



**DETERMINANTS OF CORPORATE TAX AGGRESSIVENESS IN NIGERIAN
DEPOSIT MONEY BANKS**

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Abstract

The profit making motives of business enterprise and the quest to meet up with shareholder expectation especially in banking industry has resulted in among other activities in the firm to tax avoidance measures. This is being carried out to reduce corporate tax liability and increase profit for the year available for appropriation into reserves and dividends. The study, therefore, evaluates the determinants of tax aggressiveness in deposit money banks in Nigeria Ex-post-facto research design was adopted for the study. Data extracted from the financial statements of deposit money banks form 2012-2022 were subjected to descriptive and inferential statistics. Pearson correlation was done producing the correlation matrix of the study. Diagnostic tests were equally carried out such as ShapiroWilk Test for normality, Variance Inflation Factor (VIF) for multicollinearity test, Breusch-Pagan / Cook-Weisberg test for heteroskedasticity, Breusch and Pagan Lagrangian multiplier test for random effects, and Hausman Specification Test to determine appropriate estimation technique between fixed and random effect model. Result of Random effect robust regression is suggestive that firm size and firm age has negative and effect on book tax difference with correlation coefficient of -.0000185 and p-value of .0003 while return on asset has positive but non-significant effect on book tax difference of deposit money banks of Nigeria for the period under study having correlation coefficient of .3546 and p-value of 1.116. The study concludes that the explanatory variables (firm size, ROA and firm age) do not significantly affect tax aggressiveness of deposit money banks in Nigeria. The study recommends that Tax authorities should closely monitor banks with increasing profitability (ROA) as there is tendency for increase in aggressive tax activities to reduce their tax liabilities. Tax authorities should closely monitor banks with increasing profitability (ROA) as there is tendency for increase in aggressive tax activities to reduce their tax liabilities. Also, the study shows reduction in tax aggressiveness as age increases, then efforts of tax authorities should be concentrated on young firms while trying to curb tax practices among deposit money banks in Nigeria.

Keywords: Tax Aggressiveness, Deposit Money Banks, Book Tax Difference, Return on Assets, Firm Size, Firm Age

INTRODUCTION

Society is structured and managed by a collection of individuals, known as the government. For a society to function smoothly, it necessitates financial resources, primarily acquired through taxation. According to Black's Law Dictionary (1979), tax is defined as the levy imposed by the government on the income of individuals, corporations, trusts, as well as the values of estates or gifts. Taxation concerns itself with the proper assessment of individuals, entities, and the taxation of goods and properties, the collection of the assessed taxes, and the lawful reporting of these revenues to the government in a clearly defined manner. Corporate tax is a corporate income tax paid by corporate organizations to government. Corporate

taxation plays a dual role in economies worldwide. It serves as a vital source of government revenue and is also utilized to achieve fiscal objectives. However, it poses a significant financial burden on companies, influencing their key decisions (Osebeet al. 2019). In pursuit of maximizing profits, both domestic and Multi-National Corporations (MNCs) aim to minimize their tax liabilities by exploiting gaps in existing tax regulations, leading management to adopt aggressive tax strategies. It's worth noting that actions taken by management solely to reduce taxes through aggressive tax planning are increasingly prevalent in companies across the globe. In many developed and developing nations, the pursuit of tax avoidance strategies by corporate entities has led to a decrease in tax revenue (Lawal, 2021). This decline can be attributed to inadequacies in tax administration approaches, deficiencies in corporate governance practices, and the existence of an informal sector or shadow economy.

Furthermore, the study of Duff (2009) also indicates that some forms of tax aggressiveness are clearly acceptable while others remain ambiguous. although some highly sophisticated optimization techniques designed to reduce the tax burden, and they could be considered an illegal activity. Thus, tax aggressiveness can be of various legal and illegal forms, while it is influenced by the incentives created by the tax system. Firm size which can be measured by the volume of sales, number of employee or asset value is very important in that large firms are usually the focus of tax authorities with great scrutiny and resultant high tax liability. Similar attentions are also received by firms that are very profitable and have existed over along time. Usually, they are subjected to series of review of tax paid and challenged pf paying less than expected based on new findings, the above three features and expectations are on banks hence ths tax aggressive actions of management.

