

# Corporate Governance Attributes and Tax Avoidance Extremism of Quoted Non-Financial Firms in Nigeria? A Generalized Method of Moments (GMM) Approach.

Lawrence Uvie. EGBADJU<sup>1</sup>  
Ererogha Akpos YIKAREBOGHA<sup>2</sup>

<sup>1 & 2</sup>Department of Accounting,  
Federal University Otuoke,  
Otuoke, Bayelsa State, Nigeria.  
Corresponding Author's Email: [lawuvie@gmail.com](mailto:lawuvie@gmail.com)

## ABSTRACT:

This study looks at the relationship between corporate governance and tax avoidance extremism in non-financial companies that are quoted in Nigeria. Using panel data from secondary sources, the paper examines 75 firms that were listed between 2007 and 2022 on the Nigerian Exchange Group (NXG). The results of the generalized method of moments indicated that managerial ownership (MOWN), foreign ownership (FOWN), Board compensation (BCOMPEN), board tribal diversity (BTD), Chief Executive Officer (CEO) Reputations (CEORE) and audit committee gender diversity (ACGD) are positively significant with TAE; Board gender diversity (BODIV), founder & family ownership (F&F), Chief Executive Officer age (CEOAG), number of board committees (NBC) and audit committees meetings (ACMEET) are negatively significant with TAE. For the control variables, while leverage (LEV) as well as research & development expenditures (R&D) are positively and statistically significant with TAE; advertisement expenses (ADV) and year dummy (YDUM) are negatively significant. The study concludes with recommendations

**Keywords:** *Corporate Governance Attributes, Tax Avoidance Extremism, Quoted Non-Financial Firms, GMM.*

## 1.0 Introduction

Tax revenue, whether direct or indirect, and which is as old as any human society, is one veritable and certain source of funds for governments' ever-increasing expenditures (Egbadju & Oriavwote, 2016). Tax payment is generally viewed not only as an obligation of the citizenry but as their right to partake in adequately financing the state for societal prosperous development, but some firms see it differently as an extra cost and so try to outrightly dodge it or at best minimize it (Hasan et al. (2023); Andhitiyara & Dameria, 2022). The strategies by firms to avoid the payment of tax are commonly termed tax avoidance, tax aggressiveness, tax planning, tax sheltering, tax management; et cetera. Tax liability constitutes a huge expense to firm and reduces significantly the cash flow available for viable projects which should have in turn increase firm value. The efforts of government to increase its tax revenue are completely contrary to those of the taxpayers who make efforts to minimize their tax payments for as much as tax reduces firms' profit (Rahmi & Novriadi, 2024). Managers, therefore, engage in legal activities in tax provisions that help to defer, reduce or even eliminate completely amount paid as tax.

Thus, Omesi and Appah (2021) opined that since taxpayers see the payment of taxes as a burden, they catch in on the loopholes in the various tax provisions to minimize their tax burdens. Even though full tax compliance may be a mark of good citizenship, it is an extra burden to the firm since it reduces firm's profits and cash flows, and so the firm seeks to take advantages of weaknesses in the tax laws or outright violation

of ambiguities in tax provisions to reduce or eliminate its tax burden (Saputri & Husen, 2020). Tax liabilities cost a company a lot of money and drastically cut into the cash flow available for profitable ventures, which should have raised the company's worth. Thus, businesses use certain strategies or tactics to evade paying taxes which are commonly referred to as tax avoidance, tax aggression, tax planning, tax sheltering, tax management, etc (Egbadju & Chukwu, 2024).

Tax avoidance (TA) is the strategy, scheme or measure, within the bounds of the law, employed by tax payers to ensure that their tax liabilities, which are supposed to be their fair share of the citizenry total tax burden, are minimized. This definition is aligned with Saffe (2013) who hinted that TA does not only diminish government revenue, but also threatens the concept of taxation that we all must contribute our fair share to the maintenance of the state. Dyreng et al. (2008) defined it as any strategy which reduces the effective tax rate of a firm, in compliance with the tax law or at least within the realm of grey-area interpretations of it. It is the efforts made to reduce one's tax burden while still abiding within the provision of the rules imposed by the government (Mujjani et al., 2021). TA poses serious concern to tax authorities because it hinders the ability of the state to provide the desired economic and social services to the citizens, and this negates the social order of equity, that is, to "pay their fair share" of taxes (Rahmi & Novriadi, 2024).

