have a negative significant effect

on corporate investment expenditure which implies that corporate investment expenditure decreases as these indicators increases.

Overall, there is clear evidence to affirm that the indicators of tax sheltering activities modeled in this study (*effective tax rate (ETR)*, *book tax difference (BTD)*, *temporary book-tax difference (TBD)*, *permanent book-tax difference (PBD)* and *tax savings*) and the control variables (*operating cash flow to total assets*, *financial leverage*, and *natural logarithm of firm age*) have a very significant explanatory power to explain the variations in corporate investment expenditure and investment maintenance expenditure of the listed financial firm in Nigeria. Therefore, we conclude that the tax sheltering practices could be used to boost business growth opportunities and expansion in the listed financial firms in Nigeria when practiced within the provisions of the law.

Theoretically, by linking tax sheltering activities with the tax planning and stakeholders theory, we were able to show that tax sheltering is not a scheme designed to rob the government of revenue instead, it shows management efficiency to minimize tax expenses as long as it was within the ambit of the law. This approach will play a significant role in shaping policy directions of corporate organisations and highlighting the skill requirements for efficiency in tax management and planning. This study extended the frontier of knowledge in the growing number of studies seeking to ascertain the relationship between tax sheltering activities and earnings management, earnings quality, firm value or profitability of firms to business expansion and growth opportunities. Most of the previous studies centred on manufacturing or non-financial firms. This study has widened the scope by providing evidence from the financial firms and the Nigerian experience with current data.

## Reference

- Adegbite, T. A., & Shittu, S. A. (2017). The Analysis of the Impact of Corporate Income Tax on Investment in Nigeria. *World Wide Journal of Multidisciplinary Research and Development*, 3(3), 60–64. <https://www.researchgate.net/publication/327274116>
- Ahnan, Z. M., & Murwaningsari, E. (2019). The effect of book-tax differences, and executive compensation on earnings persistence with real earnings management as moderating variable. *Research Journal of Finance and Accounting*, 10(5), 54 – 63. DOI: 10.7176/RJFA
- Armstrong, C. S., Blouin, J. L., Jajgolinzer, A. D., & Larcker, D. F. (2015). Corporate governance, incentives and tax avoidance. *Journal of Accounting and Economics*, 60(1), 1 - 17. <https://doi.org/10.1016/j.jacceco.2015.02.003>
- Ayers B. C., Jiang, J. X., & Laplante S. K. (2009) Taxable income as a performance measure: the effects of tax planning and earnings quality. *Contemporary Accounting Research* 26 (1) 15–54. <https://doi.org/10.1506/car.26.1.1>
- Badertscher, B., Katz, S., & Rego, S. O. (2010). The impact of private equity ownership on portfolio firms' corporate tax planning. *Working Paper, University of Notre Dame, Columbia University and University of Iowa*. <https://core.ac.uk/download/pdf/6515604.pdf>
- Chen, K. C. W., & Schoderbek, M. P. (2000). The 1993 Tax rate increase and deferred tax adjustments: a test of functional fixation. *Journal of Accounting Research*, Wiley Blackwell, 38(1), 23- 44. DOI: <http://hdl.handle.net/10.2307/2672921>
- Delgado, F. J., Fernández-Rodríguez, E., García-Fernández, R., & Martínez-Arias, A. (2023). Tax avoidance and earnings management: a neural network approach for the largest

- European economies. *Financial Innovation*, 9(19), 1-25. <https://jfin-swufe.springeropen.com/articles/10.1186/s40854-022-00424-8>
- Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics*, 79, 145-179. <https://www.sciencedirect.com/science/article/abs/pii/S0304405X05001364>
- Dyregang, S., Hanlon, M. & Maydew, E. (2010). The effects of executives on corporate tax avoidance. *The Accounting Review*, 85, 1163-1189. <http://dx.doi.org/10.2308/accr.2010.85.4.1163>
- Dyregang, S. D., Hoopes, J. L., & Wilde, J. H. (2016). Public pressure and corporate tax behavior. *Journal of Accounting Research*, 54(1), 147-186. <https://doi.org/10.1111/1475-679X.12101>
- Dyregang, S. D., & Maydew, E. L., 2018. Virtual issue on tax research. *Journal of Accounting Research*. <https://doi.org/10.2139/ssrn.3068168>.
- Edwards, A., Schwab, C., & Shevlin, T. (2016). Financial constraints and cash tax savings. *The Accounting Review*, 91(3), 859-881. <https://doi.org/10.2308/accr-51282>
- Evers, M. T., Meier, I., & Nicolay, K. (2016). The implications of book-tax differences: a meta-analysis. *Discussion Paper No. 17-003*. <http://ftp.zew.de/pub/zew-docs/dp/dp17003.pdf>
- Frank, M., Lynch, L., Rego, S. (2009). Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review*, 84, 467-496. <https://doi.org/10.2308/accr.2009.84.2.467>
- Ftouhi, K., Ayed, A., & Zemzem, A. (2016) Tax planning and firm value: evidence from European companies. *2nd International Conference on Business, Economics, Marketing & Management Research. International Journal Economics & Strategic. Management of Business Process*, 4, 73-78.
- Gebhart, M. S. (2017). Measuring corporate tax avoidance an analysis of different measures. *Junior Management Science*, 3(2017), 43-60. <https://doi.org/10.5282/jums/v2i2pp43-60>
- Hanlon, M., & Heitzman, S. (2010), A review of tax research, *Journal of Accounting and Economics*, 50(2/3), 127-178. <https://doi.org/10.1016/j.jacceco.2010.09.002>
- Helpman, E., Melitz, M., & Yeaple, S. R. (2004). Export versus FDI with heterogeneous firms. *The American Economic Review*, 94(1), 300-316.
- Ingrid, P. (2017). The effect of book-tax differences and corporate governance disclosure on the quality of earnings using accounting conservatism as moderating variables. *International Journal of Business, Economics and Law*. 13(1) 32-37.
- Iornbagah, J. A., Abiahu, M. C., Ibiham, O. (2021). Corporate tax mix and financial performance of listed manufacturing firms in Nigeria. *International Journal of Contemporary Accounting Issues-IJCAI (formerly International Journal of Accounting & Finance IJAF)*, 10(2), 64-84. <https://econpapers.repec.org/article/risijafic/0054.htm>
- Karami, R., Vaez, S. A., & Rekabdar, G. (2020). The impact of effective corporate governance on the relationship between tax gap and future profit changes in Iranian economy. *Advances in Mathematical Finance & Applications*, 5(4), 491-505. <https://doi.org/10.22034/amfa.2020.674947>
- Kawor, S., & Kportorgbi, H. K. (2014). Effect of Tax Planning on Firms Market Performance: Evidence from Listed Firms in Ghana. *International Journal of Economics and Finance*, 6(3), 162-168. DOI:10.5539/ijef.v6n3p162