From Tax Law in Nigeria (2013), Corporate bodies are expected to pay their income tax to Federal Inland Revenue Service (FIRS) within six months from the end of accounting year while Pay-As-You-Earn tax must be remitted on or before 10th day of the month following the month in which the salaries were paid to appropriate authority (state or federal). The determination of amount to be paid through the filing and assessment processes is the subject of concern. Ideally, this should be transparently determined and agreed to by both parties (the company and FIRS). However, due to the impact of the amount involved on the profit (Corporate tax rate 30%) and subsequently reduction in the dividend payable and retained earnings, almost all corporate bodies get involved in tax aggressiveness (tax planning). The target is to pay minimal tax by taking advantages of loopholes in tax laws to bring down the amount payable (Economic Times, 2015).

The above actions by firms have affected tax revenue collectable by government. Nigeria Tax-to-GDP ratio in 2018 stood at 6.3% while the african average is 16.5% is among the lowest globally (Glenn, (2021). Taiwo Oyedele chairman presidential committee of Fiscal Policy and tax reform says Nigeria loses N20 trillion annually to tax gaps (Punch 2023) The implication of the above revelation is that funds that should have been hitherto used for development of the economy are lost to tax aggressiveness of corporate bodies. The above gives credence to the need to study determinants of tax aggressiveness among banks as the low collection of tax revenue were attributable to amongst other factors, to tax aggressive measures by individuals and corporate bodies.

Research Hypotheses

The following hypotheses were formulated to guide the study:

- Ho₁ Firm size has no significant effect on tax aggressiveness of deposit money banks in Nigeria.
- Ho₂ Return on asset has no significant effect on tax aggressiveness of deposit money banks in Nigeria
- Ho₃ Firm age does not significantly influence tax aggressiveness of deposit money banks in Nigeria.

LITERATURE REVIEW

Conceptual review

The concept of corporate tax, tax aggressiveness, firm size, return on assets, and firm age were reviewed in the study.

Tax and Corporate Tax (Company income tax)

Tax is defined by The Webster dictionary as a charge or burden usually pecuniary laid upon persons or property for public purpose, without any direct benefit to the people or property on whom these taxes and levies were imposed. Similarly, Obatola, (2013) defines tax as a compulsory levy imposed by the government or any of the recognized authority of a state on the property, goods, services, and people living in a given geographical area for the purpose of generating revenue to settle the expenses incurred by government or the authority on behalf of the people. Tax therefore, is mandatory levy on individuals or corporate bodies by government or its agent to primarily generate revenue to oil the wheels of administration and development.

Corporate taxes are taxes paid by companies based on their profit from all sources. Company Income Tax (CIT) act Part 11 (9) charge of tax; provides that tax shall for each year of assessment be payable at a rate specified in subsection (1) of section 40 of the act upon the profits of any company accruing in, derived from, brought into or received in Nigeria in respect of any trade or business, rent or premium, dividend, interest, royalty, discounts, charges or annuities, any source of annual profits or gain and for fees, dues, and allowances and any other gain not falling within the preceding category. The Federal Inland Revenue Service (FIRS) collects CIT on behalf of the federal government of Nigeria. The due date for filing returns varies as follows: Newly incorporated companies are expected to file their tax returns within 18 months from the date of incorporation or not later than 6 months from the end of the company's accounting period whichever is earlier. For existing companies, the filing should be within 6 months from end of the accounting year.

Tax Aggressiveness

Tax aggressiveness otherwise referred to as tax planning or tax avoidance is in simple terms the legal exploitation of tax system to one's advantage by reducing the tax payable by the individual. The motive for maximization of shareholders' wealth is the driving force behind tax aggressiveness. Tax aggressiveness is defined as a tendency or intention of the company to minimize the burden of taxes by using a mechanism of tax avoidance and tax evasion. The actual act of tax aggressiveness is not wrong (Bani et al., 2023). Rego (2003) defines tax aggressiveness simply as a reduction of present value of tax payment. The bank employs specific accounting techniques to indirectly lessen its tax liability. This strategy is linked to various aspects of the firm, including its financial outlook, corporate social responsibility, and corporate governance. Within the context of established companies, the firm's capital and assets, particularly its inventories, are intricately tied to the expenses and profits it generates.

