



**BOARD CHARACTERISTICS AND TAX SHELTERING OF LISTED CONSUMER GOODS  
FIRMS IN NIGERIA**

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**Abstract**

*Tax is an important source of revenue to any government; however, the amount of tax paid by consumer goods firms in Nigeria is sometimes low due to firms' tax sheltering activities. The study therefore investigates how board characteristics influence tax sheltering practices among listed consumer goods firms in Nigeria. The study adopts an ex-post factor research design because historical data were utilized. The population of the study comprised all 21 consumer goods firms listed in Nigeria as at 31 December 2024. Using a purposeful sampling technique and based on data availability, the study covered 13 firms. Secondary data covering a ten-year period (2015 to 2024) were sourced from the annual reports of the sampled firms. Descriptive and regression analyses were conducted using STATA 13 statistical software. The results show that board gender diversity has positive significance effect on tax sheltering (coeff. 0.411, P-value 0.038), board meetings have a positive and statistically significant effect on tax sheltering (coeff. 0.0512, P-value 0.018), board size exhibits a negative but insignificant effect (coeff. 0.004, P-value 0.619), while board independence shows a positive insignificant effect on tax sheltering (coeff. 0.122, P-value 0.301). Based on its findings, the study concludes that board characteristics exert a meaningful influence on tax sheltering practices among listed consumer goods firms in Nigeria. Based on its conclusion, the study recommends that listed consumer goods firms in Nigeria should complement increased female board representation and frequent board meetings with robust board-level tax governance, including clear tax planning limits, periodic compliance reviews, and transparent documentation of tax decisions, while regulators strengthen monitoring and enforcement of corporate reporting practices.*

**Keywords:** tax planning, tax evasions, board characteristics, effective tax rate, board meetings, board gender

**JEL Classification:** G34, H26, O55

**INTRODUCTION**

Tax revenue remains a principal source of government finance, and corporate income taxes contribute substantially to Nigeria's fiscal capacity. However, recent evidence indicates that listed firms increasingly adopt tax sheltering strategies that reduce taxable liabilities, thereby eroding the public revenue base and complicating fiscal planning (Saminu and Ripiye, 2024; Odunsi et al., 2024). As a result, corporate tax behaviour has attracted sustained scholarly and policy

attention, given that aggressive tax practices may conflict with government revenue objectives and influence investor outcomes. Corporate tax sheltering, commonly proxied by the effective tax rate (ETR), has become a growing concern, particularly in emerging economies where tax revenue is critical for development. Although such practices may fall within legal boundaries, persistent reductions in effective tax rates raise concerns about corporate accountability and governance effectiveness. Prior literature emphasizes that tax outcomes are strategic in nature and reflect decisions taken under the oversight of corporate boards rather than being mere accounting consequences (Menchauoui and Hssouna, 2022; Yahaya, Oon and Jusoh, 2025).

The board of directors plays a central role in shaping firms' tax strategies through its monitoring and advisory functions. Board characteristics such as board size, board independence, board gender diversity, and board meeting frequency are widely examined governance mechanisms influencing tax planning behaviour. However, empirical evidence remains mixed. While larger and more independent boards are often expected to enhance oversight and reduce tax sheltering, studies show that these attributes may also facilitate tax-efficient strategies, particularly where shareholder wealth maximization pressures dominate (Menchauoui and Hssouna, 2022; Pavlou, Persakis and Kolias, 2025; Islam, Hashim and Hasan, 2025). Similarly, board gender diversity and board meeting frequency present inconclusive effects. Female board representation is frequently associated with ethical sensitivity and risk aversion, yet empirical findings vary across institutional contexts. Board meetings may improve monitoring of tax compliance, but frequent meetings can also intensify short-term performance pressures that encourage lower effective tax rates through tax sheltering (Islam, Hashim and Hasan, 2025; Pavlou, Persakis and Kolias, 2025).

Despite the strategic importance of tax revenue to Nigeria's economic development, listed firms continue to engage in tax sheltering practices that significantly reduce their effective tax rates. This concern is particularly pronounced in the consumer goods sector, which contributes substantially to manufacturing output and non-oil tax revenue, yet exhibits persistent variations in effective tax rates that cannot be fully explained by operational or statutory factors. Prior studies increasingly link such variations to corporate governance dynamics, especially board characteristics that shape tax planning decisions at the highest level (Menchauoui and Hssouna, 2022; Yahaya, Oon and Jusoh, 2025).

Empirical evidence on the relationship between board characteristics and tax sheltering remains inconclusive. While larger boards and greater board independence are expected to enhance oversight and constrain aggressive tax behaviour, several studies report that these attributes may instead facilitate tax sheltering by diffusing accountability or aligning with shareholder wealth maximization objectives (Pavlou, Persakis and Kolias, 2025; Saminu and Bitrus, 2024; Islam, Hashim and Hasan, 2025). Similarly, findings on board gender diversity and board meeting frequency are mixed, with evidence alternately suggesting a constraining, insignificant, or context-dependent influence on effective tax rates.