- Kim, J. L. Y., & Zhang, L. (2011). Corporate tax avoidance and stock price crash risk, firm-level analysis. *Journal of Financial Economics*, 100(3), 639-662. <https://doi.org/10.1016/j.jfineco.2010.07.007>
- Kurawa, J. M., & Saidu, H. (2018). Corporate tax and financial performance of listed Nigerian consumer goods. *Journal of Accounting and Financial Management*, 4(4), 30-43.
- Lanis, R., & Richardson G., (2012). Corporate social responsibility and tax aggressiveness: an empirical analysis," *Journal of Accounting and Public Policy*, 31(1) 86-108.
- Lee, B. B., Dobiyski, A., & Minton, S. (2015). Theories and empirical proxies for corporate tax avoidance. *Journal of Applied Business and Economics*, 17(3), 21 – 33.
- Liu, H., & Zhao, Y. (2022). Cannot investors really price the book-tax differences correctly? Evidence from accelerated depreciation policies. *China Journal of Accounting Studies*, 10(3), 301-322. DOI: 10.1080/21697213.2022.2143671.
- Mieseigha, E. G., & Okewale, J. A. (2021) Tax aggressiveness and firm value: evidence from industrial goods companies on the Nigerian exchange group. *Acta Oeconomica Universitatis Selye (AOUS)*, 10(2), 59–69.
- Manzon, G. B., Jr. and Plesko, G. A. (2002) The Relation between financial and tax reporting measures of income. *Tax Law Review*, 55(1), 175-214.
- Martinez, A. L., de Souza, T. B. T., & Monte-Mor, D. S. (2016). Book-tax differences, earnings persistence and tax planning before and after the adoption of IFRS in Brazil. *Advances in Scientific and Applied Accounting*, 9(2), 162-180. DOI: 10.14392/ASAA.2016090203
- Mills, L. (1998). Book-tax differences and internal revenue service adjustments. *Journal of Accounting Research*. 36(1), 343-356.
- Obasi, J. O., Okoye, E., & Ifurueze, M. (2020). Tax aggressiveness and corporate investment expenditure in Nigeria. *Journal of Accounting, Business And Social Sciences*, 3(2) 130-140.
- Ogbeide, S. O., & Iyafekhe C. Empirical assessment of tax aggressiveness of listed firms in Nigeria. *Accounting & Taxation Review*, 2(3), 13-29.
- Olufemi, G. O., & Olori, E. F. (2022). An analysis of firm complexity and tax aggressiveness of listed deposit money banks in Nigeria and South Africa. *Journal of Accounting and Financial Management*, 8(4), 6-21. DOI: 10.56201/jafm.v8.no4.2022.pg6.21
- Osegbue, I. F., Obasi, J. O., John-Akamelu, C. R., & Nwoye, C. M. (2021). Corporate tax aggressiveness and corporate investment expenditure in Nigeria and Ghana. *Econometric Research in Finance*, 6(2), 139-160. <https://doi.org/10.2478/erfin-2021-0007>
- Plesko, G. A. (2004). Corporate tax avoidance and the properties of corporate earnings. *National Tax Journal*, 57(3), 729-737.
- Rafay, A., & Ajmal, M. (2014) Earnings management through deferred taxes recognized under IAS 12: evidence from pakistan. *The Lahore Journal of Business*, 3(1), 1 – 19. DOI: 10.35536/ljb.2014.v3.i1.a1
- Salawu, R. O., Ogundipe, L. O., & Yeye, O. (2017). Granger causality between corporate tax planning and firm value of non-financial quoted companies in Nigeria. *International Journal of Business and Social Science*, 8(9), 91-103.
- Udochukwu, G. O., Uniamikogbo, E., & Ezeji, A. M. (2022). Effect of managerial ownership and tax aggressiveness on financial performance of domestic systematically important banks in Nigeria. *American Journal of Economics and Business Management*, 5(10), 51-71.

Zemzem, A., & Ftouhi, K. (2013). The effects of board of directors' characteristics on tax aggressiveness. *Research Journal of Finance and Accounting*, 4(4), 140-147.