Consequently, devising strategies for managing capital and inventory is one approach that companies can undertake in connection with their tax planning efforts (Megarani, et al., 2019). Thus, tax aggressive or planning is a strategy of minimizing tax payment and maximizing profit available to owners. Wang (2012) views tax aggressiveness as tax planning strategies, involving activities within the confines of the law and more aggressive transactions that fall into the gray area like abusive tax shelter. Furthermore, Desai and Dharmapala (2009) provide a definition of tax aggressiveness as a process wherein value is shifted from the state to the shareholders of a company. They go on to assert that tax avoidance strategies are intentionally crafted to create an information imbalance between the tax authorities and the firm, with the aim of evading detection by the tax authority. Similarly, Hani and Muhamad (2021) opine that when the tax obligation becomes substantial, companies tend to adopt a more assertive approach to tax planning. The motivation behind this heightened aggressiveness lies in the belief that a significant tax burden can be seen as an opportunity for deductions from the company's profit.

Tax aggressiveness, then, refers to a set of behaviors or strategies employed by individuals or businesses with the primary aim of minimizing their tax liabilities. These strategies often involve pushing the boundaries of tax laws, taking advantage of loopholes, and engaging in practices that may be considered aggressive or even unethical. Measures of tax aggressiveness are difficult. Previous works adopted various measures which are mostly based on estimates from the firm's financial statement. The approaches adopted includes:

- a) the measure of the difference between the accounting book and taxable income comprising book-tax gap, tax-effect book- tax gap and residual book-tax gap.
- b) Effective Tax Rate (ETR) which can be approached using current ETR, Cash ETR, long-run cash ETR and so on
- c) Discretionary permanent differences.

The persistence of corporate tax aggressiveness can be attributed to information imbalances. Due to these imbalances, it becomes challenging to identify opportunistic actions by companies that take advantage of the information gap between them and tax authorities. There is a need for a mechanism to address the agency problem that exists between companies acting as agents and tax authorities acting as principals. This is crucial because it poses a potential risk to the tax revenues of the country (Bani, et al., 2023).

The concept of BTD was developed by Manzon and Plesko (2002). BTD is the difference between the financial accounting income and taxable income. BTD is the difference between the net income before taxes and the taxable income divided by the lagged total assets. BTD is used as proxy for tax avoidance practices of firms as it is expected that the financial accounting income should equal the taxable income. The difference between what the firm's accountants prepare and publish and what tax authorities arrive at after adjustment as taxable income is seen as the level /volume of tax aggressiveness of the firm. Scholars like Plesko, (2004) holds the view that positive tax difference and low effective tax rate mirrors the behavior of tax avoidance. Rego (2003) is of the view that tax aggressive activities create booktax difference which can be temporary or permanent.

A permanent difference refers to a disparity between the tax expenses reported in financial accounting and the real tax liability, resulting from an item that does not rectify or change over time. In simple terms, it denotes the enduring distinction between financial and tax accounting that remains constant and never get resolved or reversed. an example of permanent difference is non-tax revenue or gain like income from bond.

The differences between the book bases and the tax bases of the assets acquired and liabilities assumed are temporary differences that result in deferred tax assets. LTD has been associated with tax avoidance activities Wilson (2009) and Plesko (2004).

It is, therefore, maintained that the term "Book-Tax Difference" refers to the variance between a company's financial accounting income (often referred to as "book income") and its taxable income, as calculated for income tax purposes. This difference arises because financial accounting principles, governed by Generally accepted accounting Principles (GaaP), and tax regulations, set by tax authorities, may have distinct rules and requirements for recognizing income, expenses, and other financial transactions.

In essence, a Book-Tax Difference can be positive or negative and reflects how a company's income, deductions, and other financial metrics differ when reported in its financial statements compared to what is considered taxable income by tax authorities.

Firm Size

Firm size refers to the magnitude of the firm as regards how large or small the company is. This is measured by either the number of employees or their total assets as well as sales or value added by the firm (Jones, 2021). There have been arguments on relation between ETR and firm size as various studies have resulted in different findings. Scholars like Smith (2020) argue that large firms are usually visible as such are subjected to greater regulatory activities and scrutiny. The scrutiny by tax authorities often results in high tax burden when compared with small firms.

In response, the large firms use their resources to manage tax to reduce their ETR. The above were interterm with result of work of Rego, (2003). OECD classified organisations with less than 10 employee as micro-sized business while those with 10-49 employees are small-sized business. Between 50-249 employees are medium while 250 or more employees are classified as large-sized business. Central bank monetary policy committee meeting communique No. 69 of April 15, 2010 as stated in ICAN study pack (Strategic Financial Management 2019) defines Small, Medium Enterprises (SMEs) as an enterprise with asset base (excluding land) of between N5million to N500million and labour force of between 11 and 300 employees. In this study we adopt the use of asset as basis of determining the firm size.

