ACCOUNTING & FINANCE REVIEW

IJAFR VOL 15 NO 1 (2024) P-ISSN 2576-1285 E-ISSN 2576-1293

Available online at https://www.cribfb.com
Journal homepage: https://www.cribfb.com/journal/index.php/ijafr
Published by CRIBFB, USA

MODERATING EFFECT OF BOARD INDEPENDENCE ON THE RELATIONSHIP BETWEEN FIRM ATTRIBUTES AND TAX AGGRESSIVENESS: EMPIRICAL EVIDENCE FROM THE NIGERIAN BANKS

Kolawole Ebire [(a)1] *Anthony Ahmed Musa* [(b)] *Lucky Onmonya* [(c)]

[(a)]*Lecturer, Department of Banking and Finance, Nile University of Nigeria, Abuja, Nigeria; E-mail: Kolawole.ebire@nileuniversity.edu.ng*
[(b)]*M.Sc Student, Department of Accounting, Nile University of Nigeria, Abuja, Nigeria; E-mail: anthonymusa72@yahoo.com*
[(c)]*Lecturer, Department of Accounting, Nile University of Nigeria, Abuja, Nigeria; E-mail: lucky.onmonya@nileuniversity.edu.ng*

ARTICLE INFO

Article History:

Received: 15th October 2023
Reviewed & Revised: 16th October 2023 to 4th February 2024
Accepted: 5th February 2024
Published: 6th February 2024

Keywords:

Board Independence, Firm Size, Profitability, Leverage, Tax Aggressiveness.

JEL Classification Codes:

M4, M41, M480

Peer-Review Model:

External peer-review was done through Double-blind method.

ABSTRACT

Despite increased evidence of the critical role of corporate governance in shaping business behaviour, there is still a lack of understanding of how board independence moderates the relationship between firm qualities and tax aggression, particularly in the context of Nigerian banks. This study examines the moderating effect of board independence on firm attributes and tax aggressiveness relationship in Nigerian banks spanning 2012 to 2022. The firm attribute was proxy as firm size, profitability, leverage, and board independence, while tax aggressive was proxy as the effective tax rate. The data was collected from eleven listed commercial banks in Nigeria. Data analysis were performed using random effects based on the Hausman test. The study concludes that larger banks tend to engage less in tax aggressive strategies than smaller banks. Also, boards with more independent directors tend to be less aggressive in tax activities. In addition, the study concludes that highly leveraged firms have a greater interest in minimising taxes to enhance cash flows available for debt service. Furthermore, when the moderating effect of board independence is introduced, the study concludes that the relationship between profitability and tax aggressiveness was insignificant. Furthermore, larger banks engage in tax aggressiveness when independent directors are involved. More so, the moderating effect of board independent directors will cause a reduction in tax aggressiveness as leverage increases. The study suggest that banks management be encouraged to conduct benchmarking exercises and peer comparisons to assess their tax practices to industry standards. This can help identify outliers and promote a more standardised and responsible approach to tax planning.

INTRODUCTION

Taxation plays a crucial role in providing significant financial support to the government and is of utmost importance in facilitating the government's attainment of its goals. Taxation is a governmental mechanism designed to exercise authority over imposing and collecting taxes. It is regarded as wealth transfer from the private to the public sector of the economy to assist the nation in attaining its economic and social goals. These goals include providing necessary facilities and services such as efficient healthcare and high-quality roads. The government determines the tax rate citizens must pay and the specific products subject to taxation.

In Nigeria, private businesses, including the banking sector, are required to pay government taxes. Banks are required to pay corporate taxes to the government, which depend on particular firm attributes. Firm attributes encompass distinct financial and operational traits that ascertain or impact the efficiency of tax rates. These characteristics of a firm influence the firm's decisions, both within the organisation and external factors, and are outcomes of managers' choices.

Firm size effect on tax aggressiveness has attracted lots of debate in academic research. Hanlon and Slemrod (2009), Ogbeide et al. (2022), and Osamudiame et al. (2019) posit that larger firms may engage in more aggressive tax planning strategies. Conversely, Dyreng et al. (2010) indicates a negative relationship between firm size and tax aggressiveness. They explained that larger firms may have more scrutiny and visibility, leading them to adopt less aggressive

[1]*Corresponding author: ORCID ID: 0000-0001-7000-2552*

https://doi.org/10.46281/ijafr.v15i1.2184

To cite this article: Ebire, K., Musa, A. A., & Onmonya, L. (2024). MODERATING EFFECT OF BOARD INDEPENDENCE ON THE RELATIONSHIP BETWEEN FIRM ATTRIBUTES AND TAX AGGRESSIVENESS: EMPIRICAL EVIDENCE FROM THE NIGERIAN BANKS. *International Journal of Accounting & Finance Review*, *15*(1), 1-9. https://doi.org/10.46281/ijafr.v15i1.2184

tax strategies. Chen et al. (2010), on the other hand, propose a U-shaped relationship suggesting that both small and large firms may exhibit higher tax aggressiveness while medium-sized firms may be less aggressive. The divergent views of firm size effects have prompted researchers to consider the firm's size as the significant variable in most tax aggressiveness literature. First, the cost of planning the amount of tax expenses is higher for smaller firms than larger firms; this is because larger firms possess the financial resources to hire tax consultants to take advantage of tax laws ambiguities (Husnain et al., 2021; Ogbeide et al., 2022).

