

Board attributes, financial literacy and tax avoidance of listed deposit money banks in Nigeria

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Abstract

This study examines the moderating effect of board financial literacy on the relationship between board attributes and tax avoidance practice of listed deposit money banks in Nigeria for the period of 10 years (2014 to 2023). Secondary data was sourced from the annual reports of all the thirteen (13) deposit money banks in Nigeria. The study employed the panel data methodology for analysis. The result reveals that board size has a positive and significant impact on tax avoidance practice of listed DMBs in Nigeria. Board independence, board gender diversity and board meetings have positive and insignificant effect on tax avoidance practice of listed DMBs in Nigeria. Board financial literacy has a negative and significant effect on tax avoidance practice of listed DMBs in Nigeria. The study establishes that board financial literacy significantly moderates the relationship between board attributes and tax avoidance practice of listed DMBs in Nigeria. Therefore, the study concludes that board size and financial literacy play a pivotal role in shaping tax avoidance practices among listed DMBs in Nigeria and emphasizes the necessity of promoting financial literacy among board members as a key strategy for improving governance effectiveness and ensuring balanced tax strategies. This study further recommends that banks in Nigeria should consider the inclusion of board members with financial expertise. These can help strengthen governance frameworks and ensure that tax practices are both ethical and strategically sound.

Key words: tax avoidance, board size, board independence, board gender diversity, board meetings and board financial literacy

1. Introduction

Company's financial commitment to the government (tax) stands as financial burden for firms and their shareholders, reducing their cash flow available as profit. Shareholders therefore, tend to engage in tax planning strategies aimed at increasing both the profit after tax and the cash available for distribution to them. Zhu et al., (2019) posited that taxes are being used as a means of stimulating the growth of the economy as well as encouraging investments. On the other hand, Pham et al., 2024 opined that though corporate management whose tax contributions should enhance the growth and development of the economy, however, view tax payment as a burden because it reduces their profit/income and requires them to ignore their shareholder's interest to fund the operation of the state. Therefore, they begin to look for legal ways within tax system through which this burden can be lifted or reduced. In an attempt to maximize their cash flow and profit after taxes, shareholders or business owners thus adopt tax avoidance tactics. The tax avoidance strategy used by a firm may result in tax reductions or eliminations for its shareholders (Sani & Umar, 2023).

Tax is a compulsory contribution made by members of any given society to the state subject to the jurisdiction of the government for the purpose of generating revenue to facilitate economic growth, economic stabilization, income redistribution, promoting fairness and equity, fiscal responsibility and accountability, as well as for the provision of national goods and services (Omesì & Ebimobowei 2021). The amount of taxes companies are expected to pay to the government/society is a proportion of their income earned as required by the law over a given period after deducting all allowable expenses. It is pertinent to note that every profit-driven organization seeks legal ways to maximize their accounting

profit, and one of such ways include preparing ones financial affairs in such that it will attracts minimal tax amount (the process known as tax avoidance).

Taxes constitute a significant part of the costs incur by firms and also stand to reduce the profitability of firms (Akintoye et al., (2020). Hence, this needs to be minimized to its barest minimum level especially in the financial sector of the economy. Shareholders of listed deposit money banks in Nigeria have become increasingly concerned about the impact of high tax rates, multiple taxes and corruption in the tax system on their investments. These tax burdens can significantly erode profitability and shareholder returns and the lack of financial literacy among board members may result in poorly executed tax avoidance strategies, increasing the risk of regulatory penalties and reputational damage. However, shareholders on the other hand, seek legal means of protecting their interest by indulging in tax avoidance practices to enhance company's profitability and shareholder value.

Consequently, this study seeks to fill the gap on the board attributes that affect corporate tax avoidance practice of listed deposit money banks in Nigeria by introducing a strengthening influence of board members with financial expertise, who are better positioned to provide sound financial advice to listed deposit money banks in Nigeria, on mitigating high tax rates (where taxpayers pay more than necessary), multiple taxation (where the same income is taxed by more than one country or government department), and obsolete tax laws. It has been suggested by Arumona et al., (2019) that the downfall of numerous financial institutions can be attributed to the insufficient financial expertise among their board members.