In the Nigerian context, existing research largely focuses on manufacturing firms broadly and financial institutions, with limited sector-specific evidence on listed consumer goods firms and insufficient emphasis on the effective tax rate as a direct measure of tax sheltering (Odunsi, Alao and Fakayode, 2024; Saminu and Bitrus, 2024). Consequently, there is a clear empirical gap regarding how board size, board independence, board gender diversity, and board meeting frequency influence tax sheltering among listed consumer goods firms in Nigeria. Addressing

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this gap is essential for strengthening corporate governance, informing regulatory oversight, and improving tax transparency in emerging markets.

Accordingly, examining how board size, board independence, board gender diversity, and board meeting frequency influence tax sheltering, measured by the effective tax rate, among listed consumer goods firms in Nigeria is both empirically and policy relevant. Therefore, the study examines the effect of board characteristics on tax sheltering of listed consumer goods firms in Nigeria. To achieve the study objectives, the researchers formulate and tested the following hypotheses.

H0<sub>1</sub>: Board size has no significance effect on tax sheltering of listed consumer goods firms in Nigeria

H0<sub>2</sub>: Board independence has no significance effect on tax sheltering of listed consumer goods firms in Nigeria

H0<sub>3</sub>: Board gender diversity has no significance effect on tax sheltering of listed consumer goods firms in Nigeria

H0<sub>4</sub>: Board meetings has no significance effect on tax sheltering of listed consumer goods firms in Nigeria

## LITERATURE REVIEW

### Conceptual review

#### Tax Sheltering

Tax sheltering denotes legally permissible strategies firms use to reduce their reported or cash tax payments by exploiting timing differences, statutory flexibilities or gaps in tax rules. In the literature it is often referred to as tax avoidance, aggressive tax planning or tax aggressiveness (Saminu & Ripiye, 2024). Empirical studies conceptualise tax sheltering as an outcome of firm incentives (for example, shareholder-wealth maximisation) combined with governance arrangements that shape oversight, risk tolerance and the allocation of technical resources to tax planning (Yahaya, et al., 2025). Practically, tax sheltering raises after-tax cash flows for owners but can erode the public revenue base and complicate fiscal planning, which explains its relevance for policymakers and researchers concerned with fiscal capacity and equity (Odunsi, et al., 2024). Tax planning is therefore an integral element of corporate strategy and requires input from multiple firm functions. Researchers describe tax planning as lawful activities undertaken to minimise corporate tax liability (Chukwudi et al., 2020), and emphasise that tax considerations influence many managerial decisions (Lanis & Richardson, 2011). At the same time, information asymmetries between managers and shareholders can permit managers to pursue private objectives through tax planning, with potential negative implications for firm value (Desai & Dharmapala, 2006).

Several indicators have been used to capture tax planning, including book-tax differences, GAAP based effective tax rate (ETR), cash ETR and other tax-savings measures. Among these, the effective tax rate commonly operationalised as total tax expense (or cash tax) divided by pre-tax accounting profit is widely adopted because it is observable from financial statements and directly reflects the firm's realised tax burden (Mohammad, 2017; Izevbekhai & Odion, 2018). The ETR can be reported in different forms (book ETR, cash ETR, long-run ETR) and, while a practical and informative proxy for tax sheltering, it is sensitive to one-off items and accounting choices; accordingly, careful measurement and robustness checks (for example, reporting both book and

cash variants) are recommended when inferring strategic tax behaviour from ETR differences (Mohammad, 2017).

The effective tax rate commonly operationalised as total tax expense divided by pre-tax accounting profit (or cash tax divided by pre-tax profit for cash-ETR measures) is a standard, observable proxy used to capture realised tax burden and infer tax planning intensity (Menchauoui & Hssouna, 2022). Several Nigerian studies adopt ETR or cash-ETR because it is reproducible from financial statements and facilitates cross-firm temporal comparisons of tax behaviour (Saminu & Ripiye, 2024; Ugwu et al., 2024). However, the literature repeatedly cautions that ETRs are sensitive to one-off items, accounting classifications and jurisdictional tax rules; interpreting ETR differences as pure evidence of strategic avoidance therefore requires robustness checks and awareness of sample composition.

### **Board Characteristics**

Board characteristics such as board size, independence, meetings and gender composition play a central role in shaping oversight quality, advisory capacity and strategic decision making within firms. Previous studies emphasize that these attributes influence both the intensity of monitoring and the normative environment in which tax-related decisions are taken, thereby affecting the likelihood of aggressive or conservative tax strategies (Yahaya, Oon, & Jusoh, 2025). Empirical findings across the literature indicate that the effects of board characteristics are not uniform: the same attribute may either increase or reduce tax aggressiveness depending on the sector examined, the measurement of tax behaviour and the institutional context of the study (Saminu & Ripiye, 2024).

The characteristics of a company's board of directors have long been identified as one of the most effective mechanisms for monitoring managerial actions and aligning management behaviour with shareholder interests. Because tax planning is a core element of corporate strategy, board composition is expected to influence tax outcomes by shaping managerial incentives and constraining opportunistic behaviour. A number of empirical studies have investigated how board characteristics affect corporate tax planning activities (Minnick & Noga, 2010; Lanis & Richardson, 2011; Vafeas, 2010). These studies generally recognise that effective monitoring by the board can mitigate aggressive tax practices, while weak or poorly structured boards may enable managers to exploit information asymmetry in ways that compromise tax compliance.