Previous research works have shown that chief executive officers (CEOs) are prominently responsible for the design and implementation of TA schemes (Chen et al., 2020; Lanis et al., 2019; Dyreng et al., 2010). Accordingly, Oktavia (2020) hinted that since it is established that management usually play a dominant role in TA schemes, these opportunistic behaviours can be minimized through effective corporate governance (CG). Many studies, including the ones we reviewed in this work, revealed that CG affects TA. For example, Chukwu et al. (2020) noted that the aggressiveness with which firms minimize its tax or engage in tax avoidance (TA) depend on the sense of its CG attributes and its corporate citizenship. Thus, developing effective CG can greatly help in monitoring management's tax decisions.

CG depicts the relationship that exists among the stakeholders of a firm with regards to the rules and laws governing the firm by ensuring that the directors act in the overall interest of the firm and to be held accountable to capital providers for use of assets in order to achieve the firm's goals (Okoye & Ofoegbu, 2006). CG is a form of structures that determine the relationships that exist between the owners and other participants on how the firm can be directed and governed through institutional, regulatory, ethical and legal framework for the overall good of the society (Sunarto et al., 2021). It is the procedures or the processes used by management to manage and direct a firm's activities in order to achieve corporate objectives that meet stakeholders' expectations of transparency and accountability (Appah, 2022). Smah (2006) as cited in Kiabel and Akenbor (2014) listed trust, honesty, integrity, openness, mutual respect, performance orientation, responsibility, commitment and accountability as the key elements of good CG principles which senior executives should adhere to, and thereby avoid conflict of interest. Thus, CG is meant to ensure that the managers of firms are accountable to all stakeholders including the government which demands that firms pay their appropriate fair share of their tax burden (Uford, 2017; Charles & Uford, 2023).

In Nigeria, it appears the government is not even bothered about this global financial termite and the judicial pronouncements follows those of many common law jurisdictions in spite of the fact that tax revenue to gross domestic product is among the lowest in the world. According to Egbunike et al. (2021), the ever-decreasing revenue to the Nigerian government has led to clarion calls for other sources of revenue so as to deliver on necessary responsibilities but evidence available shows that the Nigerian tax to GDP ratio still remains low

and this point to the fact that individual and corporate bodies may be engaging in tax avoidance. Otusanya (2011) elaboration on three brazen cases of tax evasion and avoidance against the Nigerian government by Chevron Nigeria Limited, Pan African Airlines Nigeria Ltd and Halliburton West Africa Ltd are just tips of the iceberg of the undetected massive tax evasion and avoidance schemes that go on in Nigeria. The above assertion attest to Federal Inland Revenue Services (FIRS) studies in 2018, as reported by Chitimira & Animashaun (2021), of the severe challenges faced by tax administration in Nigeria due to tax avoidance and tax evasion. The Nigerian tax laws are outdated, but when up to date there is no proactiveness in pursuing the case to a conclusive end (Otusanya, 2011).