A corporation's profitability level impacts its decision to reduce its tax liabilities. Profitability firms are more likely to employ tax aggressiveness as they possess greater resources to allocate toward tax planning endeavours, enabling them to exploit tax incentives and rules to reduce tax liabilities (Abdulkadir et al., 2020). However, Ezugwu and Akubo (2014) and Ogbeide et al. (2022) contended that a high corporate tax rate had a detrimental effect on profitability. Therefore, the board implements strategic tax planning to mitigate the impact of taxes on their profit. Similarly, companies with substantial assets such as factories, real estate, and machinery have more advantages from depreciation deductions (Abdulkadir et al., 2020) and (Yahaya & Yusuf, 2020). Companies can effectively handle tax management by postponing the recognition of depreciation costs and leveraging tax payments to their benefit. Hanlon and Heitzman (2010) and Salaudeen and Ejeh (2018) argued that profitable firms may engross in tax planning as part of their earning management strategies by optimising the timing of income recognition and expenses, and firms can manage reported earnings to achieve specific financial goals.

Also, firms with high leverage can use the advantage of deductibility of interest expenses to decrease the tax burden. Likewise, firms with large assets such as plants, properties, and equipment benefit more from depreciation deductions. Firms can easily manage taxes by deferring depreciation expenses and taking advantage of tax payments (Dyreng et al., 2008). Leverage can be characterised as intricate financial arrangements that aim to minimise taxes. Firms that utilise debt capital to fund their operations and take advantage of financial leverage can deduct interest expenditures from their taxable income. According to Graham and Tucker (2006), leveraged enterprises derive advantages from a tax shield, which becomes more valuable as their leverage increases. Consequently, firms who have high levels of debt may face reduced pressure to depend on other non-debt tax shelters (Desai & Dharmapala, 2006).

The board independence refers to a board composed of independent directors who are not involved in the daily operations of the firm. The moderating effect of board independence refers to the influence of the level of independence of a firm's board of directors on firm attributes and tax aggressiveness relationship. Armstrong et al. (2015) and Chen et al. (2010) posit that if a firm has a high level of board independence, management might be expected to exercise more oversight and scrutiny over the tax planning strategies. Consequently, the effect of specific firm attributes (firm size, profit, and leverage) on tax aggressiveness may be moderated or mitigated by the independent oversight provided by the board. Conversely, Desai and Dharmapala (2006) argued that if a firm has low board independence, the management might have more discretion in determining and implementing tax strategies. Thus, firms' attributes and tax aggressiveness relationship might be less constrained by independent oversight.

Despite the growing recognition of the crucial role of corporate governance in shaping firm behaviour, there remains a gap in understanding how board independence moderates firm attributes and tax aggressiveness relationship, particularly within the context of Nigerian banks. While existing literature (Abdulkadir et al., 2020; Adams & Balogun, 2020; Anyaduba & Ogbeide, 2022; Ogbeide et al., 2022; Ogbodo & Omonigho, 2021) acknowledges the influence of firm-specific attributes on tax strategies, the impact of board independence in mitigating or exacerbating tax aggressiveness remains unclear. Secondly, these studies explored other sectors (such as manufacturing, consumer goods, and non-financial firms), excluding the banking sector.

In Nigeria, where the banking sector plays a pivotal role in the economy, understanding the moderating effect of board independence on firm attributes and tax aggressiveness link becomes imperative. The lack of clarity on this issue poses challenges for regulatory bodies, policymakers, and stakeholders seeking to foster ethical and responsible corporate practices within the banking industry. This study objectives is to examine the moderating effect of board independence on firm attributes and board characteristics relationship in banks in Nigeria. The study utlised panel data from banks and the hypotheses were tested using random effect.

The remainder of this study is structured as follows: section 2 presents the literature review which discusses the past empirical studies and hypotheses formulation. Section 3 presents the materials and method used in this study followed by the results of the analysis which is presented in section 4. Section 5 highlights the discussion of the findings and section 6 concludes.

LITERATURE REVIEW

Tax Aggressiveness

Tax is typically regarded as a financial obligation for firms, prompting them to reduce their tax burden to optimise revenues actively. Since tax aggression enhances cash flows, it can be regarded as a potential avenue for maximising profitability (Kovermann & Velte, 2019). According to legislation, the government has the authority to levy taxes on the firm's earnings. The tax authority frequently encounters challenges in identifying opportunistic behaviours by firms, such as engaging in tax evasion, due to the knowledge asymmetry between the tax authority and the firm. The tax authority cannot regulate the opportunistic behaviour exhibited by the firm.

Consequently, there is a potential for information asymmetry between the firm and tax authority regarding the firm's financial statements. For instance, the tax authority may be unable to identify any manipulation present in the financial statements provided by the firm. Corporate tax aggressiveness pertains to the deliberate measures implemented by a firm to minimize its tax liabilities. There is a potential for a conflict of interest to arise between this behavior and the tax authority.

Empirical Review

Firm Size and Tax Aggressiveness

Firm size and tax aggressiveness link is a complex and multifaceted topic explored in the academic literature. Generally, larger firms have more resources and sophistication in tax aggressive strategies than smaller firms. However, the specific effects can vary depending on the industry, regulatory environment, and other factors. Barney (1991) posits that based on the resource-based theory, larger firms may have more financial and human resources to engage in proactive tax aggressive approaches. Larger firms can use their unique resources to gain a competitive advantage, which may extend to tax planning. The agency theory perspective suggests that as firms grow in size, there may be increased separation between ownership and management, leading to potential conflicts of interest. This can influence tax planning decisions, as managers may pursue strategies that align with their interests.

