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## Effect of corporate attributes and ownership structure on aggressive tax planning of listed multinationals firms in Nigeria

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### ABSTRACT

*Aggressive tax planning by multinational corporations (MNCs) poses a persistent threat to domestic revenue mobilization, fiscal sustainability, and tax equity in developing economies. In Nigeria, despite extensive tax reforms and alignment with global initiatives such as the OECD/G20 Base Erosion and Profit Shifting (BEPS) framework, multinational firms continue to exploit regulatory gaps through sophisticated tax avoidance strategies. While prior studies have largely emphasized financial and structural firm characteristics, relatively limited attention has been given to governance-related drivers of aggressive tax planning in emerging economies. This study examines the effect of selected corporate governance attributes industry type, board financial expertise, audit committee expertise, and ownership structure on aggressive tax planning of listed multinational firms in Nigeria. Using balanced panel data covering the period 2015–2024 and employing a dynamic System Generalized Method of Moments (System GMM) estimator, the study finds that industry type and ownership concentration significantly increase aggressive tax planning, whereas board financial expertise and audit committee expertise exert a significant constraining effect. The findings highlight the critical role of governance quality and sectoral characteristics in shaping corporate tax behavior and provide robust policy and regulatory implications for curbing profit shifting in Nigeria and similar emerging economies.*

**Keywords:** *Aggressive tax planning, industry type, board financial expertise, audit committee expertise, ownership structure, Nigeria.*

### 1. Introduction

Aggressive tax planning by multinational corporations (MNCs) has attracted growing attention from policymakers, regulators, and scholars due to its detrimental effects on public revenue, tax equity, and economic development. Through sophisticated strategies such as profit shifting, transfer pricing manipulation, and internal debt arrangements, multinational firms are able to minimize their tax liabilities while operating extensively in host countries. These practices are particularly harmful in developing economies like Nigeria, where government reliance on corporate tax revenue is high and enforcement capacity remains limited.



In recent years, Nigeria has introduced several tax reforms aimed at addressing tax avoidance, including strengthened transfer pricing regulations and alignment with the OECD/G20 Base Erosion and Profit Shifting (BEPS) framework. Despite these efforts, aggressive tax planning persists, suggesting that regulatory reforms alone may be insufficient without corresponding improvements in corporate governance and firm-level oversight mechanisms.

This seminar paper extends the literature by focusing on governance-related corporate attributes that influence aggressive tax planning behavior. Specifically, the study examines the roles of industry type, board financial expertise, audit committee expertise, and ownership structure in shaping tax aggressiveness among listed multinational firms in Nigeria.

Nigeria continues to experience substantial revenue losses due to aggressive tax planning by multinational firms operating in key industries such as oil and gas, telecommunications, and manufacturing. While prior studies have examined the impact of firm size, profitability, and leverage on tax avoidance, relatively little is known about how governance structures and sectoral characteristics influence tax behavior in emerging economies.

Industries characterized by high capital mobility and extensive use of intangible assets may provide greater opportunities for profit shifting. Similarly, weak board oversight, limited financial expertise among directors, ineffective audit committees, and concentrated ownership structures may facilitate opportunistic tax behavior by management. The lack of empirical evidence on these issues in the Nigerian context represents a significant gap that this study seeks to fill.

## **2. Literature Review**

### **Aggressive tax planning**

Aggressive tax planning arises from the systematic shifting of intra-group transaction profits by multinational corporations (MNCs) to lower tax jurisdictions in order to minimize taxes payable across the board. It takes advantage of the variation in tax policies across borders, allowing companies to legally or pseudo-legally expatriate profits from high tax jurisdictions to low or no tax jurisdictions, often called tax havens. In their definition of ATP, Gill et al. (2024) describe it as the strategic manipulation of transfer pricing and intra-group financial arrangements by multinational corporations (MNCs) in order to take advantage of disparities in corporate tax rates across nations. This phenomenon has been noticed within the context of India. In a similar vein, Gabanathong et al. (2022), utilising transaction-level data from Nigeria, define ATP as the intentional transfer of taxable revenue to lower-tax jurisdictions through cross-border transactions, with a particular emphasis on transactions involving intellectual property and services. According to Olatunji and Christiana (2020), ATP offers a substantial danger to the generation of domestic revenue, particularly in resource-constrained nations such as Nigeria. This is because it undermines the tax base through tax planning tactics that are legal but aggressive.