Tax planning itself requires coordinated decisions across various functions of the firm, and the board's composition determines the level of independence and diversity that informs such decisions. Consequently, board structure plays a critical role in determining whether tax planning is undertaken conservatively in compliance with regulatory expectations or aggressively in pursuit of short-term financial gains. The combined evidence suggests that board characteristics serve as both strategic resources and governance safeguards, making them essential determinants of corporate tax behaviour.

### **Board Size**

Board size operates through two opposing channels. On one hand, larger boards can bring a wider range of expertise, perspectives and resources to deliberation, which may strengthen oversight and improve the board's capacity to scrutinise complex tax positions. On the other hand, very large boards can suffer coordination problems, slower decision-making and diluted

individual accountability, conditions that may permit coalition building or managerial capture and thus facilitate aggressive tax planning (Jensen, 1993; Minnick & Noga, 2010; Saminu & Ripiye, 2024). Empirically, evidence is mixed: some studies report that smaller, more cohesive boards improve tax management and curb aggressiveness (Minnick & Noga, 2010; Lanis & Richardson, 2011), whereas other work finds no significant effect of board size (Aliani & Zarai, 2012) or reports a positive association between larger boards and greater tax aggressiveness in specific contexts such as Nigerian manufacturing firms (Saminu & Ripiye, 2024; Odunsi et al., 2024).

### **Board Independence**

Board independence regarded as the share or number of non-executive directors on the board is a core indicator of governance quality because independent directors, by definition, have no material financial or personal ties to the firm and are therefore expected to provide objective oversight (Beasley & Petroni, 2001; Fernández & Arrondo, 2005). Under the monitoring hypothesis, greater independence should constrain managerial opportunism and thereby raise reported effective tax rates, signaling reduced tax aggressiveness (Yahaya, et al. 2025). Empirical evidence is however mixed. Some studies find that independent directors help reduce tax planning and increase tax sensitivity (Richardson & Roman, 2011; Yeung, 2010), while others report more positive effects. For example, Minnick and Noga (2010) observe that independent directors may be associated with reductions in foreign tax minimisation but simultaneous changes in domestic tax outcomes. Recent Nigeria focused study and panel reviews likewise show mixed results, suggesting that independence alone does not guarantee conservative tax behaviour; its effectiveness depends on directors' access to information, technical competence, enforcement intensity and the broader institutional environment (Saminu & Ripiye, 2024).

### **Board Gender Diversity**

Gender diversity, reflected in the presence and participation of women on corporate boards, is widely regarded as an important governance attribute that can shape decision making processes and organisational outcomes. Conceptually, greater female representation is associated with shifts in board norms, ethical orientations and risk preferences, which may translate into more conservative strategic choices, including tax-related matters. Several cross country studies and industry level analyses show that female directors tend to promote transparency, caution and compliance, which can lead to higher effective tax rates and reduce the likelihood of aggressive tax practices. The Nigerian evidence, however, is heterogeneous. Some studies particularly within the banking sector find a favourable association between gender diversity and reduced tax avoidance, whereas results for manufacturing and similar sectors are either weak, insignificant or inconsistent (Ugwu et al., 2024; Saminu & Ripiye, 2024).

Scholars outside the Nigerian context similarly emphasise the broader governance benefits of board gender diversity. Vacca et al. (2020) argue that gender diverse boards strengthen decision making quality, governance structures and ethical judgement, thereby enhancing the integrity of organisational processes. Likewise, Nadeem et al. (2017) and Ahmadi et al. (2018) suggest that gender diversity improves financial efficiency and transparency, fostering a governance environment that is less conducive to opportunistic managerial behaviour. Yet, findings in the taxplanning literature remain mixed. Lanis et al. (2017) report that women on boards may adopt a less active role in tax planning and thus do not necessarily drive substantial reductions in tax avoidance. In contrast, Reguera-Alvarado et al. (2017) argue that gender diverse boards are better

equipped to develop strategies that consider a broader set of stakeholder interests, which can influence tax behaviour in ways that prioritise long-term value and compliance.

### **Board Meetings**

Board meetings represent a key mechanism through which directors carry out their oversight responsibilities. Meetings provide a platform for gathering information, deliberating on issues, exchanging views and making decisions aligned with stakeholder interests. The Nigerian Code of Corporate Governance (2018) requires boards to meet at least once every quarter, and attendance is a criterion for the re-election of directors. Regular meetings are expected to create opportunities for discussing cost reduction strategies, including tax planning. The number of board meetings is often used as an indicator of board effectiveness. Madawaki and Amran (2013) argue that fewer meetings may be perceived by stakeholders as a sign of weak oversight, potentially undermining the firm's capacity to manage tax planning activities efficiently. Peter et al. (2020) highlight that meetings are central to strategic decision making, including discussions related to tax minimisation. Barros and Sarmiento (2020) find that board meetings enhance governance quality and improve tax optimisation. However, empirical findings vary. Peter et al. (2020) report a non-significant positive effect of board meetings on tax planning in Nigeria. In contrast, Barros and Sarmiento (2020) find evidence from the United Kingdom suggesting that more frequent board meetings reduce tax liabilities, indicating that increased oversight may lead to more aggressive tax optimisation strategies.