Various empirical studies have assessed firm size and tax aggressiveness effect and found that larger firms engage in tax aggressiveness more. For example, Adams and Balogun (2020), Adela et al. (2023), Chytis et al. (2020), Husnain et al. (2021), Ogbeide et al. (2022), Ryandono et al. (2020), andYahaya and Yusuf (2020) concluded that larger companies frequently get advantages from economies of scale, allowing them to distribute their fixed expenses across a wider range of revenue. This may give them more resources and flexibility to invest in sophisticated tax planning strategies. In addition, larger firms may have diverse business operations, which can offer opportunities for tax planning. They can allocate income and expenses among different subsidiaries or divisions in a way that optimises overall tax liabilities.

In contrast, although larger companies may possess greater resources for tax planning, they also face challenges and potential negative implications due to increased scrutiny, operational complexity, public visibility, and regulatory compliance costs. Successful tax planning for large firms requires careful consideration of these factors and a strategic approach that aligns with the overall business objectives. Prior empirical studies (Chen et al., 2010) have maintained that larger firm sizes have an inverse effect on tax aggressiveness. These studies claimed that larger firms are more likely to attract attention from tax authorities due to the scale of their operations and the complexity of their financial transactions. This heightened scrutiny can lead to more detailed tax audits, increasing the risk of tax-related issues being identified. In addition, larger firms are likely to be publicly traded or subject to increased public scrutiny. Aggressive tax planning strategies, even if legal, may attract negative attention from the public and policymakers, potentially leading to reputational damage.

Additionally, it is crucial to acknowledge that the impact of firm size on tax aggressiveness can be complex and multifaceted, influenced by other factors such as industry-specific regulations and organisational structure, thereby leading to an insignificant effect of firm size on tax aggressiveness. Empirical evidence such as Abdulkadir et al. (2020); Alshabibi et al. (2022); Indriani and Juniarti (2020); Madugba et al. (2020); Okerekeoti (2022); Waruwu and Kartikaningdyah (2019). Based on these outcomes, the hypothesis is stated thus:

H_{01}: Firm size has no significant negative effect on tax aggressiveness of listed banks in Nigeria

Profitability and Tax Aggressiveness

The positive implications of profitability on tax planning are multifaceted and can benefit businesses significantly. Profitable businesses can engage in strategic tax planning to minimise their overall tax liability. By utilising various tax incentives, deductions, and credits, profitable firms can legally reduce the amount of income subject to taxation. Czarnitzki and Delanote (2015) claimed that profitable firms, especially those involved in innovation and research and development activities, may be eligible for tax credits to encourage technological advancements. These credits can be used to offset tax liabilities and foster innovation. Graham and Tucker (2006) posit that profitable businesses can structure their capital in a way that optimises the mix of equity and debt. This optimal capital structure can have tax implications, as interest on debt is often tax-deductible, leading to potential tax savings. In addition, profitable firms can implement tax-efficient employee compensation strategies, to entice and keep crucial personnel, the company offers several forms of compensation, such as stock options and other equity-based incentives. These arrangements can be structured to provide benefits while managing tax implications. Empirical studies such as Husnain et al. (2021) and Salaudeen and Ejeh (2018) found that profitable firms positively affect tax aggressiveness.

Conversely, empirical studies such as Alshabibi et al. (2022), Indriani and Juniarti (2020), Ryandono et al. (2020), Okerekeoti (2022), and Omesi and Appah (2021) found an insignificant effect of profitability on tax aggressiveness. They argued that the profitability and tax planning relationship is complex and can vary based on several factors. In some cases, highly profitable firms' may use tax planning strategies to minimise their tax liability, while less profitable firms' may have fewer tax-saving opportunities. However, it is important to note that profitability alone does not determine the extent or success of tax planning efforts. Other factors, such as the firm's tax strategy, industry norms, and the regulatory environment, also play crucial roles.

While profitability is generally a positive aspect for businesses, it can negatively affect tax planning. One key issue is that higher profits often result in increased tax liabilities. Hanlon and Heitzman (2010) argued that as a business becomes more profitable, its taxable income also increases. This can lead to a higher corporate income tax burden, reducing the amount of after-tax profits available for reinvestment or distribution to shareholders. Ogbeide et al. (2022) and Waruwu and Kartikaningdyah (2019) studies found an inverse effect of profitability on tax aggressiveness. These results show that the greater the profit the more executives dare to take risks by engaging in tax avoidance.

H_{02}: Profitability has no significant negative effect on tax aggressiveness of listed banks in Nigeria

Leverage and Tax Aggressiveness

A significant determinant of tax aggressiveness is leverage, which involves using borrowed funds to finance investments and can positively affect positively affect tax planning for businesses. For example, one of the significances of leverage is the deductibility of interest payments on debt. Interest expenses are generally eligible for tax deductions, which decrease a company's taxable income and, as a result, its tax obligation. In addition, the agency theory posits that the tax shield on debt refers to the reduction in taxable income due to interest deductions. This tax shield can enhance cash flow and make debt financing more attractive compared to equity financing from a tax perspective. Also, leveraged buyouts involve acquiring a firm using a significant amount of debt. The interest on the debt used for the acquisition is often a major tax planning consideration, as it can be a substantial tax shield for the acquiring entity. A positive significant effect of leverage on financial performance was established. For example, Abdulkadir et al. (2020), Husnain et al. (2021), and Yahaya and Yusuf (2020)