Return on Assets

Profitability refers to the extent to which a company generates profits or financial gains from its economic endeavors. It is a frequently used metric to assess a company's financial performance and can be quantified using indicators such as return on assets (ROA) or return on equity (ROE). These measures help gauge how effectively a company is utilizing its resources to generate earnings or returns. The more profitable a firm is the higher the propensity to engage in activities to reduce tax burden (Hanlon & Heitzman, 2010).

For this work, return on assets is used as proxy for profitability. It is ratio of profit made by the firm to its assets and is useful in comparing the efficiency of utilization of asset for firms in the same industry but with great caution if applied across different industries due to variation in asset requirement across industries as one may be capital intensive while the other may be labourintensive industry (Drake, 2016). An increasing Return on assets (ROA) is generally seen as a positive sign for a firm, indicating that it is performing well in terms of generating profits relative to its total assets. Conversely, a decreasing ROA can be a cause

for concern, suggesting that the firm may have accumulated assets that are not effectively contributing to its income (Penman, 2013). The formula for calculating ROA, as you mentioned, is: $ROA = \text{Net Income} / \text{Total assets}$

The long-term trend of Return on assets (ROA) serves as an excellent financial barometer for evaluating a company's overall health and as an indicator of the consequences of its decisions. Understanding this trajectory forms a basis for adopting a more extended perspective, which can assist companies in devising successful strategies (Hagel, 2019).

However, it's worth noting that Hagel and Anderson (2017) have suggested that ROA may not be the most suitable measure for assessing a company's long-term financial stability. Instead, they argue that it is more effective in monitoring a company's short-term performance. They provide evidence that ROA can be sensitive to changes in a company's financial circumstances, particularly alterations in revenue, income, and assets. This perspective highlights the importance of using a variety of financial metrics to gain a comprehensive understanding of a company's financial well-being and performance, both in the short term and the long term.

Firm Age

Firm age is the number of years from the date of incorporation to the current year (Coad et al., 2013). It is generally believed that there is great different in the ability of the old and young firms in their ability to alter contractual outcomes that depend on accounting numbers. application of the political cost theory can be used to explain the relationship between age of a firm and tax avoidance activities. also, large firms that has broad businesses has higher reputational risk due to that these old firms tend to hold their ground more than new firms as such exposing them to greater political scrutiny (Desai & Dharmapala, 2006).

According to this study, Firm age is a measure of the duration for which a business has been operating, providing goods or services, and engaging in economic activities. Firm age is a fundamental metric that is often used in various analyses and studies to understand the lifecycle, growth patterns, and stability of businesses. Firm age is typically measured from the date of a company's founding or establishment. This date marks the beginning of the company's operations. Firms go through various life cycle stages, including the startup phase, growth phase, maturity, and, in some cases, decline. The age of a firm can provide insights into which stage it is currently experiencing. The age of a firm can influence its strategic decisions, risk tolerance, and management practices. Younger firms may focus on rapid growth and market penetration, while older firms may prioritize stability and sustainability (Levinthal, 1991; Hannan & Freeman, 1984).

Empirical Review

Related works to the topic of study were reviewed. This is done to ascertain the area already covered by previous study and establish gap/ missing link requiring exploration. Salisu et al., (2023) studied the effect of audit committee characteristics on tax aggressiveness of listed financial firms in Nigeria using filtering method to arrive at sample size of forty-three firms for the period spanning from 2012-2021. The research employed various statistical methods such as Pearson correlation matrix, Variance Inflation Factor, Doornik Hansen Normality Test, Heteroskedasticity test, Breusch-Pagan Lagrangian Multiplier Test, Hausman Specification Tests, and Wald Test. The study utilized a robust random effect (REM) regression model to test the hypotheses. The findings indicate that the presence of financial expertise within the audit committee has a significant and negative impact on the tax aggressiveness of financial firms listed in Nigeria during the studied period.

Similarly, Appah, (2022) evaluated corporate governance attributes and tax planning of listed pharmaceutical companies in Nigeria from 2015-2022. Ex-post facto research design was adopted for the study of eleven pharmaceutical firms. Multiple regression result of data from the published financial statements disclosed that when it comes to tax savings, the size of the board and the financial expertise of its members have a positive but statistically insignificant impact. On the other hand, board compensation and the frequency of board meetings have a negative and statistically insignificant effect on tax savings, while gender diversity has a negative but statistically insignificant influence as well. In terms of the book-tax difference, board financial expertise has a positive and statistically significant impact, while board size, gender diversity, board compensation, and board meetings have a negative and statistically insignificant effect.