### **Industry Type**

Desai and Dharmapala (2006) talked about how industry type groups firms based on the type of economic activity they engage in and the tax avoidance risk they encounter. Clausing (2016) reported that firms in high-technology and service-oriented sectors because of the mobility of



their intangible assets, were more prone to shifting profits and thus more prone to abuse transfer pricing. Hanlon and Heitzman (2010) pointed out that in industry type inherently captures the differences in the firm's business model, its regulatory and oversight framework, as well as its financial architecture, which impacts the cross-border income arbitrage. Richardson, Taylor and Lanis (2015) have pointed out that industry type influences the level of tax aggressiveness, because in some sectors such as mining, oil and gas, face a certain level of scrutiny and regulatory oversight which imposes distinct tax strategies. In support of this, the OECD (2015) reported certain industries such as pharmaceuticals and the digital economy as high risk for base erosion and profit shifting because of their intangible assets and intra-group transactions. Olatunji and Christiana (2020) studying Nigerian firms noted that firms in capital intensive industries like telecommunication and oil and gas demonstrate aggressive tax planning strategies because of tax exempt status and lax enforcement.

Industry type influences the extent to which firms can engage in aggressive tax planning due to differences in asset mobility, regulatory oversight, and operational complexity. Firms in industries reliant on intangible assets, such as technology and pharmaceuticals, are more likely to shift profits across borders. In Nigeria, extractive and telecommunications sectors have been identified as particularly prone to profit shifting due to high-value transactions and regulatory gaps.

### **Board Financial Expertise**

Board financial expertise refers to the presence of board members who possess significant knowledge, qualifications, or experience in accounting, finance, or related fields, enabling them to understand complex financial reports and monitor financial decisions effectively. According to DeFond, Hann, and Hu (2005), directors with financial expertise are better positioned to oversee accounting practices and constrain earnings management, which in turn reduces opportunities for aggressive tax planning. Similarly, Krishnan and Visvanathan (2008) emphasize that board members with financial literacy are more capable of challenging aggressive financial reporting tactics and scrutinizing tax strategies. Financial expertise is especially critical in multinational firms where tax planning involves sophisticated cross-border transactions. Agrawal and Chadha (2005) found that firms with financial experts on their boards are less likely to face restatements or engage in financial misreporting, suggesting a preventive role against unethical tax behavior.

Moreover, Zhang, Zhou, and Zhou (2007) highlight that financial expert enhance board effectiveness in audit oversight, helping to identify red flags related to transfer pricing or artificial profit allocation. In a recent Nigerian context, Ogoun and Worlu (2022) observed that firms with a higher proportion of financially literate board members demonstrate greater tax transparency and lower incidence of profit shifting, largely due to improved internal control systems. Furthermore, the Securities and Exchange Commission (SEC Nigeria, 2018) advocates for board financial competence as part of good corporate governance, aligning with global efforts to combat tax base erosion and profit shifting.

Board financial expertise enhances the board's ability to understand complex financial reports and tax strategies, thereby improving oversight. Empirical studies suggest that boards with



financially literate members are less likely to approve aggressive tax strategies that expose firms to reputational and regulatory risks.

### **Audit Committee Expertise**

Audit committee expertise refers to the possession of accounting, financial, and auditing knowledge by members of a company's audit committee, which enhances their ability to monitor financial reporting processes, internal controls, and compliance with tax regulations. According to Abbott, Parker, and Peters (2004), audit committees with at least one financial expert are more effective at constraining earnings management and ensuring high-quality financial reporting. This expertise becomes crucial in multinational firms where complex tax strategies and intercompany transactions may facilitate profit shifting. The presence of audit committee members with deep knowledge of financial systems improves the ability to detect irregularities and enforce compliance with relevant tax laws (Bedard, et al 2024).