### **Theoretical review**

Several corporate governance theories help to explain how board characteristics influence corporate tax sheltering. These include stakeholder theory, legitimacy theory and agency theory. For the purpose of this study, agency theory serves as the guiding theoretical lens. Agency theory provides a useful foundation for understanding why managers may engage in tax sheltering and how board attributes can influence such behaviour. Agency theory argues that the separation of ownership and control creates information asymmetry between managers and shareholders. This gap can generate conflicts of interest that influence financial decisions, including tax aggressiveness (Scholes et al. 2005). Some of the costs associated with tax sheltering are not strictly tax costs, but arise from hidden actions and decisions taken by managers. Desai and Dharmapala (2006) contend that tax aggressiveness is best understood within an agency framework because managers may derive private benefits from aggressive tax planning strategies, even when such actions do not enhance shareholder value. In environments where the market for corporate control is weak, the absence of strong disciplinary pressures can allow agency costs to escalate (Schulze et al. 2001).

Agency theory focuses heavily on managerial incentives and behaviour. Al Mamun et al. (2013) highlight that managers often weigh personal benefits when making corporate decisions. In the context of taxation, managers may pursue tax planning activities that help them capture private gains, protect their positions or enhance performance-based compensation. Mallin (2007) and Zachariah et al. (2020) similarly note that managers sometimes utilise tax savings for purposes that do not align with shareholder interests, effectively diverting firm resources and exposing the firm to reputational or regulatory risk. The implication is that agency conflict can encourage managers to adopt tax sheltering strategies that advance their personal goals rather than the long-term interests of shareholders and investors, who ultimately provide the firm's capital. Board

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characteristics, such as independence, size, gender diversity and meeting frequency, play a monitoring and advisory role that can either reduce or enable such agency driven behaviour. Agency theory therefore provides a relevant framework for assessing how board attributes influence tax sheltering among listed consumer goods firms in Nigeria.

### **Empirical Review**

Several empirical studies have explored the relationship between board characteristics, corporate governance attributes and tax related behaviour in Nigeria and other jurisdictions. Saminu and Ripiye (2024) examine the effect of board attributes on tax avoidance among listed manufacturing firms in Nigeria for the period 2018-2022 using correlational/archival data; they report that larger board size and greater board independence are positively associated with tax avoidance, while board gender diversity had an insignificant negative effect. The study is limited to manufacturing sector and does not examine board meetings nor the consumer goods subsector where market structure and tax interactions differ. Therefore, this study focuses specifically on listed consumer goods firms and include board meetings as a focal variable alongside size, independence and gender diversity.

Odunsi et al. (2024) employ annual report data (2012–2021) for Nigerian manufacturing firms and find that board size significantly affects tax aggressiveness. They emphasise the need for improved disclosure and board education on tax matters. The study's reliance on a small, manufacturing firms' sample and emphasis on board size restricts generalisability; the study does not target consumer goods firms as well. This study addresses this problem by using a broader, consumer goods sample firms.

Ugwu et al. (2024) analyse quoted deposit money banks (2012–2022) and report that board gender diversity has a favourable effect on cash ETR reducing aggressiveness, whereas board size and independence had no significant effect in their bank sample. They recommend smaller, tax competent boards for banks. The study is restricted to financial institutions, a highly regulated sector with unique tax and supervisory pressures; findings may not hold for non-financial, consumer goods firms. This gap will be addressed by shifting to the consumer goods subsector, it will evaluate whether the gender and ETR relationship found in banks replicates in a less-regulated sector.

Using CAC40 firms (2013–2018), Menchaoui and Hssouna (2022) test board size, independence and audit committee expertise and find that larger boards are associated with lower tax aggressiveness. They highlight sample and institutional context limits and call for cross country or sectoral studies. The study's finding that larger boards reduce aggressiveness contrasts with some Nigerian evidence; the authors note that country specific governance codes and disclosure regimes likely shape results, so cross context inference is limited. Audit committee expertise is tested, but board level tax expertise and sector heterogeneity remain less explored. Therefore, the study's consumer goods focus in Nigeria offers a direct test of whether the negative board size effect observed in regulated/high-disclosure environments (France) holds in Nigeria's consumer goods sector.

Yahaya, et al., (2025) conduct a systematic review synthesises 46 empirical studies (2010-2023) and reports widespread heterogeneity: mixed empirical effects for board size, independence and gender diversity, sparse attention to expertise, and a predominance of single country studies. The

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authors call for more multi country, sector specific and expertise sensitive research designs. The review documents the empirical fragmentation of the literature and specifically flags the limited examination of board meetings and the over-reliance on manufacturing/banking samples. This study responds directly to the review's agenda by filling a sectoral gap (consumer goods) and treating board meetings as a central independent variable.