In their study, Hani and Muhamad (2021) explored the effect of capital intensity, inventory intensity, corporate social responsibility and good corporate governance on tax aggressiveness. Using purposive sampling technique, 59 manufacturing firms listed in Indonesia stock exchange were used for the study.

Result of the multiple regression analysis of the data revealed that capital intensity has a positive and significant effect on tax aggressiveness, inventory intensity has a positive but non-significant effect on tax aggressiveness, corporate social responsibility has no positive and significant effect on tax aggressiveness, Independent commissioner has a positive and significant effect on tax aggressiveness, and audit committee has a negative but significant effect on tax aggressiveness.

Furthermore, Prawira and Sandra (2021) investigated the determinants of corporate tax aggressiveness in Indonesia, using 27 real estate and property. The study investigated relationship among executive characteristics, firm size, leverage, profitability, and corporate tax aggressiveness. Applying Cash ETR (Effective Tax Rate) as an appropriate measure of tax aggressiveness, and use multiple regression model, the study found a strong evidence that executive characteristics, firm size, and profitability are negatively correlated with the likelihood of tax aggressiveness. Meanwhile, leverage has a positive correlation to tax aggressiveness. The study recommends that businesses should give greater consideration to the attributes of their executives when implementing tax strategies, as the study reveals that as corporate risk increases, tax aggressiveness decreases. While this research builds on previous studies related to corporate tax aggressiveness, it stands out by providing a pioneering comparative analysis of executive traits, company size, debt levels, profitability, and their impact on corporate tax aggressiveness.

Kimea et al. (2023) examined firm specific determinants of aggressive tax management among East African firms. Data was gathered from 99 companies over an 11-year period spanning from 2008 to 2018. Two different measures of tax planning, namely the cash effective tax rate and the accounting effective rate, were employed in multiple regression models for analysis. The study's findings indicate that smaller companies tend to engage in more aggressive tax planning strategies compared to larger firms, aligning with the political cost theory. This discovery could serve as a warning for policymakers and regulatory authorities, such as tax authorities, highlighting the likelihood that small businesses are more inclined to engage in tax avoidance practices, possibly due to the presence of fewer regulations and enforcement measures in this sector.

METHODOLOGY

The study adopts *Ex-Post Facto* research design in which secondary data were extracted from the financial statement of the deposit money banks in Nigeria from 2012 to 2022. It is appropriate for the study, in that, those data already exist before the contemplation of the study the data are outside the researchers' control as they are audited, published financial statement of the banks for the period under review.

The population of study is the 13 deposit money banks listed in Nigeria Exchange Group as at 31st December, 2022. The study adopts a census study as the whole population is being studied. This would make for better generalization of the findings of the study when all elements (deposit money banks) are involved in the study. The area of study is the whole of Nigeria as the study covers banks operating in Nigeria with branches spread nation-wide. Data for the study were extracted from the banks publish annual financial report for the period under review (2012-2022). 2012 is the year Nigeria adopted IFRS while 2022 was the most current year with available data.

Table 1: List of Quoted Nigeria Deposit Money Banks

S/N	Bank Name
1	Access Bank Plc
2	Eco Bank Plc
3	Fidelity Bank Plc
4	First Bank Holding
5	First City Monument Bank
6	Guaranty Trust Bank
7	Stanbic IBTC
8	Sterling Bank
9	Union Bank
10	United Bank for Africa
11	Unity Bank
12	Wema Bank
13	Zenith Bank

Source: Nigeria Exchange Group (2022)

Data from the banks were analyzed using descriptive and inferential statistics using STaT15 software.

The model was adapted from Ilaboya et al., (2016). The functional relationship between the dependent variables and the explanatory variables are presented below. The mathematical form of the model is followed by the econometric form of the model.