Many studies have been conducted that link CG with TA, both in developed economies like Nguyen and Nyberg (2021) in the United States of America and Flamini et al. (2021) in Italy, as well as in developing economies like Mohammad et al. (2024) in Jordan and Sani and Umar (2023) in Nigeria. Certain CG qualities have a positive relationship with TA, whereas others have a negative relationship or no relationship at all, as the empirical literature section illustrates. The primary goal of this study is to examine the potential impacts of particular corporate governance characteristics on TA as determined by the cash effective tax rate of listed non-financial enterprises in Nigeria, as prior research has produced inconsistent findings. This work differs in a number of ways since it makes use of twenty-nine (29) CG traits, none of which have, as far as we are aware, been used in a single study before. Although Hohmann (2021) used three dependent variables-profit before tax, effective tax rate and cash effective tax rate- as proxies to measure TA, this study not only uses three dependent variables as well but used these variables to calculate a composite index known as TA extremism which no previous study has ever done to the best of our knowledge except that Tang et al. (2011); Egbadju (2024a) and Egbadju (2024b) calculated performance extremeness. This study uses more recent data covering 16 years (2007 to 2022) for 75 firms making a 1200 firm-year observations like this study (2007 to 2022) while Hasan et al. (2023) in Pakistan study covered from 2009 to 2018 for 130 firms making a total of 1380 firm-year observations. Therefore, we hypothesized that none of the CG factors considered in this study has any significant relationship with TA of the aforementioned non-financial firms in Nigeria. Following this introduction, the rest of the paper is divided into five sections with the literature review in section two, methodology in section three, analysis and discuss of results in section four and the fifth section concludes this paper.

## **2.0 Review of Related Literature.**

### **2.1 Theoretical Underpinning.**

**2.1.1 Hoffman Theory of Tax Planning:** Hoffmann put up this theory in 1961 and asserted that businesses ought to make a concerted effort to lower their costs associated with taxes. He said that tax laws with unclear purposes lead to loopholes that taxpayers can successfully take advantage of to save some money on taxes. Zachariah (2019) stated that due to the complexity of tax rules and procedures, there is a chance that individuals may exploit legal loopholes to increase funds from tax authorities. The theory supports flexibility in tax planning schemes so that they can easily blend with changes in tax laws, easily resolve conflict with other interested parties, and be honest and time-conscious because the savings from tax planning improve the performance and growth of the firm (Zachariah, 2019). Hoffman Theory is anchored on four important principles for effective tax planning which are that: a properly handled tax planning process is simple; if a

tax planning follows a formalized procedure, there is a great chance of obtaining much gain; many tax planners do not take the full advantage of practicing tax planning; many tax payers who could have benefitted from tax planning are ignorant of its advantage (Akintoye et al., 2020)

## 2.2 Empirical Literature

Egbadju and Chukwu (2024) explored the association, if any, between corporate governance and tax avoidance in Nigeria. Annual longitudinal data obtained from financial reports of 73 firms quoted on the Nigerian Exchange Group (NXG) spanning the periods 2009 to 2020 was used. The generalized methods of moment (GMM) regression results revealed that board diversity was significantly positive with cash effective tax rate (CETR); board independence, chief executive officer overconfidence and chief executive officer military experience was significantly negative with CETR while board size, board meetings, board political affiliations were not significant at all. Salehi et al. (2024) conducted research to verify the relationship that exists between corporate governance and tax avoidance in Iran. Annual data obtained from financial reports of 192 sampled firms listed on the floor of the Tehran Stock Exchange (TSE) spanning the periods 2011 to 2021 was used. The ordinary least squares (OLS) regression results showed that board independence, institutional ownership, board size gender diversity and audit committee members expertise reduce tax avoidance (that is, positively significant with ETR) while CEO duality exacerbates it (that is, negatively significant with ETR) for the lower the ETR, the higher the tax avoidance strategies. Pham et al. (2024) studied whether there is any relationship between corporate governance and tax avoidance in Vietnam. The researchers used annual data spanning the periods 2017 to 2022 collected from 47 listed firms on the Ho Chi Minh Stock Exchange (HOSE). The OLS results indicated that CEO Duality has a negative relationship with ETR meaning that it increases tax avoidance; audit quality and board size and were positively related with ETR meaning that managers did not engage in tax avoidance while ownership concentration, institutional ownership and executive compensation were insignificant. Adewole et al. (2024) empirically analyzed the impact which corporate governance has had on tax avoidance in Nigeria. The study made use of 220 observations which comprises 10 listed Deposit Money Banks (DMB) for twelve years starting from 2011 to 2022 financial years. The regression results by OLS indicated that board independence, credit risk committee, audit committee independence and CEO duality positively and significantly influenced ETR. Mohammad et al. (2024) studied, in a research work, how family ownership as well as corporate governance quality impacted tax avoidance in Jordan. The researchers used annualized secondary data of all firms listed on the floor of the Amman Stock Exchange (ASE) spanning the period between 2015 and 2021. The OLS regression results showed that family ownership was negatively significant with CETR while institutional ownership was insignificant. Rahmi and Novriadi (2024) empirically tested the impact which a good corporate governance, corporate social responsibility disclosure as well as intellectual capital might have had on tax avoidance in Indonesia. The study made use of data obtained from 10 transportation and logistics firms listed on the Indonesia Stock Exchange from 2016 to 2020. The results of the OLS showed that auditing committees, independent council of commissioners as well as disclosure of social responsibility were insignificant with ETR.