Leverage, or the use of debt financing, can have both positive and negative effects on tax planning for businesses. While leverage can provide tax benefits, it also introduces certain challenges and risks. Some jurisdictions impose limitations on the deductibility of interest expenses, such as the debt-equity rules. Excessive leverage may lead to restrictions on the amount of interest that a firm can deduct for tax purposes, reducing the tax benefits of debt financing. According to Desai and Dharmapala (2009), various industries have regulations on thin capitalization, which restrict the ability to deduct interest expenditures when the ratio of debt to equity surpasses a specific threshold. The Central Bank of Nigeria highly regulates Nigeria's banking sector with a strict capital adequacy ratio. This can discourage businesses from relying too heavily on debt financing for tax planning. Empirical studies (Anyaduba & Ogbeide, 2022; Peter et al., 2020; Salaudeen & Ejeh, 2018; Zachariah et al., 2020) have shown that excessive leverage can negatively affect a firm's credit rating. Lower credit ratings might lead to increased borrowing expenses and limit the availability of debt financing, reducing the flexibility of tax planning strategies.

The impact of leverage on tax planning can depend on a firm's specific tax planning strategies. Some businesses may use debt financing to enhance interest deductions and reduce taxable income, while others may have alternative tax planning approaches. Adams and Balogun (2020), Alshabibi et al. (2022), Omesi and Appah (2021) and Ryandono et al. (2020), found that leverage insignificantly related to effective tax rate. Based on the mixed findings, the hypothesis is stated thus:

H_{03}: Leverage has no significant negative effect on tax aggressiveness of listed banks in Nigeria

Moderating role of Board independence on the relationship between firm attributes and tax aggressiveness

In corporate governance literature, a larger board size may contribute to enhanced governance and oversight. A well-structured and diverse can lead to better monitoring and control mechanisms, which may positively affect tax planning. The agency theory (Fama & Jensen, 1983) posits that a board with more independent members may have greater resources and capabilities for decision-making. This may lead to more comprehensive discussions on tax-related matters and facilitate allocating resources to support effective tax planning initiatives. According to Chen et al. (2019), if a firm has a high level of board independence, management might be expected to exercise more oversight and scrutiny over the tax planning strategies. Consequently, the effect of specific firm attributes (firm size, profit and leverage) on tax aggressiveness may be moderated or mitigated by the independent oversight provided by the board. Conversely, Desai and Dharmapala (2006) argued that if a firm has low board independence, the management might have more discretion in determining and implementing tax strategies. Thus, firms' attributes and tax aggressiveness link might be less constrained by independent oversight. Based on these arguments, the hypotheses are stated thus:

H_{04}: Board independence has no significant negative effect on tax aggressiveness of listed banks in Nigeria.
H_{05}: Board independence moderates the relationship between firms' attributes and tax aggressiveness of listed banks in Nigeria

The above review of prior studies established conflicting findings. Studies found that firm attributes have an insignificant effect on tax aggressiveness. In contrast, others found that firm attributes positively impact tax aggressiveness. In contrast, others revealed that tax aggressiveness negatively impacts firm attributes. These mixed findings show that the literature is inconclusive, hence the need to study the nature of the effect. Thus, this necessitated the need to carry out research to fill this gap. This study will, therefore, contribute to the current body of knowledge on the attributes of firm and their propensity engage in aggressive tax practices by examining the impact of size, profitability, and leverage on tax aggressiveness in Nigerian banking firms that are publicly traded.

MATERIALS AND METHODS

The research design utilised in this study is ex post facto. The population consists of all listed Nigerian Exchange Group (NGX) banks as of December 2022. The total number of commercial banks listed in NGX as at December 2022 was 14. The study's sample size comprised all listed banks. This study adopts secondary data sources collected from the listed commercial banks' annual reports and financial statements from 2012 to 2022. This data source is considered appropriate because the required data for the study are available in the sample banks' annual reports from their respective websites and Nigeria stock exchange portals. The data analysis was performed using Stata 13.

Model Specification and Variable Measurement

The multiple regression model that captures the effects of firm attributes on tax aggressiveness in Nigeria banks is presented below:

$$TAXAGG_{it} = \alpha + \beta_1 FSIZE_{it} + \beta_2 PROF_{it} + \beta_3 LEV_{it} + \beta_4 BIND_{it} + \beta_5 FSIZE*BIND_{it} + \beta_6 PROF*BIND_{it} + B_7 LEV*BIND_{it} + \varepsilon_{it}$$

Where,
TAXAGG – tax aggressiveness,
FSIZE – Firm size,
PROF – profitability,
LEV – Leverage,
BSIZE – Board size,
Beta coefficient - β_1 β_2 β_3 β_4
,α – constant, and
ε – error terms

Table 1. Variables description and measurements

Variable	Measurement	Type
Tax aggressiveness (TA)	Effective tax rate, which is the ratio of tax expense to pretax book income	DV
Firms size (FSIZE)	The natural log of total asset	IV
Profitability (PROF)	The ratio of profit after tax to total asset.	IV
Leverage (LEV)	The ratio of total debt to total equity.	IV
Board Independence (BIND)	The ratio of independent directors to the total directors	Moderator