Mathematical form: $BTD = f(FSZ + ROA + AGE)$

For estimation purpose, the econometric model is presented

$$BTD_{it} = \alpha + \beta_0 FSZ + \beta_1 ROA + \beta_2 AGE + \mu_{it}$$

Where:

BTD= Book Tax Difference the proxy for Tax Aggressiveness

α = Constant

$\beta_0 - \beta_3$ = coefficient of the proxies for the independent variables

FSZ= Firm Size

ROA= Return on Asset

AGE = Firm Age

μ = Error term

i = Firms
t = periods and
f = Functional Relationship

Variable Definitions and Justification

Table 2: Variable Definitions, Measurements and Justification

Variables	Type	Measurement	Source
Book Tax Difference (BTD)	Dependent	(Pre-tax income-tax income) ÷ total assets	Armstrong et al. (2012) Chen et al. (2010)
Firm Size (FSZ)	Independent	Natural log of total assets	Armstrong et al. (2012) Ilaboya et al. (2016)
Return on Assets (ROA)	Independent	Ratio of profit for the year to total asset	Armstrong et al. (2012) Kraft (2014). Salaudeen (2017)
Firm Age (AGE)	Independent	Current year minus year of incorporation	Ilaboya et al. (2016)

Source: Researchers compilation, 2023

RESULTS AND DISCUSSION

Data for the study on Book Tax Difference (BTD), Firm Size (FS), Firm Age and Return on Asset (ROA) for the period 2012 to 2022 were extracted and analyzed. Firm size which are large were logged. Data were analyzed using descriptive and inferential statistics

Descriptive Statistics: Univariate Analysis

Table 3: Descriptive Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
BDT	143	.008714	.0408531	0	.4627
Age	143	24.62937	14.06808	5	53
ROA	143	.0146294	.0173813	-.1	.06
L_FSZ	143	9.311469	.448305	8.19	10.5

Source: Researcher's computation, 2023 using Stata15 software

In table 3, BTD has a mean value of 0.008714. The positive BTD is suggestive that the firm is active in upward management of earning geared toward tax avoidance. The higher the BTD the more tax aggressive the company is. The average age of deposit money banks of study is 24.639. While ROA has a mean of 0.015 the log of firm size has a mean of 9.311. The standard deviation were 0.041, 14.068, 0.017 and 0.448 for BTD, firm age, ROA and log of firm size (L_FSZ). That of BTD, ROA and L_FSZ were above their mean that is the majority were dispersed above the mean.

In terms of age, the maximum age is 53 from Union bank as at 2022 and minimum age of 5 before 2012 as with Stanbic Holding.

On the performance of the banks, the maximum ROA is 0.06 while the lowest was a loss represented by -0.1. The loss indicates poor management of the assets of the firm for the period under review.

Correlation Matrix

The study used Pearson's correlation in getting the correlation matrix. Usually, the presence of Multicollinearity is suspected if independent variables correlate above 0.8, otherwise reject the presence of multicollinearity in the model if no two independent variables correlate above 0.8 (Gujarati et al, 2012).

Table 4: Correlation Matrix

	BDT	AGE	ROA	L FSZ
BDT	1.0000			
aGE	-0.0045	1.0000		
ROa	0.1360	0.1025	1.0000	
L FSZ	0.0103	0.4132	0.3797	1.0000

Source: Researcher's computation, 2023 using Stat15 software

In table 4above, firm age has negative correlation with BTD with correlation coefficient of -0.0045. This implies that as firm age increases, there would be reduction in tax aggressiveness. It was observed that ROAand firm size have positive correlation with BTD with their correlation coefficient of 0.136 and 0.0103 respectively. This implies that as return on assets and firm size increases, tax avoidance activities of deposit money banks increases. Since none of them correlates above 0.8, then multicollinearity may not be an issue.

Diagnostic Test

The following diagnostic tests were conducted to ensure that the basic assumptions of regression modeling were not violated. They include test for normality (Shapiro test), test for multicollinearity (Variable Inflation Factor), Heteroskedasticity test for variance stability (Breusch-Pagan test).

Normality Test (Shapiro Wilk)

The rule is that the data is symmetrically (normally) distributed with p-value higher than 0.05 or asymmetrically (abnormally) distributed with p-value less than or equal to 0.05 around the mean.

Table 5: Shapiro Wilt test result

Variable	Obs	w	V	Z	Prob>z
AGE	143	0.90255	10.884	5.399	0.0000
ROA	143	0.82062	20.035	6.778	0.0000
L FSZ	143	0.99520	0.536	-1.411	0.92085

Source: Researcher's computation 2023 using Stata15 software

From table 5, Firm Age and ROA have probability valuesof 0.000 which are less than 0.05. Based on the above, the data for the two variables are not normally distributed. However, the p-value of firm size is 0.921 which is higher than 0.05 thus the data set is said to be normally distributed.