2. Literature Review and hypotheses development

2.1 Board size and tax avoidance

Sani and Umaru (2023) examined impact of corporate governance and tax evasion on Nigerian deposit money banks for seven years from 2015 to 2021. The study used descriptive statistics, a correlation matrix, a cross-sectional dependency test, a panel unit root test, and a panel co-integration test. To test the hypotheses, the Panel Generalized Method of Moments (PGMM) was employed. The result revealed a weak and unimportant correlation between board size and tax evasion. In the same vein, Hanga et al., (2019) investigated board characteristics and tax aggressiveness of listed deposit money banks in Nigeria and documented that board size does not have significant impact on effective tax rate (ETR) of listed deposit money banks in Nigeria. This result was supported by the study of Hoseini et al. (2019) and Ogbeide and Obaretin (2018) who also documented insignificant relationship between corporate governance attributes and tax planning. Jamei (2017) investigated tax avoidance and corporate governance mechanisms. Eviews software was used for analyzing the data and multiple regressions were used to test the hypotheses. His results indicated that there is no significant relationship between number of board members on and tax avoidance. Studies such as Uchendu et al., (2016); Zemzem and Ftouhi (2013); also researched into corporate governance mechanism and found a negative association with tax planning.

Conversely, Akhor and Inegbedion (2023) examined the effect of selected board features on effective corporate tax rate of listed manufacturing companies in Nigeria for the period 2011 to 2020. The study employed descriptive statistics, correlation matrix and panel regression technique. The Results revealed

that board size and board gender diversity were positively and insignificantly related to effective tax rate.

Eguavoen et al., (2023) investigated board attributes and tax planning of corporate organizations in Nigeria. The study focused on 85 non-financial companies listed on the Nigerian Stock Exchange for the period spanning 2016 to 2020. Utilizing panel least squares regression through the econometric tool Eview 9.0, the findings revealed that the board size have a positive and significant correlation with tax planning. Anggraeni (2020) examined the effect of board size and the existence of female directors on tax avoidance. The study used 370 observations consisting from 114 manufacturing companies listed on the Indonesia Stock Exchange from 2013-2017. Multiple linear regression analysis was used with SPSS 22 software. The results of the study show that the size of a board of directors is positively related to tax avoidance. In consistent with Salawu and Adedeji (2017), Adeusi et al., (2013) examined the effect of board size on the performance of ten selected banks for a period of six years (2005-2010) using econometric model of linear regression and documented a positive association between board size and banks performance. However, the researcher observed that from the findings documented above, different methodologies were employed which could possibly trigger the mixed findings in the above studies.

2.2 Board independence and tax avoidance

Eguavoen et al. (2023) investigated board attributes and tax planning of corporate organizations in Nigeria. Eighty-five (85) non-financial companies quoted on Nigerian Exchange Group (NGX) were analyzed for the period from 2016 to 2020. Panel least squares regression was used with the help of econometric packages (Eview 9.0) to analyze the data. The result indicated that the explanatory variable of board independence was negatively and insignificantly related to tax planning.

Afifa et al., (2022) investigated on nexus among board characteristics, earnings management and dividend payout. The population of the study consists of all service firms that were listed on the Amman Stock Exchange (ASE) between 2012 and 2019 and a sample of 43 service firms were taken, secondary data was collected from the annual report, panel data analysis was employed in the study and Based on the findings, board independence have a negative and significant influence on tax aggressive strategy. Consistent with the finding of Afifa et al (2022), Chukwu et al. (2022) investigated the effect of corporate governance mechanism on tax aggressiveness of listed consumer firms in Nigeria for the period 2015 to 2019 The result of the study revealed a negative but significant relationship between board independence and effective tax rate. Aburajah, et al (2019) carried out a study on board of directors' characteristics and tax aggressiveness in Jordan. The data collected on 129 companies was analyzed using descriptive and inferential statistics. The result suggests that board composition and board independence showed a negative association with tax avoidance. However, Musa et al. (2024) found positive relationship between board independence and tax planning in the listed money deposit banks in Nigeria.

2.3 Board gender diversity and tax avoidance

Omesi and Appah, (2021) investigated the effects of corporate governance characteristics on tax planning of listed pharmaceutical firms in Nigeria from 2015 to 2020, correlational research design was employed and a population of eleven (11) pharmaceutical firms made up the population of the study.

The secondary data from the annual reports were analysed using univariate, bivariate and multivariate analysis. The multiple regression results disclosed that gender diversity negatively and insignificantly influences tax savings. Jarboui et al. (2020) synthesized board gender diversity and sustainability performance effect on tax avoidance. The study sampled 300 UK firms over the period 2005-2017 and the results show that there is a negative association between board gender diversity and tax avoidance meaning that tax avoidance decrease as the number of women on the board increases).