RESULTS

Correlation Analysis and Summary Statistics

Table 2. Correlation Analysis and Descriptive Statistics

	TA	Profit	Fsize	Lev	Bind	Bind*prof	Bind*fsize	Bind*lev
TA	1							
Profit	0.0811	1						
fsize	-0.8097	0.0551	1					
lev	-0.8263	0.0369	0.9988	1				
Bind	-0.4144	0.0046	0.3776	0.3822	1			
Bind*prof	0.0454	0.9344	0.0736	0.0575	0.0991	1		
Bind*fsize	-0.8888	0.0098	0.9571	0.9636	0.4591	0.0304	1	
Bind*lev	-0.8956	-0.0017	0.9517	0.9595	0.4578	0.0197	0.9995	1
Mean	-45.1534	.0435727	8.61e+08	7.45e+08	2.229358	.008789	2.82e+09	2.47e+09
Std. Dev.	202.0314	.0753841	1.99e+09	1.79e+09	1.229521	.020909	8.32e+09	7.54e+09
`Min	-1044.48	-.021	72508	1005	1.229521	0	0	0
Max	.65	.54	1.25e+10	1.15e+10	6	.18	5.01e+10	4.59e+10

Source: Authors computation

Table 2 shows the correlation coefficients on the moderating effect of board independence on firms' attributes and tax aggressiveness link in Nigerian banks. The values of the correlation matrix range from -1 to +1. From Table 2, the relationship between profit and tax aggressiveness is positive but statistically weak. Implying that the direction of the association between profitability and tax aggressiveness is proportional, that is, an increase in profitability increases tax aggressiveness. Similarly, the association between the moderating effect of board independence and profitability and tax aggressiveness association is positive. Implying that increased profitability when moderated with board independence increases tax aggressiveness. Profitable banks engage in tax aggressiveness even when an independence board increases. In contrast, the relationship between size, leverage, board independence and the effective tax rate is inverse. In other words, an increase in these firm attributes results in a decrease in tax aggressiveness, i.e., larger banks, levered banks and an increased number of independent boards do not engage in aggressive tax strategies. In addition, the association between larger banks and levered banks have an inverse association with tax aggressiveness when moderated with board independence.

Table 2 shows the nature of the variables. The average tax aggressiveness of Nigerian banks is 45.15%, which is above the 30% firm income tax in Nigeria. The deviation is 202.03%. The average profitability (ROA) of banks in Nigeria is 4.3%, with a deviation of 7.5% and a minimum and maximum of -2.1% and 54%, respectively. This implies that Nigerian banks are profitable. The average size of Nigeria's banks is 8.6 billion Naira, with a deviation of 1.99 billion Naira. Table 2 also shows that the average leverage of banks in Nigeria is worth 7.4 billion Naira with a deviation of 1.79 billion Naira. The average number of independent directors on the board of Nigerian banks is 2.2, with a deviation of 1.2. This implies that, on average, banks comply with the Central Bank of Nigeria's corporate governance code by having at least one independent director. The mean moderation value between independent directors and profitability is 0.8%, with a standard deviation of 2%. This suggests that there is a notable disparity among the banks, as the standard deviation exceeds the mean. The mean of the moderating effect of board independence on bank size is 2.8 billion Naira, with a deviation of 8.32 billion Naira. This implies that the effect of board independence variation in banks is significant. The average moderating effect of board independence on leverage is 2.47 billion Naira, with a standard deviation of 7.54 billion Naira, signifying a wide variation among banks.

Empirical Results

Table 3. Regression Results

Variables	Pooled OLS	FE	RE
Prof	52.15945	1833.886	736.3141
	(0.06)	(1.45)	(0.74)
Logfsize	-122402	-120497.1	-124026.1
	(-1.84)*	(-2.16)**	(-2.16)**
loglev	121310.9	119531.9	123185.7
	(1.82)*	(2.14)**	(2.14)**
Bind	-268.6059	-195.4546	-230.8375
	(-3.78)***	(-2.98)***	(-3.56)***
Bind*prof	346.0535	-6390.404	-2218.595
	(0.11)	(-1.61)	(-0.69)
logBind*fsize	122339.9	120228	123953.8
	(1.84)*	(2.16)**	(2.16)**
Logbind*lev	-121293.8	-119489.3	-123160
	(-1.82)*	(-2.14)**	(-2.14)**
_cons	565.3929	1817.563	570.0252
	(5.77)***	(2.86)***	(3.75)***
F-test (model)	9.40***	7.42***	
Wald			53.62***
R^2	.4277		
Adj R^2	.3822		
R^2 within		.3968	.3640
R^2 between		.3346	.4771
R^2 overall		.2605	.4200
Obs	96	96	96
Hettest	138.67***		
Mean VIF	2.21		
Hausman test	0.64		
Lagrangian test	32.86***		

Note: the standard errors are in parenthesis, while *, **, *** represent significant level at 10%, 5% and 1% respectively.

Source: Authors computation

DISCUSSIONS

Table 3 shows the regression result of the moderating effect of board independence on firm attributes and tax aggressiveness relationship in Nigerian banks. A pooled regression result was conducted; however, the fixed and random effects were conducted due to the presence of heteroskedasticity (138.67). The Hausman (1978) test (0.64) which is used to assess whether a specific model's assumption about the association between the explanatory variables and the error term. The test result suggested that the random effect model was the most suitable choice for this investigation. Thereafter, the Bruesch and Pagan Lagrangian Multiplier test was performance to differentiate between the random and pooled effect. The test yielded a significant result of 32.86***. The findings indicated that the random effect was the most suitable choice for this investigation. The R^2 coefficient indicates that the independent variables explain 47.7% of the variability in tax aggressiveness.