Multicollinearity Test (Variance Inflation Factor)

Table 6: Resut of VIF test

Variable	VIF	1/VIF
L_FSZ	1.40	0.714236
AGE	1.21	0.825772
ROA	1.17	0.852276

Mean VIF 1.26

Source: Researcher's computation, 2023 using Stata15 software

VIF suggests presence of Multicollinearity if the VIF is more than 10 or inverse VIF of 1 (Gujarati et al, 2012). In table 5, the VIF averaged 1.26 with each of them less than 10 and inverse VIF less than 1. This indicates absence of collinearity in the data.

Breusch-Pagan/Cook-Weisberg test for heteroskedasticity

Table 7: Breusch-Pagan/Cook-Weisberg test for heteroskedasticity

Type of test	Chi2	P-Chi2
BP/cook-W	130.02	0.0000

Source: Researcher's computation, 2023 using Stata15 software

The decision rule is to reject the null hypothesis of constant variance if the model has p-value less than or equal to critical p-value of 0.05 or accept the hypothesis if the p-value is higher than the critical value of 0.05. Table 5 above reveals probability Chi value of 0.000 which is less than 0.005 thus the study rejects the null hypothesis and accepts the alternative hypothesis, hence the presence of heteroskedasticity in the model is accepted. The presence of heteroskedasticity negatively affects the predicting value while using OLS. as a result, the need for search for appropriate estimation technique is required.

Breusch and Pagan Lagrangian Multiplier test for random effects

When the result of diagnostic test indicate some presence of multicollinearity, heteroskedasticityetc that may affect the result, a search for appropriate estimation technique becomes imperative. This test is to ascertain whether to use OLS for estimation or random model. If the calculated value of the test exceeds the critical value (p-value less than 0,05), the null hypothesis is rejected and the random effect model of panel data is chosen and vice versa.

Table 8: Breusch and Pagan Lagrangian Multiplier test for random effects

Type of test	Chi2	P-Chi2
BPLMT	3.15	0.0379

Source: Researcher's computation, 2023 using Stata15 software

Lagrangian Multiplier Test which examines the presence of unobserved effect in the random model shows p-value of 0.038 which is less than 0.05. The multiplier result is significant thus the null hypothesis is rejected; and random model is more appropriate than constant variance (OLS). Since random model is chosen by the test, then Hausman Specification Test to select the appropriate random model (between fixed and random effect) is carried out.

Hausman Specification Test

Table 9: Hausman specification test result

Type of test	Chi2	P-Chi2
Hausman Test	2.92	0.4042

Source: Researcher's computation 2023 using STATA 15 software

HausmanSpecificationTest decision rule is that if the p-value is equal to or less than 0.05, the null hypothesis which states that the model is Random (not systematic) is rejected suggesting that fixed effect is most appropriate for the study. Furthermore, if the p-value is more than 0.05, the null is accepted and the appropriate estimation model is random. In view of the afro stated, the Chi2 p-value is 0.4042 which is greater than 0.05 thus the random model is used for the study.

Random Effect Regression Model

Table 10: Random-effect GLS Regression result

BTD	Coef.	Robust Std. Err.	z	p>[z]	95% conf. Interval	
AGE	-.0000185	-.0001535	-0.12	0.904	1.0003193	.0002823
ROA	.3546333	.3886077	0.91	0.361	-.4070239	1.11629
L_FSZ	-.0099264	.0077173	-1.29	0.198	-.025052	0.0051992
cons	.096411	.0737178	1.31	0.191	-.0480733	.2408953

Wald chi2 = 2.56

Prob> chi2 = 0.4653

Source: Researcher's computation 2023 using Stata15 software

Table 10 has Wald Chi (2) of 2.56 and p-value of 0.4652. The result shows negative and non-significant relationship between firm age, firm size and book tax difference. This means that increase in age and firm size (assets) adversely affect tax aggressiveness of deposit money banks in Nigeria though insignificantly. However, Return on asset has positive but non-significant effect on tax aggressiveness (BTD) of deposit money banks in Nigeria.

Test of Hypotheses

The decision rule rejects the null hypothesis whenever p-value is less than or equal to 0.05 and accept the alternative hypothesis in its place but where p-value is more than 0.05, the null hypothesis should be accepted and alternative rejected.

Table 10 above, it indicates that firm size (-1.29) is negative and non-significant effect on BTD of deposit money banks in Nigeria, having regression coefficient of -0.0099 and p-value of 0.198. In view of the above, the null hypothesis which states that firm size has no significant effect on tax aggressiveness of deposit money banks in Nigeria is accepted since the p-value of 0.198 is greater than 0.05. Therefore, the alternative hypothesis is rejected.