Okoh and Ofor (2022) examined corporate board attributes and tax aggressiveness among listed non-financial firms in Nigeria. Using a purposive sample of seventy-five firms from a population of 114, and employing panel least squares regression under a fixed effects specification, they found that board independence, board expertise and CEO nationality exerted positive and significant effects on tax aggressiveness. Conversely, board size and board meetings showed negative and insignificant effects, while gender diversity produced a positive but insignificant effect. Their study concludes that board attributes appear to have limited influence on tax management strategies, noting that directors may not directly shape a firm's tax behaviour. They recommend increasing the number of independent directors and discouraging excessively large boards.

Appah (2022) investigated corporate governance characteristics and their effects on tax planning among listed pharmaceutical firms in Nigeria between 2015 and 2020. Using ex post facto design and multiple regression analysis on data from eleven firms, the study reported that board size and board financial expertise had positive but insignificant effects on tax savings, while board compensation and board meetings showed negative and insignificant influences. Gender diversity also had a negative and insignificant effect on tax savings. For book tax differences, board financial expertise exerted a positive and significant impact, while other variables remained insignificant. The study concluded that corporate governance characteristics influence tax planning and recommended stronger incentive structures to encourage effective tax planning that aligns with shareholder interests.

Ogbodo and Omonigho (2021) analysed the relationship between corporate governance and tax avoidance among quoted consumer goods manufacturing firms in Nigeria, focusing on board size and CEO duality. Using regression analysis, they found that both board size and CEO duality were positively associated with effective tax rate, though the relationships were not statistically significant. They recommended maintaining an optimal board size, noting that excessively large boards may not improve decision-making efficiency.

Beyond the Nigerian context, Dang and Nguyen (2022) examined the characteristics of audit committees and their impact on tax avoidance in Vietnam, using FEM and system GMM estimations on data from non-financial firms between 2010 and 2019. They found that audit committee size was positively related to tax avoidance, while the proportions of female members and financial experts constrained tax avoidance. Their findings highlight the varying roles of audit committee attributes in shaping tax behaviour.

## METHODOLOGY

The study adopted a quantitative research design to examine the effect of board characteristics on tax sheltering among listed consumer goods firms in Nigeria. The population comprised all twenty-one consumer goods firms listed on the Nigerian Exchange as at 31 December 2024. A purposeful sampling technique was applied, supported by a set of filters to determine eligibility.

For a firm to qualify for inclusion, it must have been listed on or before 1 January 2015 and must have remained listed up to 31 December 2024. Based on these criteria, the study arrived at a final sample of thirteen firms.

Data covering a ten-year period (2015 to 2024) were obtained through secondary sources, specifically from the published annual reports and accounts of the selected firms. The data were analysed using descriptive statistics and inferential analytical techniques with the aid of STATA 13 statistical software. The descriptive analyses were conducted to provide a concise summary on the study data set, which give at glance, the mean, standard deviation, number of observations as well as minimum and maximum mean. The inferential analyses include the correlation and regression analyses which help to determine the effect of board characteristics on tax sheltering. To ensure the model was valid and statistically sound, a series of diagnostic and post estimation tests were conducted. These included the Shapiro–Wilk test for normality, the variance inflation factor tests for multicollinearity, and the Hausman specification test to determine the appropriate effect model.

The study adopted and modified the econometric model used by Zachariah et al. (2020). In the adapted version, firm size was introduced as a control variable to improve the robustness of the model. The modified model is specified as follows:

$$ETR_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BIND_{it} + \beta_3 BGD_{it} + \beta_4 BM_{it} + \beta_5 FS_{it} + e_{it} \dots\dots\dots (1)$$

**Table 1: Variables definition and measurement**

Valuables	Definition	Measurement	Sources
ETR	Effective tax rate	Measured as total tax expenses to pre- tax income	Zachariah, et al., (2020), Mohammed (2017).
BS	Board Size	Measured as number of directors that compose the board	Zachariah, et al., (2020), Richardson and Roman (2011)
BIND	Board independence	Measured as Percentage of independent directors sitting on the board in proportion of total board members	Zachariah, et al., (2020)
BGD	Board gender diversity	Measured as number of women in the board	Richardson and Roman (2011)
BM	Board meetings	Measured as number of meetings held by the board within a year	Zachariah, et al., (2020), Samaila, 2014
FS	Firm size	Measured as natural logarithm of total assets	Mohammed (2017).

**Sources: Authors' Compilation**

## RESULTS AND DISCUSSION

**Table 2: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
ETR	130	.1917406	.2360571	-.2616341	1.174365
BS	130	10.13846	2.397524	6	15
BIND	130	.5942318	.1898338	0	.9090909
BGD	130	.1635264	.1134122	0	.5
BM	130	4.876923	1.127633	3	9
FS	130	10.56444	.7164383	8.495481	11.7705

Source: **Authors’ Computation, (2025)**

The descriptive statistics are presented in Table 2. This analysis provides a structured overview of the dataset by summarizing key features such as the mean, standard deviation, minimum and maximum values. The table reflects a total of 130 firm-year observations, representing 13 consumer goods firms over a ten-year period. Tax sheltering, measured using the effective tax rate, recorded a mean value of 0.1917 with a standard deviation of 0.2361, which is higher than the mean. This suggests that, on average, listed consumer goods firms in Nigeria paid about 19.17 percent in taxes, which is lower than the statutory corporate tax rate of 30 percent. This indicates evidence of tax planning among the sampled firms. The minimum value of -0.2616 and maximum value of 1.1744 show substantial variation in tax payments across firms.