The Random effect, which is used to test the hypotheses, shows that profitability does not affect the tax aggressiveness in Nigerian banks. Hence, the null hypothesis is accepted. This finding aligns with the study of Khaoula and Moez (2019). However, Graham et al. (2012) and Hanlon and Heitzman (2010) argued that profitable firms may have greater flexibility and incentives to engage in tax aggressiveness. In contrast, firm size and board independence significantly negatively affect tax aggressiveness in Nigerian banks at a 5% significant level. Therefore, the null hypotheses are rejected. The findings imply that a unit increase in the size of Nigerian banks decreases the effective tax rate paid by 124026.1. In other words, larger banks tend to engage less in tax aggressive strategies than smaller banks. This study aligns with the findings of Dyreng et al. (2010), who argued that larger banks are often subjected to more extensive regulatory oversight and scrutiny. The heightened regulatory environment may limit the ability of larger banks to engage in aggressive tax planning strategies. Maintaining a positive reputation and image is a key factor for large banks. Therefore, engaging in aggressive tax planning could harm their standing in the eyes of customers, investors, and the general public. Similarly, boards with more independent directors are less aggressive in their tax activities. Based on the result, a unit increase in independent directors, decreases the tax aggressiveness by 230.837. This finding supports the results of Armstrong et al. (2010) and Dhaliwal et al. (2011), who found that independent boards may seek to avoid controversies and negative public perception. Tax aggressive strategies, especially those that attract media or stakeholder attention, may be seen as risky and avoided by boards focused on maintaining a positive corporate image. Furthermore, independent boards may strongly emphasise regulatory compliance and adherence to ethical standards. This focus on compliance may discourage the adoption of tax aggressive strategies that could be considered on the edge of legality or involve aggressive interpretation of tax laws.

Table 3 shows that the result on leverage had a significant positive effect on tax aggressiveness in Nigerian banks by 5% significant level. The result showed that a unit increase in leverage by banks increased tax aggressiveness by 123185.7. Hence, the null hypothesis is rejected. This finding supports the claim by other studies (Armstrong et al., 2015, Dhaliwal et al., 2011) that highly leveraged firms have a greater interest in minimising taxes to enhance cash flows available for debt service. In addition, leverage provides firms with tax shields such as interest deductions, which can reduce their taxable income and motivate firms to use debt in their capital structure and consequently engage in tax aggressiveness. In addition, leverage can be used as a strategy to preserve cash flows and mitigate financial challenges. Also, the agency costs associated with debt can motivate firms to engage in tax aggressiveness to benefit shareholders at the expense of debtholders.

The moderating effect of board independence on profitability and tax aggressiveness link was insignificant at 5%. Hence, the null hypothesis is accepted. The significance of such moderation can be dependent on several other factors, such as other governance mechanisms, industry-specific considerations, regulatory changes, etc. On the other hand, table 3 shows that moderating firm size and tax aggressiveness relationship by the independent board was significant and positive at a 5% significant level. Therefore, the null hypothesis is rejected. Impliedly, a unit increase in firms' size will increase tax aggressiveness when more independent directors are on the board. In other words, larger banks engage in tax aggressiveness when independent directors are involved. This finding contradicts the result of Khaoula and Moez (2019), who found a negative significant effect. Their argument posited that the inclusion of independent directors on the board would have an adverse impact on the correlation between tax aggression and firm size. However, Armstrong et al. (2015) argued that an independent board may play a crucial role in positioning the firm interests with those of stakeholders, including shareholders and regulatory authorities. In larger firms, where tax-aggressive decisions can have substantial consequences, an independent board may act to ensure the tax planning aligns with the organisation's overall strategic goals and ethical considerations.

On the contrary, the moderating effect of board independence on the link between leverage and tax aggressiveness was significant and negative at 5% significant level. Impliedly, a unit increase in leverage will reduce the tax aggressiveness in the presence of more independent directors by 123160. This means that the moderating effect of independent directors on the board will cause a decrease in tax aggressiveness as leverage increases. Independent boards are often established to mitigate agency conflicts between shareholders and managers guaranteeing that tax decisions are in the best interest of shareholders and not driven by agency conflicts. This result is consistent with earlier findings. For example, Armstrong et al. (2015) found that independence enhances governance mechanisms and oversight, which could result to a conservative approach regarding tax planning, particularly when it comes to aggressive tax strategies associated with high leverage.

CONCLUSIONS

This study examines the moderating effect of board independence on firm attributes on tax aggressiveness relationship with empirical evidence from the Nigerian banks between 2012 and 2022. The Nigerian banking system has witnessed substantial transformations over the years which has resulted to different attributes. These attributes influence banks tax planning strategies. The study employed firm size, profitability, leverage, board independence as proxies for firm attributes. These attributes were moderated using board independence. The study employs random effect panel regression. The study found that profitability is an insignificant firm attribute while firm size, and board independence have significant negative effect on tax aggressiveness. On the other hand, leverage has significant positive effect on tax aggressiveness. The outcome is difference when moderated with board independence. The study conclude that larger banks tend to engage less in tax aggressive strategies than smaller banks. Also, boards with more independent directors are less aggressive in their tax activities. In addition, the study concludes that highly leveraged firms have a greater interest in minimising taxes to enhance cash flows available for debt service. Furthermore, when the moderating effect of board independence is introduced, the study concludes that the profitability and tax aggressiveness link was insignificant. Furthermore, larger banks engage in tax aggressiveness when independent directors are involved. More so, the moderating effect of independent directors on the board decreases tax aggressiveness as leverage increases. The study recommends that the management of banks are encouraged to conduct benchmarking exercises and peer comparisons to assess their tax practices to industry standards. This can help identify outliers and promote a more standardised and responsible approach to tax planning. This study advocates for regulatory measures by the Central Bank of Nigeria through its corporate governance code to encourage and strengthen board independence within banks, especially concerning financial decision-making, including tax planning. More so, greater transparency in the disclosure of tax practices, particularly to leverage. Bank management should provide detailed explanations in financial statements about the role of board independence in shaping tax decisions and fostering accountability and trust among stakeholders. The study recommends periodic external audits focusing on tax planning practices, especially in larger firms. External audits can objectively assess the effectiveness of an independent board in moderating tax aggressiveness related to firm size.