ROA in table 10 exhibits a positive (0.91) but non-significant effect on BTD of deposit money banks in Nigeria having a regression coefficient of 0.3546 and p-value of 0.361. To that effect, the null hypothesis which states that return on asset has no significant effect on tax

aggressiveness of deposit money banks in Nigeria is accepted as the p-value of 0.361 is more than 0.05. The study therefore rejects the alternative hypothesis.

Table 10 showed that firm has a negative but non-significant effect of firm age on BTB of deposit money banks in Nigeria as it has a regression coefficient of -0.00002 and p-value of 0.904. Since the p-value of 0.904 is more than 0.05 the null hypothesis which states that firm age does not significantly influence tax aggressiveness of deposit money banks in Nigeria is accepted while the alternative hypothesis is rejected.

Discussion of Findings

Firm size has no significant effect on tax aggressiveness of deposit money banks in Nigeria. That is, firm size with z-value of -1.29 is negative and non-significant effect on BTB of deposit money banks in Nigeria with regression coefficient of -0.0099 and p-value of 0.198. This means that a unit increase in firm size will lead to 0.0099 unit reduction firm tax aggressiveness. This implies that the higher the firm size the lesser the BTB which means the less tax aggressive the firm becomes. This suggests that the bigger the firm the more co-operative with tax laws and tax authorities. This suggests that the firm can engage the services of tax experts who may help them in interpretation of tax laws while preparing their financial statement such that the difference between the book value and taxable income may become very narrow. Large firms may also engage some tax officials illegally such that they compromised standard and tend to reduce the BTB usually favourable to the firms stemming from the Nigeria position in corruption perspective index report 2022 where she ranked 150 out of 180 countries as presented by Transparency International (Corruption Perspective Index 2022). The index ranks countries based on corruption among public servants in the country. The findings were in agreement with findings of Cyde et al. (1982) who found non-significant effect of firm size on tax aggressiveness in USA. Prawira and Sandra (2021) and Kimea et al (2023) equally found a negative effect of firm size on tax aggressiveness in Indonesia and large firms being less aggressive in East Africa respectively. However, the findings were at variance with that Kasim and Saad (2019) who found a significant effect of firm size on tax aggressiveness in Malaysian firms.

ROA has no significant effect on tax aggressiveness of deposit money banks in Nigeria. ROA exhibits a positive but non-significant effect on BTB of deposit money banks in Nigeria having a regression coefficient of 0.3546 and p-value of 0.361. This implies that a unit increase in ROA will cause about 0.35 unit increase in BTB of deposit money banks in Nigeria. This means that as the profitability of the banks increases, their book tax difference would increase. This may be due to the fact that as profit increases, tax payable increases and this may attract the attention of the firm as the amount becomes substantial. They, then would restore to tax aggressive measures to reduce the tax payable. The finding is in line with result of the findings of Kasim and Saad who found a significant effect of profitability on tax aggressiveness in Malaysia. However, Kimea et al, (2023) study revealed that profitable firms are less inclined to tax aggressiveness. Similarly, Prawira and Sandra (2021) study indicate a negative correlation between profitability and tax aggressiveness in Indonesia.

Firm age does not significantly influence tax aggressiveness of deposit money banks in Nigeria. Firm has a negative but non-significant effect of firm age on BTB of deposit money banks in Nigeria as it has a regression coefficient of -0.00002 and p-value of 0.904. This suggests that an increase in firm age may cause non-significant increase in tax aggressiveness. This implies that tax planning adopted by deposit money banks do not vary

significantly in relation to the age of the bank. However, this is at variance with the finding of Kimea et al. (2023) who found that older firms are more tax aggressive.

CONCLUSION AND RECOMMENDATIONS

From the findings of the study in which some variables have negative but nonsignificant effect on tax aggressiveness, the other has positive but non-significant effect. the study concludes that firm size, firm age and return on assets have non-significant effect on tax aggressives of deposit money banks in Nigeria.

In view of the afore -stated findings, the study recommends the following:

- (i) The tax authorities should be very mindful of banks as they grow, as the firm size has negative effect even though non- significant effect. This would help them in formulation of policy and approaches in tax administration.
- (ii) Tax authorities should closely monitor banks with increasing profitability (ROA) as there is tendency for increase in aggressive tax activities to reduce their tax liabilities.
- (iii) Since the study shows reduction in tax aggressiveness as age increases, then efforts of tax authorities should be concentrated on young firms while trying to curb aggressive tax practices among deposit money banks in Nigeria.

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