However, in consistent with the findings of Budiana and Kusuma (2022), the results presented by Widuri et al. (2020), Jarboui et al. (2020), Riguen et al. (2020), and Boukattaya (2021) show that gender diversity has a positive effect on tax avoidance. This means that the involvement of women on the board composition increases tax avoidance practice. Hanga et al. (2019) presented from his empirical study, a positive and significant association between gender diversity and tax aggressiveness. Also, Musa et al. (2024) indicated a positive association between tax planning and gender diversity in the listed money deposit banks in Nigeria.

2.4 Board meetings and tax avoidance

Sahoo et al., (2023) examined the relationship between board characteristics and firm performance and the moderating effects of firm size, the board size, and firm age between board characteristics and firm performance. The results documented show that the board meeting frequencies and attendance rate positively affect firm performance. Dhiyaulhaq and Fadjarenie (2023) analyzed the effect of the application of the Director's Tax Expertise, the Profession of Tax Consultant and the Frequency of Board Commissioners' Meetings on Tax Avoidance. Their study used a quantitative method with a causal approach. Secondary data was collected from 2015 to 2019; the data reached a total of 205 financial reports. The results of their study indicated that board meetings have a significant effect on tax avoidance simultaneously. Similarly, Kyei et al. (2022) examined the relationship between board meetings and bank performance using GMM technique and a sample of 635 banks from 48 countries in Africa from 2000 to 2016, a positive and significant association was found between board meeting and bank performance. Barros and Sarmiento (2019) in like manner synthesized the effect of Board Meeting Attendance and Corporate Tax Avoidance on listed firms in UK from 2002 to 2015. They found and documented a positive relationship between board meeting and tax avoidance. Al-Hares et al., (2018) who examined the impact of frequency of board meetings on R&D investment strategy in Organization of Economic Co-operation and Development countries. The result of their finding shows that there is a significant relationship between frequency of board meetings and R&D investment strategy.

Digging further, Al-Daoudetal., (2016) investigate the impact of board meeting frequency on the firm performance of the firms listed on the Amman Stock Exchange from industry and service sectors for the 2009-2013 periods. The Panel technique of Generalized Method of Moments (GMM) was adopted. The result of their study shows a positive association between the frequency of corporate board meetings and firm performance. On the contrary, Mohammed and Oladejo (2022) investigated the relationship between board meetings, size and company financial performance of 13 listed industrial goods companies in Nigeria using a 10-year data set (2012-2021). The data set was extracted from the Nigerian Stock Exchange website and analyzed with the aid of STATA 15 and tested for a panel effect. The results they reported revealed that meetings of the board show insignificant and negative financial performance. Gambo et al., (2018) examine the effect of board size, board composition and board

Meetings on the financial performance of listed consumer goods in Nigeria over the period of ten years from 2006 to 2015. Correlation and Regression analysis and the empirical result concluded that board meeting has negative and insignificant effect on the financial performance of listed consumer goods firm in Nigeria.

2.5 Board financial literacy and tax avoidance

Yahaya (2023) examined the effect of corporate governance mechanism on tax avoidance among deposit money banks in Nigeria. Multiple regression technique was employed to test the effect of financial expertise of board members on tax avoidance. The study used a sample of 10 deposit money banks within the period of ten years (2012-2021). The study found a significant positive effect of financial expertise of board members on tax avoidance. Ebimobowei (2022) investigated the effects of corporate governance characteristics on tax planning of listed pharmaceutical firms in Nigeria from 2015 to 2020. The study used ex post facto research design and the population of the study consists of eleven (11) pharmaceutical firms. Secondary data from the annual reports were analyzed using univariate, bivariate and multivariate analysis. The multiple regression results disclosed that board financial expertise positively and insignificantly impact tax savings. Salihu and Kawi (2021) examined board attributes and tax avoidance. Secondary data was collected, and panel data were analyzed using the system Generalized Methods of Moment (GMM). The empirical result shows that board members' financial literacy positively relates to corporate tax avoidance.