Board size, captured as the total number of directors on the board, has a mean of 10.1384 and a standard deviation of 2.3975. This shows that, on average, the firms-maintained boards of about ten members. The relatively small spread, supported by the minimum and maximum values of 6 and 15, suggests that firms operate with broadly similar board sizes. Board independence, measured as the proportion of non-executive directors, has a mean value of 0.5944. This indicates that non-executive directors made up an average of 59.44 percent of board membership, which aligns with good governance expectations that emphasize a majority of independent directors. The standard deviation shows mild variation across firms. The minimum of 0 percent and maximum of 90 percent reveal that while some firms had no independent directors, others had boards dominated by non-executive members.

Board gender diversity, defined as the proportion of women on the board, has a mean value of 0.1635. This indicates that women occupied an average of 16.35 percent of board positions, which remains below the minimum threshold recommended in the national corporate governance codes. The standard deviation of 0.1134, which is lower than the mean, suggests similar patterns of female representation across firms. The range spans from 0 percent to 50 percent. Board meetings averaged 4.8769, translating to roughly five meetings per year. The standard deviation of 1.1276, along with the minimum and maximum of 3 and 9 meetings respectively, shows moderate variation in meeting frequency across the firms. Finally, firm size, which served as the control variable, reported a mean of 10.5644 and a standard deviation of 0.7164. The minimum and maximum values of 8.4954 and 11.7705 point to variation in the scale of operations among the sampled firms.

**Table 3: Correlation Matrix**

	ETR	BS	BIND	BGD	BM	FS
ETR	1.0000					
BS	-0.0603	1.0000				

	0.4955					
BIND	0.0334	0.2521*	1.0000			
	0.7062	0.0038				
BGD	0.2501*	-0.1861*	-0.1921*	1.0000		
	0.0041	0.0340	0.0285			
BM	0.2893*	0.0121	-0.0575	0.2779*	1.0000	
	0.0008	0.8914	0.5155	0.0014		
FS	0.0802	0.3801*	0.1004	0.2616*	0.2198*	1.0000
	0.3642	0.0000	0.2556	0.0026	0.0120	

Source: **Authors' Computation, (2025)**

The correlation result was displayed in Table 3. The purpose of this analysis is to test for the relationship among the study variables. From the Table, ETR is reported to have 6% negative insignificance relationship with BS, 3% positive insignificance relationship with BIND, 25% positive significance relationship with BGD, 29% positive significance relationship with BM and 8% positive insignificance relationship with FS. On the other hand, BS has 25% positive significance relationship with BIND, 18% negative significance relationship with BGD, 1% positive insignificance relationship with BM and 38% positive significance relationship with FS. In the same lane, BIND has 19% negative significance relationship with BGD, 5% negative insignificance relationship with BM and 10% positive insignificance relationship with FS. Additionally, BGD has 27% positive significance relation with BM and 26% positive significance relation with FS. Finally, BM was reported to have 22% positive significance relation with FS. The overall result shows that the relationship between variables of the study are not strong and as a result signify the absence of multicollinearity among the study variables. This is confirmed by the result of the VIF test for multicollinearity.

**Table 4: Vif Test for Multicollinearity**

Variable	VIF	1/VIF
FS	1.38	0.722212
BS	1.34	0.744983
BGD	1.29	0.776153
BM	1.11	0.898717
BIND	1.10	0.909749
Mean VIF	1.25	

Source: **Authors' Computation, (2025)**

Table 4 displays the result of vif test for multicollinearity. It is assumed that the independent variables should not correlate with one another meaning that there should be no collinearity among the independent variables. Multicollinearity exist when independent variables correlated with one another. A vif value of greater than 4 indicates the presence of multicollinearity among variables. From the Table, all the variables including the mean vif have vif values of less than 4 which signifies the absence of multicollinearity among the independent variables.

**Table 5: Shapiro-Wilk W test for normal data**

Variable	Obs	W	V	Z	Prob>z
ETR	130	0.88451	11.893	5.571	0.00000
BS	130	0.96324	3.786	2.995	0.00137
BIND	130	0.96745	3.352	2.722	0.00325

BGD	130	0.96929	3.162	2.590	0.00479
BM	130	0.93200	7.003	4.379	0.00001
FS	130	0.95711	4.417	3.342	0.00042

Source: **Authors' Computation, (2025)**

Table 5 shows the result of Shapiro wilk test for normality. For purpose of normality test is to test for whether or not the data is normality distributed. The assumption of normality test is that the data set is not normally distributed. From the Table, all variables have a p-value of less than 0.05 which are all significant at 5% level of significance and therefore implies that the data set is not normally distributed. To cure for normality problem, robust standard error is used instead of normal standard error.