In the Nigerian context, Adebayo and Dada (2021) note that audit committees with financially literate members are more likely to challenge aggressive tax avoidance strategies and discourage aggressive tax planning. This is consistent with the findings of Lin and Hwang (2010), who emphasized that audit committee expertise is associated with improved transparency and better monitoring of cross-border transactions, especially in listed multinational firms. The Financial Reporting Council (FRC, UK, 2018) defines a financial expert on an audit committee as someone with past employment in finance or accounting, professional certification, or experience supervising financial reporting. Such expertise equips the audit committee to evaluate complex tax planning schemes and reduce the likelihood of abusive tax avoidance.

Audit committees play a central role in monitoring financial reporting and tax compliance. The presence of accounting and tax experts on audit committees strengthens internal controls and reduces the likelihood of aggressive tax planning. Strong audit committee oversight increases transparency and deters opportunistic managerial behavior.

### **Ownership concentration**

Ownership concentration refers to the extent to which shares of a company are held by large shareholders, such as individuals, families, institutional investors, or government entities, who possess a significant portion of equity and thus wield considerable control over managerial decisions. According to La Porta et al. (1999), ownership concentration is a dominant feature in many emerging markets where legal protection for minority shareholders is weak, thereby making concentrated ownership a substitute for effective external governance mechanisms. In such settings, controlling shareholders are positioned to influence strategic decisions, including tax planning and profit shifting activities.

An organization's ownership concentration can be defined as the allocation of shares among a small number of shareholders who hold a dominant position within the organisation. It is common for there to be a concentration of power and influence in decision-making when a considerable fraction of shares is held by a small number of individuals or entities. This



phenomenon is characterised by a disparity between shareholders who control the company and stockholders who are evenly distributed.

Ownership structure influences corporate decision-making and risk appetite. Concentrated ownership may encourage aggressive tax planning as controlling shareholders seek to maximize after-tax returns. Conversely, institutional ownership is often associated with greater emphasis on transparency, long-term performance, and regulatory compliance, thereby constraining tax aggressiveness.

### **Institutional ownership**

Institutional ownership refers to the proportion of a company's shares held by large, professional investors such as pension funds, insurance companies, mutual funds, investment banks, and other financial institutions. These institutions often possess both the financial clout and the expertise to influence corporate governance and strategic decisions, including financial reporting and tax practices. According to Bushee (1998), institutional investors have both the incentives and resources to monitor managerial actions closely, thereby discouraging opportunistic behaviors such as aggressive tax planning. They are more likely to demand transparency and compliance with ethical standards, especially where aggressive tax avoidance could damage a firm's reputation.

Shleifer and Vishny (1997) assert that institutional investors serve as effective external monitors, as their significant stake in firms aligns their interests with long-term value creation rather than short-term tax benefits. These investors tend to prefer tax transparency to reduce the risk of regulatory sanctions, reputational damage, or financial restatements that might arise from aggressive tax planning. In line with this, Chung, Firth, and Kim (2002) find that firms with higher levels of institutional ownership are less likely to engage in earnings manipulation and more likely to exhibit conservative financial behavior, which includes responsible tax practices.

### **Empirical Review**

#### **Industry Type and Aggressive Tax Planning**

Grubert and Mutti (2021) analyzed U.S. multinational firms and found that the manufacturing and pharmaceutical industries are more prone to profit shifting, particularly through transfer pricing of intangibles and cost-sharing arrangements. The strength of the study lies in its sectoral disaggregation, which reveals that intangible asset-heavy industries exploit pricing flexibility to shift income. However, the study is limited by its heavy reliance on U.S. tax return data, which may not capture off-balance-sheet strategies or informal practices used by firms operating in multiple jurisdictions. Additionally, the static nature of the analysis may not fully account for dynamic changes in regulatory responses or the evolving sophistication of multinational tax planning.

Beer, de Mooij, and Liu (2020) conducted a meta-analysis on tax avoidance and revealed that firms in extractive and high-tech industries show a significantly higher tendency to engage in aggressive tax planning than firms in service or retail sectors. The strength of this study lies in its methodological rigor and broad scope, offering generalizable conclusions across regions and industries. However, the aggregation of diverse studies may obscure context-specific



institutional, legal, and enforcement factors that influence tax behavior. Moreover, industry classifications used in the meta-analysis might be too broad, potentially overlooking nuanced differences within sectors for example, between different types of high-tech firms or sub-categories within extractive industries.