Hasan et al. (2023) carried out their study to verify if there is any relationship between certain corporate governance mechanisms and tax avoidance in Pakistan. These researchers used secondarily sourced data obtained from the Pakistan Stock Exchange (PSE) covering the period from 2009 to 2018 for 130 firms

making a total of 1380 firm-year observations. The results of the generalized least square (GLS) regression audit committee gender diversity, concentrated ownership and board independence are negatively associated with ETR while audit committee independence and managerial ownership positively influence ETR. Sani and Umar (2023) studied whether there is any relationship between corporate governance and tax evasion in Nigerian. The researchers used annual data for 12 deposit money banks (DMBs) spanning the periods 2015 to 2021 collected from the Nigerian Exchange Group (NXG). The regression results of the Generalized Method of Moments (GMM) showed that while board independence was positively significant with cash effective tax rate (CETR), board size was insignificant.

Khan et al. (2022) explored the association, if any, between corporate governance and tax aggressiveness in Pakistan. Annual data obtained from financial reports of two hundred sampled companies quoted on the Pakistan Stock Exchange (PSX) spanning the periods 2013 to 2019 was used. While tax aggressiveness, proxied by cash effective tax rate (CETR), was the dependent variable; outside directors, board size and female directors were the independent variable with intangible assets, capital intensity, profitability and leverage as a control variable. The OLS regression results revealed that outside directors and board size have a positive and statistically significant relationship with CETR while female directors, intangible assets and leverage are negatively significant. Appah (2022) conducted research to verify the relationship that exists between corporate governance attributes and tax planning in Nigeria. Annual data obtained from financial reports of eleven sampled pharmaceutical firms quoted on the Nigerian Exchange Group (NXG) spanning the periods 2014 to 2020 was used. While tax planning, proxied by tax savings (TAS) and book-tax-difference (BTD) were the dependent variables; Gender Diversity, Board Meetings, Board Size, Board Financial Expertise, Board Compensation were the independent variable with leverage and firm size as a control variable. The Generalized Least Squares (GLS) regression results revealed that board financial expertise and leverage were positively significant with BTD while gender diversity was positively significant with TAS. Srimindarti et al. (2022) empirically analyzed the impact which corporate governance has had on tax avoidance in Indonesia. The study made use of 864 observations which comprises 288 listed manufacturing firms on the Indonesia Stock Exchange (IDX) for three years starting from 2017 to 2019 financial years. The dependent variable was tax avoidance proxied by book-tax-gap (BTG) while the independent variables were audit committee, institutional ownership, independent commissioner, managerial ownership and firm size. The regression results by OLS indicated that managerial ownership negatively and significantly influenced BTG while firm size positively and significantly influenced it. Andhitiyara and Dameria (2022) carried out a study to determine how corporate governance influences tax avoidance in Indonesia. The researcher used annual data for 13 firms spanning the periods 2017 to 2019 collected from the Indonesia Stock Exchange (IDX). CETR was the dependent variable while board of commissioners, audit quality, managerial ownership and audit committee were the independent variables. The results of the OLS showed that only managerial ownership and audit quality were positively significant with CETR.