This study examined the moderating effect of board independence on firm's attributes and tax aggressiveness relationship in Nigerian banks. The study provided insight into the novelty of the significance effect of the moderating effect on board independence in Nigerian banks. The finding of this study is limited to the moderating effect of board independence on firm attributes (firm size, profitability, and leverage) on financial performance (ROA) on banks in Nigeria. Future studies can explore other firms' attributes such as ownership structure and other financial performance measures such as return on equity, earnings per share, etc. Also, future studies can extend this study to other sectors.

Author Contributions: Conceptualization, K.E., A.A.M. and L.O.; Methodology, K.E.; Software, K.E.; Validation, K.E., A.A.M. and L.O.; Formal Analysis, K.E., A.A.M. and L.O.; Investigation, K.E., A.A.M. and L.O.; Resources, K.E., A.A.M. and L.O.; Data Curation, K.E.; Writing – Original Draft Preparation, K.E., A.A.M. and L.O.; Writing – Review & Editing, K.E., A.A.M. and L.O.; Visualization, K.E.; Supervision, K.E.; Project Administration,

K.E.; Funding Acquisition, K.E., A.A.M. and L.O. Authors have read and agreed to the published version of the manuscript.

Institutional Review Board Statement: Ethical review and approval were waived for this study, due to that the research does not deal with vulnerable groups or sensitive issues.

Funding: The authors received no direct funding for this research.

Acknowledgments: Not Applicable.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

Abdulkadir, K. I., Issa, S. O., & Yunusa, Y. D. (2020). Impact of firm specific attributes on corporate tax aggressiveness of listed manufacturing firms in Nigeria, *Gusau Journal of Accounting and Finance, 1*(2), 1-18. https://doi.org/10.57233/gujaf.v1i2.39

Adams, S. O., & Balogun, P. O. (2020). Panel data analysis on corporate effective tax rates of some listed large firms in Nigeria, *Dutch Journal of Finance and Management*, *4*(2), 1-9. https://doi.org/10.21601/djfm/9345

Adela, V., Agyei, S. K., & Peprah, J. A. (2023). Antecedents of tax aggressiveness of listed non-financial firms: evidence from an emerging economy, *Scientific African*, *20*, 16-54. https://doi.org/10.1016/j.sciaf.2023.e01654

Aliani, K., & Zarai, M. A. (2012). Demographic Diversity in the board and corporate tax planning in American firms. *Business Management and Strategy, 3*(1), 72-86. 10.5296/bms.v3i1.1851

Alshabibi, B., Pria, S., & Hussainey, K. (2022). Nationality diversity in corporate boards and tax avoidance: Evidence from Oman, *Administrative Sciences 12*. https://doi.org/10.3390/ admsci12030111

Anyaduba, J. O., & Ogbeide, I. O. (2022). Firm attributes and corporate tax aggressiveness: A comparative study of Nigeria and South Africa banks, *Accounting and Finance Research*, *11*(2), 18-34. https://doi.org/10.5430/afr.v11n2p18

Armstrong, C. S., Blouin, J. L., Jagolinzer, A. D., & Larcker, D. F. (2015). Corporate governance, incentives, and tax avoidance. *Journal of Accounting and Economics, 60*(1), 1-17. https://dx.doi.org/10.2139/ssrn.2252682

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*, 99-120. http://dx.doi.org/10.1177/014920639101700108

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

Chen, S., Huang, Y., Li, N., & Shevlin, T. (2019). How does quasi-indexer ownership affect corporate tax planning? *Journal of Accounting and Economics*, *67*, 278–296. https://dx.doi.org/10.1016/j.jacceco.2018.01.001

Chytis, E., Tasios, S., & Filos, I. (2020). The effect of corporate governance mechanisms on tax planning during financial crisis: an empirical study of companies listed on the Athens stock exchange. *International Journal of Disclosure and Governance, 17*(1), 30–38. https://dx.doi.org/10.1057/s41310-020-00072-3

Czarnitzki, D., & Delanote, J. (2015). R&D policies for small and medium-sized enterprises. *Research Policy*, *44*(9), 1719-1733 https://dx.doi.org/10.1007/s11187-015-9661-1

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

Desai, M. A., & Dharmapala, D. (2009). Corporate tax avoidance and firm value. *The Review of Economics and Statistics, 91*(3), 537-546. https://doi.org/10.2139/ssrn.689562

Dhaliwal, D. S., Huang, S., & Moser, W. (2011). Managerial properties, equity issuances, and agency costs of debt. *Journal of Accounting and Economics, 51*(1-2), 49-61. https://dx.doi.org/10.2139/ssrn.1905076

Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2010). The effects of executives on corporate tax avoidance. *The Accounting Review, 85*(4), 1163-1189. https://doi.org/10.2308/accr.2010.85.4.1163

Ezugwu, C. I., & Akubo, D. (2014). Effect of high corporate tax rate on the liquidity of corporate organisations in Nigeria: A study of some selected corporate organisations: *Mediterranean Journal of Social Sciences, 5*(20), 310-321. https://dx.doi.org/10.5901/mjss.2014.v5n20p310