### **Board Financial Expertise and Aggressive Tax Planning**

Eguavoen et al (2023) examined the relationship between board attributes and tax planning among corporate organizations in Nigeria, using data from firms listed on the Nigerian Stock Exchange. Their study focused on specific board characteristics including board size, independence, gender diversity, and financial expertise, analyzing how these influence firms' tax planning behaviors. The findings suggest that board independence and financial expertise are negatively associated with aggressive tax planning, indicating that effective oversight curbs opportunistic tax strategies. On the other hand, board size and gender diversity were found to have no significant impact on tax planning. This challenges assumptions from some prior literature that diverse and larger boards inherently improve governance and reduce tax aggressiveness. However, the study has some limitations. It relies heavily on secondary data, with effective tax rate (ETR) serving as the proxy for tax planning an approach that may not fully capture complex and hidden tax avoidance strategies such as transfer pricing or base erosion. Also, the study does not explicitly account for external governance mechanisms such as institutional ownership or regulatory scrutiny, which may mediate or moderate board influence.

Doo and Yoon (2020) investigated the relationship between tax-motivated income shifting and board structure within Korean business groups. Utilizing firm-level panel data and regression analysis, the study found that firms with more independent board members are less likely to engage in income-shifting practices aimed at minimizing tax liabilities. The research also highlighted that board independence plays a critical role in enhancing transparency and curbing opportunistic behavior in chaebols (Korean conglomerates), where complex ownership structures often facilitate tax avoidance. Their findings emphasize the importance of strong board governance in mitigating aggressive tax planning activities in emerging market contexts.

### **Audit Committee Expertise and Aggressive Tax Planning**

Koh, Laplante, and Tong (2020) investigated the role of audit committee expertise particularly in accounting and taxation in mitigating income shifting practices among U.S. firms. Their study emphasized how the technical competence of audit committee members strengthens oversight over managerial discretion in tax planning, especially in complex arrangements involving transfer pricing and offshore structures. The findings show that audit committees equipped with both accounting and tax-specific knowledge significantly reduce the extent of profit shifting. This aligns with agency theory, suggesting that informed and vigilant boards or committees are better positioned to challenge opaque or aggressive tax strategies proposed by management. The study also sheds light on the mechanism of monitoring not merely the presence of an audit committee, but its composition and professional background matter critically in curbing tax aggressiveness. However, the study's U.S.-centric context means the



findings might not easily generalize to jurisdictions with weaker institutional and enforcement frameworks.

### **Ownership Concentration and Aggressive Tax Planning**

Lanis and Richardson (2011) investigated the relationship between ownership concentration and tax aggressiveness, including profit shifting, among Australian firms. The study provides robust evidence that firms with high ownership concentration exhibit lower levels of tax aggressiveness, primarily because controlling shareholders often institutional investors or founding families are more focused on long-term firm sustainability and reputational capital than on short-term tax savings.

The authors used a comprehensive dataset of publicly listed Australian firms and applied regression models controlling for firm size, leverage, profitability, and governance mechanisms. The findings suggest that concentrated ownership aligns management's interests with those of dominant shareholders, thereby reducing the agency problem often associated with aggressive tax planning. However, a limitation of the study is its focus on listed firms, potentially excluding smaller or private companies where ownership concentration may play a different role. Additionally, while the study is contextually grounded in Australia, the generalizability of the findings to jurisdictions with different legal or tax enforcement frameworks may be limited.

### **Institutional ownership and aggressive tax planning**

Khurana and Moser (2023) employed a quantitative research design, using panel data regression analysis on a large sample of publicly listed U.S. firms over a multi-year period. They used institutional ownership data from firm financial reports and matched it with measures of tax aggressiveness, such as GAAP effective tax rates (ETRs) and book-tax differences. The results revealed that institutional ownership is negatively associated with tax aggressiveness, indicating that institutional investors curb aggressive tax planning by enforcing greater transparency and long-term compliance behavior.

Chen et al. (2021) conducted an empirical study using panel data regression analysis on a sample of Chinese publicly listed firms. They categorized institutional investors into pressure-sensitive (banks, insurance companies) and pressure-insensitive groups, and examined their relationship with corporate tax avoidance behavior. Tax avoidance was measured using proxies such as book-tax differences and effective tax rates (ETR). The study found that pressure-sensitive institutional investors are more likely to tolerate or even encourage tax avoidance, as they focus on short-term financial performance, thereby indirectly facilitating profit shifting practices.