Nguyen and Nyberg (2021) studied the relationship if any, that exists between corporate governance and tax avoidance in the United States of America. Secondary data spanning the period from 1999 to 2017 collected from Compustat making a total of 23,603 firm-year observations was used in the study. The two proxies used for tax avoidance were generally accepted accounting principle effective tax rate (GAAP ETR) and cash effective tax rate (CASH ETR); the independent variable was peer ETR with other control variables. The results of the OLS regression revealed a positive and significant relationship between peer ETR with the two tax avoidance proxies. Flamini et al. (2021) investigated the factors that determine tax aggressiveness of



family-controlled firms in Italy. The mixed method of both primary data-questionnaires survey-and secondary data obtained for 227 firms from 2013 to 2014 were used in the study. Three variants of tax aggressiveness proxy (effective tax rate (ETR), cash effective tax rate (CETR) and net cash effective tax rate (NCETR)) were used as dependent variables. The independent variables were family CEO, ownership concentration, independent directors, strategic planning mechanisms and managerial reporting system. The results of the OLS showed that the impacts of ownership concentration and independent directors were positively significant; that of managerial control systems was negatively significant while family CEO was insignificant. Kusumah et al. (2021) investigated the impact which certain attributes of corporate governance have had on tax avoidance in Indonesia. Data used in this study were secondarily sourced from the entire firms within the LQ45 Stock quoted on the floor of the Indonesia Stock Trade for the periods 2018 to 2019. ETR was the dependent variable while ownership structure, reward executive, executives' characters, statement audit, audit committee and board of commissioners were the independent variables. The result of the OLS showed that reward of executive, statement audit and board of commissioners positively and significantly influenced tax avoidance; audit committee influence was negatively significantly while the other variables were insignificant. Otuedon (2021) carried out a study to ascertain whether there is any relationship between certain corporate attributes and tax aggressiveness in Nigeria. The researcher used annual data for 80 non-financial firms spanning the periods 2005 to 2019 collected from the Nigerian Exchange Group (NXG). ETR was the dependent variable; board size, board independence, board ownership, board gender diversity, CEO ownership, CEO age and CEO tenure were the independent variables while firm size, leverage and profitability were the control variables. The results of the OLS showed that board size, CEO age and profitability were positively significant; board independence, board ownership, CEO ownership and leverage were negatively significant while board gender diversity and firm size were not. Sugiyarti (2021) studied whether there is any relationship between female chief financial officer (CFO), executive compensation and executive characteristics on tax aggressiveness in Indonesia. Secondarily sourced annual data covering the periods 2013 to 2017 extracted from the audited reports of twelve (12) manufacturing firms quoted on the floor of the Indonesia Stock Exchange (ISE) was used in this research. Executive characteristics, female chief financial officer and executive compensation were the independent variables while aggressive tax action was the dependent variable. The results of the OLS showed that executive compensation was positively significant; executive characteristics was negatively significant while female chief financial officer was insignificant. Hohmann (2021) carried out a research study to investigate if there is any relationship that exists between ownership structure and tax avoidance in Indonesia. Secondary data spanning the period from 2004 to 2018 collected from the Indonesia Stock Exchange (IDX) on 34 listed mining firms making a total of 510 firm-year observations was used in the study. The three proxies used for tax avoidance were profit before tax, effective tax rate and cash effective tax rate while the independent variables were family ownership, foreign ownership, domestic corporate ownership, state ownership, domestic institutional ownership and foreign ownership. The results of the OLS regression revealed a positive and significant relationship between domestic institutional as well as foreign ownership with tax avoidance; a negative and significant relationship between domestic corporate, state and family ownership with tax avoidance.

### 3.0 Methodology

#### 3.1 Research Design

The study uses the ex-post facto research design, otherwise called the descriptive or correlational research design, to investigate the relationship, if any, between the corporate governance mechanisms and performance of 75 non-financial firms quoted on the floor of the Nigerian Exchange Group (NXG). This study uses secondarily sourced data obtained from their annual reports over the period 2007 to 2022, making a total number of 1,200 firm-year observations.