Tanko et al. (2021) examined the moderating effect of board financial literacy on the relationship between capital structure and firm financial performance of listed non-financial companies in Nigeria. They employed panel research design. Secondary data were obtained from annual reports of 30 listed non-financial institutions on the floor of Nigerian Stock Exchange which were sampled based on convenience sampling techniques from the period 2009 to 2018. They analyzed the data using the Panel Least Square estimation technique. A panel regression analysis was conducted, and they documented that board financial literacy moderate capital structure significantly and increase firm performance. The uniqueness of this study lies in its exploration of the moderating effect of board financial literacy on the relationship between board attributes and tax avoidance practices of listed deposit money banks (DMBs) in Nigeria.

Meanwhile, previous studies have extensively examined the direct impact of board attributes on tax avoidance, moderating effect of board financial literacy on other relationships such as board attributes and firm's performance, board attributes and capital structure other than board attributes and tax avoidance. The role of board financial literacy as a moderating factor between boards attributes and tax avoidance remains underexplored. By investigating this dimension, the study provides a novel perspective on how financial expertise within the board can influence governance practices and decision making processes related to tax strategies. This approach not only fills a significant gap in the existing literature but also offers practical insights for policymakers and regulators aiming to enhance the effectiveness of corporate governance in the banking sector. For the purpose of this study; the following hypotheses were stated in their null form to guide the researcher in making conclusion and recommendation.

H₀₁: Board attributes (board size, independence, gender diversity and Meeting) have no significant effect on tax avoidance practice of listed deposit money banks (DMBs) in Nigeria

H₀₂: Board financial literacy has no significant effect on tax avoidance practice of listed deposit money banks (DMBs) in Nigeria.

H₀₃: Board financial literacy has no significant moderating effect on board attributes and tax avoidance practice of listed deposit money banks (DMBs) in Nigeria.

2.5 Theoretical Review

The concepts of corporate governance and tax planning have received several attentions by researchers. As such, several theories have been used to explain the concepts such as Agency Theory, Legitimacy theory, stakeholder's theory and Hoffman tax planning theory. However, this study is anchored on Hoffman tax planning theory.

2.5.1 Hoffman Tax Planning Theory

Hoffman's tax planning theory explores how firms strategically plan their tax activities to minimize their tax liabilities. This theory examines various methods and strategies that companies employ to reduce their tax burdens while remaining compliant with tax laws and regulations. It also considers the role of corporate governance, financial decision-making, and the implications of tax planning on a firm's overall financial health and stakeholder relationships. The Hoffman tax planning theory was developed by Hoffman (1961) and adopted in Omesi and Appah (2021). The theory explains the need to minimize company income tax income without affecting its accounting income. It also outlined four crucial principles of corporate tax planning: the intricate nature of tax planning, the advantages it offers, and the insufficient use of tax planning strategies, and the general lack of awareness about its benefits. In the light of this theory, Peter et al., (2020) noted that because of complex nature of tax policy and systems, the loopholes in the tax laws cannot be avoided giving taxpayers an advantageous tax position. This theory is vital to this study as it highlights that companies exploiting tax law loopholes and maintaining optimal leverage to benefit from tax-deductible interest can effectively lower their tax burden, thereby enhancing their after-tax income.

3. Research Methodology

This study adopted ex-post facto research design to define the structure and strategy of the study while the population of this study covers all the thirteen (13) listed Deposit Money Banks on the Nigeria Exchange Group (NGX) as at 31st December, 2023 and census sampling techniques was employed due to the small size of the population. secondary source of data was obtained from audited financial statement of the sampled firms to enable the researcher extract relevant data needed for the study. From the financial statements, the researcher collected data on board size, board independence, board gender diversity, board meeting and board financial literacy to measure their relationship with tax avoidance of listed deposit money banks in Nigeria from 2014 to 2023.

Table 1. Variables Measurement

Var	Proxy	Measurement	Source
Tax Avoidance	Effective Tax Rate (ETR)	Current tax expense divided by pre-tax income	Dang and Nguyen (2022; Musa et al., 2024)
Board Attributes	Board Size (BOZ)	The total number of directors Serving on the board.	Hanga et al. (2019; Idris et al., 2021)
	Board Independence (BOI)	The percentage of independent directors to the total number of directors on the board.	Musa et al., (2024)
	Board Gender Diversity (BGD)	Percentage of women on board.	Hanga et al. (2019; Idris and Tyasari, 2022),
	Board Meetings (BOM)	Total number of meetings held in a year.	Kyei et al.(2022)}
Moderating Variable	Board Financial Literacy (BFL)	Members of BOD with qualifications in accounting, finance, ICAN, ACCA, CITN.	Tanko et al., (2021)