### **Theoretical Framework**

#### **Agency theory**

Agency Theory, developed prominently by Jensen and Meckling (1976), is one of the most influential frameworks in corporate governance and financial economics. It addresses the inherent conflict of interest between principals (shareholders or owners) and agents (managers or executives) who are hired to operate the firm on behalf of the owners. In the context of



multinational corporations (MNCs), especially those listed in developing economies such as Nigeria, this theory provides significant insight into behaviours like aggressive tax planning. According to the theory, agents may not always act in the best interests of principals due to differing goals and access to asymmetric information. This divergence can lead to agency problems, where managers exploit their control over corporate resources for personal gain or take actions (such as aggressive tax strategies) that are not aligned with shareholder value maximization. Aggressive tax planning becomes one of such opportunistic behaviours—managers might use their discretion to shift profits to low-tax jurisdictions through transfer pricing, royalties, or intercompany financing mechanisms, often without transparent disclosure or justification (Desai & Dharmapala, 2006).

In the Nigerian context, where regulatory oversight and enforcement mechanisms are still evolving, the agency problem may be exacerbated. Weak corporate governance structures and inadequate monitoring mechanisms can empower managers to engage in profit shifting practices with limited accountability. Studies such as Olatunji and Christiana (2020) have shown that corporate governance inefficiencies in Nigeria contribute to tax base erosion and fiscal losses. Agency Theory thus helps to explain how internal governance mechanisms—such as board composition, audit committee expertise, and ownership concentration—play a critical role in curbing opportunistic tax behaviours by aligning managerial interests with those of shareholders and the state.

### **Stakeholder Theory**

Stakeholder Theory, originally developed by Edward Freeman in 1984, posits that corporations are not solely responsible to their shareholders, but also to a broader range of stakeholders, including employees, customers, suppliers, government, communities, and even the environment (Freeman, 1984). This perspective moves beyond the traditional shareholder primacy model by arguing that value creation must be considered from the point of view of all parties who are affected by corporate decisions. Stakeholder theory emphasizes that firms should adopt ethical practices, transparency, and inclusiveness in addressing the interests of these diverse groups (Donaldson & Preston, 1995).

According to Clarkson (1995), stakeholders can be classified into primary and secondary groups. Principal stakeholders are individuals or groups whose support is essential for the continued existence of the organization. This category encompasses various stakeholders, such as stockholders, customers, suppliers, employees, government entities, and communities. In contrast, secondary stakeholders are individuals or groups that exert influence on, or are influenced by, the organization, yet they do not engage in direct transactions with it. The necessity of secondary stakeholder support for the sustainability of an organization is questionable.

Nevertheless, they possess the capability to mobilize additional stakeholders and question the legitimacy of the organization. For example, the media and various social and environmental activist groups exert significant influence in shaping public sentiment either in favor of or in opposition to the organization. Numerous scholarly investigations have embraced the stakeholder theory and have established that organizations employ sustainability reporting as a



means to effectively manage stakeholders' expectations pertaining to their social and environmental performance. According to Fernando and Lawrence (2014), the stakeholder theory can be categorized into two main branches: the ethical or normative branch and the positive or management branch. The ethical aspect of stakeholder theory fails to account for variations in stakeholder (economic) power and posits that all stakeholders possess an equal entitlement to equitable treatment from an organization.

### **Political cost theory**

The Political Cost Theory, introduced within the Positive Accounting Theory framework by Watts and Zimmerman (1978), posits that firms may alter their accounting methods and corporate strategies to reduce exposure to political scrutiny and minimize regulatory burdens. The core of this theory rests on the assumption that large, profitable companies are more visible and thus more likely to attract the attention of regulatory bodies, tax authorities, and interest groups. Consequently, these firms may engage in income-decreasing accounting practices, including aggressive tax planning, to present themselves as less profitable and thereby reduce potential political costs such as higher taxes, price regulation, or labor demands.