**Table 6: Model Summary**

Variables	Hausman Test	Random effect test	Heteroskedasticity test
Chi2	2.93	6.83	2.91
Prob>chi2	0.7100	0.0045	0.0880

Source: **Authors' Computation, (2025)**

Table 6 shows the result of model related test. From the table Hausman specification test for fixed effect were carried out to select between fixed effect and random effect models of the panel data. The null hypothesis of hausman test states that difference in co efficient not systemic. From the Table, the result shows a chi2 value of 2.93 with corresponding P-value of 0.7100 which is not significance at 5% and therefore implies the rejection of null hypothesis to establish that different in coefficient is systemic and as a result random effect model is appropriate. On the other hand, Breusch and Pagan Lagrangian multiplier test for random effects was carried out to test for the panel effect among the data set. The result shows a chi2 value of 6.83 with corresponding p-value of 0.0045 which is significance at 5% and as such implies the absence of panel effect among the data set which necessitate the use of ordinary least square regression model (OLS). Lastly, Breusch-Pagan / Cook-Weisberg test for heteroskedasticity shows a chi2 value of 2.91 with p-value of 0.088 which is not significance at 5% and as such signify the presence of heteroskedasticity among the data set. This problem is taken care of by using robust standard error in the regression model.

**Table 7: Regression Result**

ETR	Coef.	Robust Std. Err.	T	P>t	[95% Conf. Interval]
BS	-.0043719	.0087607	-0.50	0.619	-.0217118 .0129679
BIND	.1223937	.1178892	1.04	0.301	-.1109421 .3557295
BGD	.4111071	.1955861	2.10	0.038	.0239873 .7982269
BM	.0512118	.0213377	2.40	0.018	.0089784 .0934451
FS	-.0060009	.0344896	-0.17	0.862	-.0742654 .0622636
_cons	-.0902517	.2743989	-0.33	0.743	-.633364 .4528607
F( 5, 124)	3.95				
Prob > F	0.0023				
R-Squared	0.1247				
Root MSE	.22526				

Source: **Authors' Computation, (2025)**

Table 7 presents the regression results examining the effect of board characteristics on tax sheltering among listed consumer goods firms in Nigeria. The overall model fitness, as indicated by the F-statistic of 3.95 with a p-value of 0.0023, confirms that the model is statistically significant at the 5 percent level. This implies that board size, board independence, board gender diversity, and board meetings jointly provide a meaningful explanation of variations in corporate tax sheltering behavior. The R-squared value of 0.1247 indicates that these governance variables explain about 12.47 percent of the changes in tax planning practices. Although modest, this explanatory power is consistent with governance studies, where tax decisions are influenced by both observable governance structures and unobservable managerial incentives, regulatory enforcement, and firm specific characteristics.

### **Board Size and tax Sheltering**

The regression results also show the individual effects of board characteristics on tax sheltering. Board size has a negative coefficient of -0.0043719 with a p-value of 0.619, which is not significant at the 5 percent level. The negative but insignificant coefficient of board size suggests that the number of directors does not materially influence tax sheltering practices in the sampled firms. This implies that expanding or reducing board size does not translate into more effective oversight of managerial tax decisions. This may reflect coordination challenges and free rider problems associated with larger boards, which weaken collective monitoring effectiveness. From a policy perspective, the result suggests that regulatory emphasis on board size thresholds may be insufficient for influencing tax compliance behavior in Nigerian consumer goods firms. Instead, attention should be placed on board competence and functional effectiveness rather than numerical composition.

From the standpoint of agency theory, the finding weakly aligns with theoretical expectations. Agency theory posits that an optimal board size should enhance monitoring and constrain opportunistic managerial behavior, including aggressive tax sheltering. However, the insignificance observed here indicates that board size alone does not effectively mitigate agency conflicts related to tax planning, thereby suggesting that mere structural compliance without substantive governance quality does not resolve principal agent problems. This finding supports Okoh and Ofor (2022) and Appah (2022), but contrasts the result of Ogbodo and Omonigbo (2021). Based on this, the study fails to reject the first null hypothesis.

### **Board Independence and tax sheltering**

Board independence shows a positive coefficient of 0.1223937 and a p-value of 0.301, indicating a positive but insignificant effect. This implies that having more non-executive directors does not significantly shape the tax planning behaviour of the sampled firms. This indicates that increasing the proportion of non-executive directors does not significantly alter firms' tax planning strategies. This outcome may reflect limitations in the independence of non-executive directors in Nigeria, where social ties, information asymmetry, and weak enforcement environments constrain their ability to challenge management decisions. Consequently, independent directors may not actively restrain aggressive tax strategies or influence tax risk preferences. From a policy perspective, this finding raises concerns about the effectiveness of existing corporate governance codes that emphasize board independence as a mechanism for improving accountability. Regulators may need to strengthen disclosure requirements, director training, and enforcement mechanisms to ensure that independence translates into substantive oversight rather than symbolic compliance.

The result therefore contradicts the core assumptions agency theory. The theory predicts that independent directors should reduce managerial opportunism by enhancing monitoring. The insignificant effect observed suggests that independence in form does not necessarily equate to independence in function, thereby limiting the capacity of boards to curb agency driven tax aggressiveness. This finding aligns with Appah (2022) but contradicts Okoh and Ofor (2022), Zachariah et al. (2020), and Onatuyeh and Odu (2019). The study therefore fails to reject the second null hypothesis.