Source: researcher's computation 2025

Model

$$ETR_{it} = \beta_0 + \beta_1 BOZ_{it} + \beta_2 BOI_{it} + \beta_3 BGD_{it} + \beta_4 BOM_{it} + \beta_5 BFL_{it} + e_{it} \dots 1$$

$$ETR_{it} = \beta_0 + \beta_1 BOZ_{it} + \beta_2 BOI_{it} + \beta_3 BGD_{it} + \beta_4 BOM_{it} + \beta_5 BFL_{it} + \beta_6 BFL*BOZ_{it} + \beta_7 BFL*BOI_{it} + \beta_8 BFL*BGD_{it} + \beta_9 BFL*BOM_{it} + e_{it} \dots 2$$

Where: β_0 = Constant, β_{1-7} =Beta Coefficients, ETR=Effective Tax Rate, BOZ=Board Size, BOI= Board Independence, BGD=Board Gender Diversity, BOM=Board Meetings, BFL=Board Financial Literacy, = Error Term, it = Time dimension of the Variables

4. Results and discussion

From Table 1, the effective tax rate has mean value of 0.1207043 (12%). The average effective tax rate of 12% suggests that Nigerian banks pay significantly less than the statutory corporate tax rate set by the government which is 30%. The Table 1 also shows a standard deviation of ETR amounting to 0.1219877 (12.2%) indicating a moderate variability of the sampled firms during the period.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	130	0.1207	0.1219	0.0033	0.8066
BOZ	130	13.03	2.909	6	22
BOI	130	0.2163	0.1009	0.0769	0.7857
BGD	130	0.2296	0.1167	0	0.5
BOM	130	5.953	2.097	1	16
BFL	130	0.2389	0.12145	1	0.7

4.1 Summary statistics

From Table 1 Effective Tax Rate has mean value of 0.1207043 (12%). The average effective tax rate of 12% suggests that Nigerian banks pay significantly less than the statutory corporate tax rate set by the government which is 30%. The table also shows a standard deviation of ETR amounting to 0.1219877 (12.2%) indicating a moderate variability of the sampled firms during the period. The table also shows the minimum value of 0.0033201 pointing to banks that may be engaging in highly aggressive tax avoidance within the legal limits while the maximum value of 0.8066809 shows that some banks pay substantially more tax than others, possibly due to fewer tax avoidance efforts or less effective tax planning.

More so, Table 1 shows that the mean and standard deviation values for Board Size are 13.03077 and 2.909323 while minimum and maximum values are 6 and 22 respectively. The mean value of 13% indicates that an average board size of 13 members reflects a moderate to large board, which could bring diverse viewpoints and enhanced governance capabilities. However, it also means that coordination could become challenging with more members. The standard deviation of 2.9% shows some high degree of variation in board size across DMBs. This could also indicate that most banks in Nigeria follow similar governance structures regarding board size. The minimum board size of 6 while the maximum number of directors is 22.

Table 1 also revealed a mean value of 0.2163197 which is 21.6% for board independence suggests that independent directors constitute a small portion of the board on average. A relatively low standard deviation of 0.1009471 indicates that most banks have similar low levels of board independence. Minimum of 0.077 indicates that some banks have as few as 7.7% independent directors while Maximum of 0.786 shows 78.6% independence on some boards.

Table 1 also revealed an average of 23% female representation with a low standard deviation of 11.6% which implies low variation in the number of female seated on the board of directors of sampled firms. The minimum value of 0 indicates that some banks have no female directors, potentially missing the diverse perspectives and oversight strengths that gender diversity can bring while the maximum value of 0.5 shows at most, female representation reaches 50%, indicating some boards are achieving equal gender representation. More so, on average, the frequency of board of directors meeting is 5 with a minimum of 1 meeting and maximum of 16 in a financial year. The minimal of 1 meeting in a financial year is an indication that some banks fail to measure up to the requirement of the Nigerian Code of Corporate Governance (NCCG) which holds that there should be at least a minimum of 4 meetings in a year. The standard deviation of 2.09 means that there is high variation in the number of meetings held by listed DMBs in Nigeria in a financial year.