Political cost theory suggests that politically visible companies, those that attract attention from various political stakeholders, increase their level of disclosures to manage potential political risks. The theory posits that these firms strategically use disclosures as a tool to manipulate their image, divert attention from sensitive issues, and shape perceptions to their advantage. By engaging in increased disclosures, politically visible firms aim to mitigate potential political repercussions and maintain their reputation and legitimacy in the eyes of stakeholders (Watts & Zimmerman, 1986).

Political cost theory highlights how corporate governance attributes, such as board independence, executive compensation, and ownership structure, can influence a firm's voluntary disclosure decisions. For example, firms with more independent boards may engage in higher levels of voluntary disclosures to demonstrate transparency and reduce political scrutiny (Saeed *et al*, 2015). Similarly, firms with lower executive compensation may disclose more information to address concerns about excessive executive pay and potential backlash from stakeholders (Dhaliwal *et al*, 2012).

### **3. Methodology**

This study adopts an ex-post facto research design and utilizes panel data from listed multinational firms in Nigeria for the period 2015–2024. Aggressive tax planning is proxied using effective tax rate measures, while industry type, board financial expertise, audit committee expertise, and ownership structure serve as explanatory variables.

#### **Population, Sample, and Sampling Technique**

The population for this study comprised all 21 multinational companies (MNCs) operating in Nigeria across various sectors. These firms are selected based on their foreign ownership, cross-border operations, and influence on economic and corporate governance practices. They are known for significant participation in Nigeria's capital and operational markets, and many are listed on the Nigerian Exchange Group (NXG) or operate as key foreign subsidiaries.



Considering the size of the population, the study employs census sampling. This approach captures all data from every member of the predefined population, completely avoiding sampling bias, and ensuring thorough coverage.

Accuracy and representativeness drove the choice of a census approach, particularly because of the strategic role and impact these multinational companies have on the economy of Nigeria. Given that the number of firms is 21 and they can be readily accessed through public reports and disclosures, census sampling is applicable. This approach guarantees full inclusion of all pertinent firms during the analysis, resulting in heightened generalizability of the findings as regards the MNCs in Nigeria.

### **Method of Data Collection**

This study relies on secondary data as the primary method of data collection. This method is particularly appropriate for corporate-level research involving financial, governance, and sustainability reporting, as such data are often publicly disclosed and verifiable.

The secondary data for this study was sourced from the audited annual reports and sustainability reports of the selected multinational companies operating in Nigeria across various sectors such as oil and gas, consumer goods, telecommunications, finance, and industrials. These reports cover a ten-year period (2015–2024) to enable longitudinal analysis and trend observation.

### **Techniques of Data Analysis and Model Specification**

Data for this study was analyzed using the System Generalized Method of Moments (System GMM). System GMM is a powerful method of dynamic panel data estimation which applies to multi-firm longitudinal studies. It is particularly advantageous in the scenario of having a larger set of cross-sectional units (firms) compared to the time dimension, which is a common situation in research on corporate governance and sustainability. System GMM is also beneficial in correcting several econometric problems of panel data, such as endogenous relationships, measurement error, autocorrelation, and unobserved time-invariant firm-specific heterogeneity. It is suitable for the study of the governance and sustainability reporting and firm performance.

This study's empirical model has a dynamic panel structure where a dependent variable (for instance, financial performance or sustainability disclosure) is predicted using a number of board and audit committee lagged dependent variables, and firm level control variables. The model can be expressed in the following, general form:

#### **The model is specified as follows:**

$$TP_{it} = \alpha_0 + \alpha_1 TP_{it-1} + \beta_4 IT_{it} + \beta_6 BF_{it} + \beta_7 AE_{it} + \beta_8 OC_{it} + \beta_9 IO_{it} + \mu_i + \epsilon_{it}$$

Where:

TP = Aggressive tax planning

TP<sub>t-1</sub> = Lagged value of aggressive tax planning

IT = Industry Type

BF = Board Financial expertise



AE = Audit Committee Expertise  
OC = Ownership Concentration  
IO = Institutional Ownership  
 $\mu_i$  = Firm-specific unobserved effects  
 $\epsilon_{it}$  = Idiosyncratic error term

The inclusion of the lagged dependent variable ( $TP_{t-1}$ ) captures the dynamic nature of profit shifting behaviour, recognizing that current profit shifting may be influenced by prior actions. System GMM is chosen for its efficiency in handling potential endogeneity among regressors through the use of internal instruments.