### **Board Gender Diversity and Tax Sheltering**

Board gender diversity has a positive coefficient of 0.4111071 and a significant p-value of 0.038. This means that increasing the proportion of women on the board significantly enhances firms' tendency to engage in tax planning. This therefore implies that greater female representation on boards is associated with increased engagement in tax planning activities. This may indicate that diverse boards bring broader perspectives, improved analytical rigor, and greater strategic engagement in financial decision making, including tax optimization. Rather than reflecting opportunism, the result suggests a more deliberate and informed approach to tax planning as part of value maximization strategies. While gender diversity policies are often promoted on ethical and inclusiveness grounds, the result highlights their potential influence on financial strategy and tax behavior. Policymakers and regulators should therefore complement diversity initiatives with clear tax governance guidelines to ensure that enhanced strategic capacity does not escalate tax risk beyond acceptable limits.

In terms of agency theory, the finding partially challenges traditional assumptions. Agency theory often associates enhanced monitoring with reduced opportunistic behavior. However, the positive relationship suggests that female directors may support tax sheltering when it is perceived as a legitimate strategy for shareholder value maximization rather than managerial self-interest. This aligns more closely with the shareholder wealth maximization view within agency theory, where tax planning is considered acceptable if its benefits principals. This supports John et al. (2012) and contradicts Appah (2022), Zachariah et al. (2020) and Onatuyeh and Odu (2019). The third null hypothesis is therefore rejected.

### **Board Meetings and Tax Sheltering**

Board meetings show a positive coefficient of 0.0512118 with a significant p-value of 0.018. This indicates that more frequent board meetings increase the likelihood of tax planning among the sampled firms. A possible explanation is that board deliberations often explore ways to manage costs, including tax expenses, to enhance shareholder value. This suggests that active boards are more involved in strategic deliberations, including cost management and tax efficiency decisions. Regular meetings may provide platforms for in depth discussions on financial performance and tax optimization opportunities, thereby increasing firms' propensity to shelter taxes. The result also implies that meeting frequency alone does not guarantee conservative tax behavior. Regulators should therefore focus not only on the frequency of board meetings but also on the quality of deliberations, agenda transparency, and documentation of tax risk discussions. Strengthening tax risk disclosure requirements could enhance accountability in board level tax decisions. While agency theory expects active boards to constrain managerial opportunism, the positive association suggests that boards may actively endorse tax sheltering when it aligns with shareholder interests. This indicates that agency conflicts are not necessarily about tax avoidance per se, but about whether such strategies serve managerial self-interest or shareholder value. The

finding aligns with Okoh and Ofor (2022) but contrasts Appah (2022) and Zachariah et al. (2020). Accordingly, the fourth null hypothesis is rejected.

### **Firm Size and Tax Sheltering**

The insignificant effect of firm size indicates that company scale does not significantly influence tax sheltering among listed consumer goods firms. Economically, this suggests that both large and small firms within the sector face similar tax planning opportunities and constraints. This may reflect uniform regulatory scrutiny and sector specific tax regimes that limit size-based advantages. The finding implies that tax enforcement strategies should not rely solely on firm size as a risk indicator. Instead, governance quality and strategic orientation may provide more meaningful signals of tax behavior. The insignificance of firm size suggests that agency problems related to tax planning are not necessarily intensified by firm scale, but are shaped more by governance effectiveness and board level decision making structures.

## **CONCLUSION AND RECOMMENDATIONS**

The study examined the effect of board characteristics on tax sheltering among listed consumer goods firms in Nigeria. Based on the regression analysis, hypothesis testing, and discussion of findings, it was concluded that board characteristics significantly influence tax sheltering behavior of the selected firms. Specifically, board gender diversity and the frequency of board meetings were found to have a positive and significant effect on tax sheltering, while board size, board independence, and firm size exhibited no significant effect.

Based on these findings, the study makes the following recommendations:

- i. Listed consumer goods firms in Nigeria should recognize that increased female board representation enhances strategic engagement in tax planning decisions. While this reflects informed and deliberate tax management, there is a need to ensure that such strategies remain within acceptable legal and ethical boundaries.
- ii. Listed consumer goods firms in Nigeria should establish formal board level tax governance policies that clearly define acceptable tax planning limits. This can help to ensure that high female representation and regular board meetings does not translate in to aggressive tax planning.
- iii. Listed consumer goods firms in Nigeria should integrate periodic tax compliance reviews into board agendas to balance tax efficiency with regulatory compliance. This would help to ensure that high meeting frequency does not translate into unethical tax aggressiveness. This can be achieved by ensuring that tax planning and tax risk management are standing agenda items during board meetings.
- iv. Listed consumer goods firms should document board deliberations on tax decisions to improve accountability and traceability. This can help to ensure that tax planning issues discussed during board meetings are transparent and within the legally aloud limit.
- v. The Nigerian Stock Exchange and related regulatory bodies should enforce monitoring mechanisms to ensure that firms adhere to due processes and regulatory requirements in the preparation and presentation of annual reports and accounts.

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