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26(*2), 301-325. http://dx.doi.org/10.1086/467037

Graham, J. R., & Tucker, A. L. (2006). Tax shelters and corporate debt policy. *Journal of Financial Economics, 81(*3), 563-594. http://dx.doi.org/10.1016/j.jfineco.2005.09.002

Graham, J. R., Raedy, J. S., & Shackelford, D. A. (2012). Research in accounting for income taxes. *Journal of Accounting and Economics*, *53*(1-2), 412-434. https://dx.doi.org/10.1016/j.jacceco.2011.11.006

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, *50*(2-3), 127-178. http://dx.doi.org/10.1016/j.jacceco.2010.09.002

Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics, 93*(1-2), 126-141. https://doi.org/10.1016/j.jpubeco.2008.09.004

Hausman, J. A. (1978). Specification tests in econometrics, *Econometrica, 46,* 1251-1271. https://doi.org/10.2307/1913827

Husnain, M., Akbar, M. I., Anwar, M. M., & Khan, M. T. (2021). The influence of corporate diversification on tax policy: Moderating the role of firm size in the emerging economy. *International Journal of Innovation, Creativity and Change, 15*(8), 114-137. Retrieved from https://www.semanticscholar.org/paper/The-Influence-of-Corporate-Diversification-on-Tax-Husnaina-Akbarb/f51f7341835649387fae98d758b34354d4c90d65

Indriani, M. D., & Juniarti, J. (2020). Influence of company size, company age, sales growth, and profitability on tax avoidance, *Indonesian College of Economics,* 1-18. Retrieved from http://repository.stei.ac.id/id/eprint/2123

Khaoula, F., & Moez, D. (2019). The moderating effect of the board of directors on firm value and tax planning: Evidence from European listed firms, *Borsa Istanbul Review, 19*(4), 331- 343. https://doi.org/10.1016/j.bir.2019.07.005

Kovermann, J., & Velte, P. (2019). The impact of corporate governance on corporate tax avoidance – A literature review, *Journal of International Accounting, Auditing and Taxation, 36*, 1-19. https://doi.org/10.1016/j.intaccaudtax.2019.100270

Madugba, J. U., Ben-Caleb, E., Lawal, A. I., & Agburuga, U. T. (2020). Firm size and tax saving behaviour of listed companies in Nigeria, *Academic Journal of Interdisciplinary Studies, 9*(3), 184-193. https://doi.org/10.36941/ajis-2020-0054

Ogbeide, I. O., Anyaduba, J. O., & Akogo, O. U. (2022). Firm attributes and corporate tax aggressiveness in Nigeria, *American Journal of Finance, 7*(2), 64-87. https://doi.org/10.47672/ajf.1100

Ogbodo, O. C., & Omonigho, A. J. (2021). Corporate governance and tax avoidance of quoted consumer goods manufacturing companies in Nigeria, *International Journal of Advanced Academic Research, 7*(7), 17-51. https://dx.doi.org/10.46654/ij.24889849.s7714

Okerekeoti, C. U. (2022). Effect of firm attributes on tax avoidance or food production companies in Nigeria, *International Journal of Research Publication and Reviews, 3*(5), 1296-1305. Retrieved from https://ijrpr.com/uploads/V3ISSUE5/IJRPR4033.pdf

Omesi, I., & Appah, E. (2021). Corporate governance and tax avoidance of listed consumer and industrial goods companies in Nigeria, *Journal of Economics and Finance, 12*(2), 17-31. https://dx.doi.org/10.9790/5933-1202041731

Osamudiame, O. R., Godwin, O. O., & Imuentinyan, E. C. (2019). Corporate attributes and tax aggressiveness in listed Nigerian companies, *Journal of Accounting, Business and Social Sciences, 2*(1), 119-135. Retrieved from https://www.abacademies.org/articles/tax-aggressiveness-and-timeliness-of-financial-reporting-in-nigeria-financial-sector-11481.html

Peter, Z., Hamid, T. K., & Ibrahim, M. (2020). Board attributes and tax planning of listed non-financial companies in Nigeria, *International Journal of Accounting & Finance, 9*(1), 132-148. Retrieved from https://www.cnaj.anan.org.ng/article-details.php?article=6

Ryandono, M. N. H., Ernayani, R., Atmojo, P., Susilowati, D., & Indriastuty, N. (2020). Factors influencing tax avoidance in Indonesia, *8*(1), 366–372. https://doi.org/10.18510/hssr.2020.8147

Salaudeen, Y. M., Ejeh, B. U. (2018). Equity ownership structure and corporate tax aggressiveness: the Nigerian context. *Research Journal of Business and Management*, *5*(2), 90-99. http://doi.org/10.17261/Pressacademia.2018.828

Waruwu, F. Z., & Kartikaningdyah, E. (2019). The effect of firm size, ROA and executive character on tax avoidance, *Advances in Social Science, Education and Humanities Research, 337,* 117-124. Retrieved from https://www.atlantis-press.com/article/125925908.pdf

Yahaya, K. A., & Yusuf, K. (2020). Impact of company characteristics on aggressive tax avoidance in Nigerian listed insurance companies, *Journal Administrasi Bisnis, 9*(2), 101-111. https://doi.org/10.14710/jab.v9i2.30512

Zachariah, P., Tahir, K. H., & Mohammed, I. (2020). Board attributes and tax planning of listed non-financial companies in Nigeria. *International journal of accounting & finance, 9*(1), 130- 146.

Publisher's Note: CRIBFB stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.