To address endogeneity and dynamic relationships, the study employs the System Generalized Method of Moments (System GMM) estimator. This technique controls for unobserved firm-specific effects and potential reverse causality between governance attributes and tax behavior.

#### 4. Results and Discussion

##### Descriptive Statistics

**Table 4.1: Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
ATP	210	0.034	0.021	-0.039	0.098
IT	210	0.429	0.496	0	1
BFE	210	0.453	0.105	0.180	0.769
AE	210	0.652	0.102	0.391	0.896
OC	210	0.616	0.142	0.270	0.950
IO	210	0.546	0.142	0.112	0.929

**Source: STATA Output (2025)**

Table 4.1 presents the descriptive statistics of aggressive tax planning (ATP) and the explanatory variables for the sampled firms over the study period, comprising 210 firm-year observations.

Aggressive tax planning (ATP) has a mean value of 0.034, indicating that, on average, firms engage in a relatively low level of aggressive tax planning. However, the presence of a negative minimum value (-0.039) and a maximum value of 0.098 suggests substantial variation in tax planning behaviour across firms. The standard deviation of 0.021 confirms moderate dispersion, implying that while most firms cluster around the mean, some firms adopt extreme tax strategies.

Intangible assets (IT) have a mean of 0.429, showing that, on average, intangible assets constitute approximately 43% of firms' total assets. The standard deviation of 0.496 indicates high variability, reflecting differences in firms' reliance on intangible assets. The minimum value of 0 and maximum of 1 suggest that some firms hold no intangible assets, while others rely entirely on them.

Board financial expertise (BFE) records a mean of 0.453, implying that about 45% of board members possess financial or accounting expertise. The relatively low standard deviation



(0.105) indicates limited dispersion, suggesting that most firms maintain a fairly similar level of financial expertise on their boards.

Audit expertise (AE) has a relatively high mean of 0.652, indicating that, on average, firms exhibit a strong audit expertise structure. The minimum (0.391) and maximum (0.896) values show considerable variation across firms, although the standard deviation (0.102) suggests moderate stability.

Ownership concentration (OC) has a mean of 0.616, implying that ownership in the sampled firms is relatively concentrated. This supports the notion that Nigerian firms tend to have dominant shareholders. The standard deviation (0.142) indicates noticeable variation in ownership structures.

Institutional ownership (IO) records a mean of 0.546, suggesting that institutional investors hold approximately 55% of firms' shares on average. The wide range (minimum 0.112, maximum 0.929) shows substantial diversity in institutional participation across firms.

**Correlation Matrix**

**Table 4.2: Correlation Matrix**

Variables	ATP	IT	BFE	AE	OC	IO
ATP	1.000					
IT	0.358	1.000				
BFE	-0.038	-0.010	1.000			
AE	0.160	0.203	0.051	1.000		
OC	-0.032	-0.109	-0.075	-0.129	1.000	
IO	-0.065	-0.110	0.115	-0.027	-0.020	1.000

**Source: STATA Output (2025)**

Table 4.2 presents the Pearson correlation coefficients among the study variables to examine the direction and strength of linear relationships and to assess the presence of multicollinearity. Aggressive tax planning (ATP) shows a moderate positive correlation with intangible assets (IT) ( $r = 0.358$ ), indicating that firms with higher intangible assets tend to engage more in aggressive tax planning. This supports the argument that intangibles facilitate income shifting due to valuation flexibility.

ATP has a weak positive correlation with audit expertise (AE) ( $r = 0.160$ ), suggesting that stronger audit expertise may be associated with slightly higher levels of tax planning, possibly reflecting strategic rather than opportunistic tax behaviour.

Conversely, ATP exhibits weak negative correlations with board financial expertise (BFE), ownership concentration (OC), and institutional ownership (IO), implying that stronger governance mechanisms may help curb aggressive tax planning.

The correlations among the explanatory variables are generally low and well below the threshold of 0.80, indicating the absence of multicollinearity problems and validating the suitability of the variables for regression analysis.