Table 1 further shows the minimum and maximum value of 1 and 0.7 which is an indication that there are companies with just 1 financial literate member while there are companies with 70% of members on board that are financial literate. The mean and standard deviation of the firms is 0.2389168 and 0.1214594. This shows that listed DMBs in Nigeria have poor inclusion of board members that have financial literacy. A low standard deviation indicates that most banks have similar levels of financial literacy on the board.

4.2 Correlation matrix

Table 2 shows that board size (BOZ) is negatively correlated with tax avoidance at the correlation coefficient value of -0.1244. This signifies a weak negative relationship between board size and tax avoidance with correlation coefficients of 12%. This also means as board size increases, ETR reduces, indicating an increase in tax avoidance practice.

Table 2 correlation matrix

VAR	ETR	BOZ	BOI	BGD	BOM	BFL	VIF
ETR	1.000						
BOZ	-0.124	1.000					1.19
BOI	0.231	-0.034	1.000				1.13
BGD	0.217	-0.206	0.123	1.000			1.10
BOM	0.008	0.219	0.233	-0.061	1.000		1.05
BFL	0.212	-0.159	0.027	0.173	0.166	1.000	1.03

Table 2 also revealed that board independence has weak positive relationship with ETR at correlation coefficient value of 0.2317. This also means that board independence and ETR move in the same direction implying that as board independence increases ETR also increases alongside. Similarly, table 4.2 revealed a weak positive correlation between BGD and ETR at correlation coefficient value of 0.2173 which suggests that higher BGD is associated with a slight increase in ETR, implying less tax avoidance. Furthermore, Table 2 indicates that BOM and BFL have weak positive relationship with ETR at correlation coefficients of 0.0081 and 0.2127 respectively. This weak positive correlation suggests that higher BOM and BFL are associated with a slight increase in ETR.

4.3 Regression Analysis

The result presented in Table 3 shows that the overall R-squared value for model one is 0.2128. The R-squared value of 0.2128 indicates that approximately 21% of the variance in the ETR can be explained by the independent variables. In addition, the R² of 21.28 suggest that variables included in the model collectively account for about 21% variance in ETR while about 79% variability is accounted by other variables not captured in the model.

Table 3. Panel Data Regression Result

Variables	Model one			Moderated Model two		
	Coefficient	Z	P> z	Coefficient	Z	P> z
Constant	0.6816478	0.64	0.523	0.229568	0.27	0.788
BOZ	0.1605594	2.83	0.005	0.1195343	2.35	0.020
BOI	1.112141	1.05	0.297	0.4526181	0.98	0.329
BGD	-1.295578	-0.84	0.405	1.179178	0.94	0.350
BOM	0.0672952	0.98	0.327	0.0950955	1.70	0.092
BFL	-0.8518955	-0.66	0.511	-11.17455	-3.42	0.001
BOZ*BFL				0.3803489	1.91	0.059
BOI*BFL				49.14595	22.01	0.000
BGD*BFL				-7.858415	-1.63	0.106
BOM*BFL				-0.3112074	-1.28	0.203
Overall R ²		0.2128			0.8496	
F-stat/ Chi2		3.80	0.0032		67.79	0.0000
Hausman		10.95	0.0524		19.16	0.0239
Hetttest (1)		49.75	0.0000		61.68	0.0000

The result displayed on Table 3 reveals that board size has a positive and significant effect on tax avoidance at coefficient and probability value of 0.1606 and 0.005 respectively. This implies that larger board size is associated with tax avoidance practice of listed DMBs. The result implies that a unit increase in the number of directors, (holding other explanatory variables constant), will lead to an increase in ETR of listed DMBs in Nigeria. This finding is in tandem with the finding of Anggraeni Kurnianto (2020); Salawu and Adedeji (2017) who documented that board size has positive and significant effect on tax planning activities. The finding disagreed with the finding of Sani and Umaru (2023) who documented in the contrary (a negative and unimportant impact of board size on tax planning). Table 3 also reveals board independent has a non-significant positive effect on tax avoidance with coefficient and probability value of 1.112 and 0.297 respectively. This implies that a unit increase in the number of independent director will lead to an insignificant increase in tax avoidance activities of listed DMBs. The finding is in consonant with the finding of Hanga et al., (2019).

The results displayed in table 3 shows a negative and insignificant relationship between board gender diversity and tax avoidance. This is revealed by -1.2955 coefficient value and probability value of 0.405. This indicates that a unit increase in the number of female director will decrease tax avoidance practice by 1.3%. This implies that larger female directors are associated with tax compliance.. This is consistent with the finding of Omesil and Ebimobowei, (2021) who documented a negative and insignificant effect of gender diversity on tax saving and contradict the finding of Budiana and Kusuma (2022), who on the other hand revealed a positive and significant effect of gender diversity on tax aggressive.