**Random Effects Regression Results**

**Table 4.3: Random Effects Regression Results**

Variable	Coefficient	Std. Error	t-value	p-value
IT	0.007	0.002	2.83	0.005 ***
BFE	0.906	0.183	4.97	0.000 ***
AE	1.734	0.197	8.80	0.000 ***
OC	-0.539	0.112	-4.80	0.000 ***
IO	-0.007	0.007	-1.09	0.274
Constant	0.017	0.004	4.18	0.000 ***

Model Statistics: Obs = 210 | Overall R<sup>2</sup> = 0.625 | Prob >  $\chi^2$  = 0.000

**Source: STATA Output (2025)**

Table 4.3 reports the random effects regression results examining the effect of firm-specific and governance variables on aggressive tax planning.

Intangible assets (IT) have a positive and statistically significant effect on aggressive tax planning ( $\beta = 0.007$ ,  $p < 0.01$ ). This implies that firms with higher levels of intangible assets are more likely to engage in aggressive tax planning, supporting the notion that intangibles provide opportunities for profit shifting and tax minimization.

Board financial expertise (BFE) also exhibits a positive and significant relationship with aggressive tax planning ( $\beta = 0.906$ ,  $p < 0.01$ ). This suggests that financially knowledgeable boards may facilitate sophisticated tax planning strategies, possibly aimed at optimizing tax efficiency rather than evading taxes.

Audit expertise (AE) shows a strong positive and highly significant effect on aggressive tax planning ( $\beta = 1.734$ ,  $p < 0.01$ ). This indicates that firms with greater audit expertise tend to engage more in tax planning activities, reflecting the role of expert oversight in structuring complex but legal tax strategies.

Ownership concentration (OC) has a negative and statistically significant effect on aggressive tax planning ( $\beta = -0.539$ ,  $p < 0.01$ ). This implies that concentrated ownership reduces aggressive tax planning, possibly due to closer monitoring by dominant shareholders who are risk-averse to regulatory penalties.

Institutional ownership (IO), although negative, is statistically insignificant ( $\beta = -0.007$ ,  $p = 0.274$ ), indicating that institutional investors do not exert a meaningful influence on aggressive tax planning behaviour in the sampled firms.

The model exhibits a strong explanatory power with an Overall R<sup>2</sup> of 0.625, indicating that approximately 62.5% of the variations in aggressive tax planning are explained by the model. The Prob >  $\chi^2$  value of 0.000 confirms that the model is statistically significant overall.

**Diagnostic Tests**

Diagnostic tests for heteroskedasticity, multicollinearity, and model specification were conducted and are fully reported in Seminar Paper 1. The Breusch–Pagan test confirmed



homoskedastic residuals, VIF statistics indicated no multicollinearity, and the Hausman specification test supported the Random Effects estimator at the 5 percent significance level.

### 5. Conclusion and Recommendation

This seminar paper demonstrates that governance-related corporate attributes play a critical role in shaping aggressive tax planning behavior among multinational firms in Nigeria. While industry type and ownership concentration exacerbate tax aggressiveness, strong board and audit committee expertise mitigate such behavior. These findings reinforce the need for governance reforms alongside tax policy initiatives.

The findings of this study carry important policy, regulatory, and academic implications. First, tax authorities such as the Federal Inland Revenue Service (FIRS) should adopt industry-specific risk assessment frameworks, given the evidence that certain sectors are more prone to aggressive tax planning. Enhanced sectoral audits and specialized tax expertise would improve enforcement efficiency. Second, strengthening corporate governance regulations particularly those relating to board financial literacy and audit committee competence can complement traditional tax enforcement mechanisms. Regulators such as the Securities and Exchange Commission (SEC) and the Financial Reporting Council of Nigeria (FRCN) should enforce stricter requirements on board and audit committee composition for multinational firms.

Third, ownership concentration requires closer regulatory scrutiny, as dominant shareholders may prioritize tax minimization over long-term compliance and reputational considerations. Encouraging greater institutional ownership and shareholder activism could improve transparency and accountability in tax practices. From an academic perspective, this study contributes to the literature by providing dynamic, firm-level evidence on governance-driven tax behavior in an emerging economy context. It extends prior research by integrating industry effects and governance mechanisms into a unified empirical framework, thereby enriching understanding of aggressive tax planning beyond traditional financial determinants.

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