More so, Table 3 reveals that board meeting have coefficient value of 0.067 and probability value of 0.32 respectively which is positive but insignificant. Frequent board meetings appear to have little influence on promoting tax avoidance activities. The finding is in agreement with the finding of Peter et al. (2020) who documented a positive and insignificant association between board meeting and tax planning.

In addition, the moderated model (model two) fixed effect results on Table 3 shows that BFL have negative coefficient of -11.17455 and probability value of 0.001 which is significant at 1% level of significance. This implies that a unit increase in BFL would decrease tax avoidance activities by 11.17% holding other factors constant. This implies that banks with more financial expertise on the board do not prioritize tax avoidance strategy. Table 3 shows the overall R^2 of 0.849 of the moderated model (model two). The R^2 value represents the proportion of variation in the dependent variable that is explained by the independent variables in the regression model. This implies that the variables included in the model jointly account for about 85 per cent variance in tax avoidance, while other variables excluded in the model accounted for 14 per cent variance in tax avoidance practice of listed DMBs in Nigeria. The increase in the R^2 from 21.28% to 84.96% indicates that the introduction of a moderator (board financial literacy) has strengthening effect on the relationship between board attributes and tax avoidance practice of listed DMBs in Nigeria.

The Chi-square value of 67.79 (moderated model) and the probability value associated with this test is 0.0000. From probability value of 0.0000, which is less than the conventional threshold of 0.05, the

study can conclude that there is statistically significant evidence to suggest that at least one of the independent variables have significant effect on tax avoidance practice of listed DMBs in Nigeria.

The moderated model (model two) displayed on Table 3 shows that the moderated BOZ has a z-value of 1.91 with a positive coefficient value of 0.380 and $p > z$ of 0.059 which indicates an insignificant impact on tax avoidance. This suggest that board size, when moderated by BFL, has a positive but insignificant impact on tax avoidance. Hence, the study fails reject the null hypothesis. Table 3 also revealed that board financial literacy is found to have a positive and significant moderating effect on the relationship between board independence and tax avoidance practice of listed DMBs in Nigeria. The positive coefficient value of 49.14 and p-value 0.000 indicates that considering board independence members who possess financial expertise, strengthens the positive impact of board independence on tax avoidance practice of listed DMBs in Nigeria.

In addition, the moderated model (model two) fixed effect results on Table 3 revealed that the moderated board gender diversity has a coefficient value of -7.858 and $p > z$ of 0.106 which indicates an insignificant impact on tax avoidance. The moderated model shows a negative and insignificant effect as also seen in model two. This implies that the presence of women on the board does no encourage the management to indulge in tax planning activities that will hinder the management compliance to tax matter. More so, the study does not have enough evidence to reject the null hypothesis. Furthermore, the moderated model (model two) fixed effect results on Table 4.3 show that the moderated BOM has a coefficient value of -0.311 and $p > z$ of 0.203 which indicates an insignificant moderating effect of BFL, board meeting on tax avoidance practice of listed DMBs in Nigeria. This indicates that a unit increase in number of meeting in a financial year when moderated by BFL would decrease tax avoidance practice by 0.311%.

5. Conclusion and Recommendation

This study investigates the relationship between board attributes and tax avoidance practices of listed deposit money banks (DMBs) in Nigeria, with a particular focus on the moderating role of board financial literacy. The findings provide critical insights into the governance mechanisms that influence tax strategies in the banking sector.

Firstly, the study concludes that board size, gender diversity, meetings have significant impact on tax avoidance practices. This implies that although they might promote more ethical and risk-averse decision making, their direct impact on tax strategies in the context of DMBs is limited.. Secondly, board independence shows a positive and statistically insignificant relationship with tax avoidance. Thirdly, board financial literacy emerges as a critical factor. While it has insignificant impact in Model one, the relationship becomes significant in Model two.

Lastly, the study establishes that board financial literacy significantly moderates the relationship between board attributes and tax avoidance practice. Therefore, this study recommends that, in order for listed DMBs in Nigeria to maximize profit through reducing tax burden, the management of the banks should pay attention to independent directors and include at least one member with financial expertise.

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