### 3.2 Measurement and Definitions of Variables.

Table1

| S/N | Variables Names | Definitions                                       | Variable Types | Measurements                                                                                                               | Authorities                         |
|-----|-----------------|---------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 1   | TAE             | Tax avoidance extremism                           | Dependent      | See 3.2.2 for Details                                                                                                      | None of the papers reviewed used it |
| 2   | TAE(-1)         | Lag one of tax avoidance extremism or $TAE_{t-1}$ | Instrumental   | Previous or Last Year's Value of tax avoidance extremism                                                                   | -                                   |
| 3   | CAETR           | Cash Effective Tax Rate                           | Dependent      | See 3.2.2 for Details                                                                                                      | Ardillah and Vanesa (2022)          |
| 4   | HS              | HS (Henry and Sansing's 2014) Measure.            | Dependent      | See 3.2.2 for Details                                                                                                      | None of the papers reviewed used it |
| 5   | SHT             | Tax Shelter Scores                                | Dependent      | See 3.2.2 for Details                                                                                                      | None of the papers reviewed used it |
| 6   | BODS            | Board size                                        | Independent    | Total number of directors on the board                                                                                     | Otuedon (2021)                      |
| 7   | BODI            | Board independence                                | Independent    | Percentage (%) of independent or non-executive directors on the board                                                      | Otuedon (2021)                      |
| 8   | BODIV           | Board gender diversity                            | Independent    | Proportion (%) of board members that are female.                                                                           | Otuedon (2021)                      |
| 9   | BMET            | Board meetings                                    | Independent    | This is the number of times members of the board hold meetings in a year                                                   | Egbunike et al. (2021)              |
| 10  | BPC             | Board Political Connections                       | Independent    | This is a dummy variable That takes the value "1" if the board has member (s) who are connected politically, otherwise "0" | Putri and Aristantia (2022)         |
| 11  | BSSN            | Board Same Surname                                | Independent    | This is the number of members of the board with the same Surname                                                           | None of the papers reviewed used it |

|    |         |                                            |             |                                                                                                             |                                     |
|----|---------|--------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 12 | MOWN    | Managerial ownership                       | Independent | This is the percentages or proportion (%) of shares which managers own                                      | Otuedon (2021)                      |
| 13 | FOWN    | Foreign ownership                          | Independent | This is the percentages or proportion (%) of shares which foreigners own                                    | Hohmann (2021)                      |
| 14 | IOWN    | Institutional ownership                    | Independent | This is the percentages or proportion (%) of shares which institutions own                                  | Sunarto et al. (2021)               |
| 15 | T5      | Top5 Ownership or Ownership concentration  | Independent | This is the percentages or proportion (%) of shares controlled by shareholders who have 5% or more shares.  | Flamini et al. (2021)               |
| 16 | T10     | Top10 Ownership or Ownership concentration | Independent | This is the percentages or proportion (%) of shares controlled by shareholders who have 10% or more shares. | None of the papers reviewed used it |
| 17 | T20     | Top20 Ownership or Ownership concentration | Independent | This is the percentages or proportion (%) of shares controlled by shareholders who have 20% or more shares. | None of the papers reviewed used it |
| 18 | FF      | Founder & family ownership                 | Independent | This is the percentages or proportion (%) of shares controlled by founders or family members on the board.  | None of the papers reviewed used it |
| 19 | BB      | Board busyness                             | Independent | These are directors working in more than one firms at the same time                                         | None of the papers reviewed used it |
| 20 | BCOMPEN | Board compensation                         | Independent | This is the total emoluments (salaries                                                                      | Sugiyarti (2021)                    |



|    |        |                                                        |             |                                                                                                                      |                                     |
|----|--------|--------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------|
|    |        |                                                        |             | and bonuses) paid to managers                                                                                        |                                     |
| 21 | BND    | Board national diversity                               | Independent | This is a dummy variable that takes the value 1, 2, 3, 4, etc for each of the countries a director comes from.       | None of the papers reviewed used it |
| 22 | BTB    | Board tribal diversity                                 | Independent | This is a dummy variable that takes the value 1, 2, 3, 4, etc for each Nigerian directors based on his or her tribe. | None of the papers reviewed used it |
| 23 | NBC    | Number of board committees                             | Independent | Number of committees put in place by the board                                                                       | None of the papers reviewed used it |
| 24 | NFODIR | Number of foreign directors                            | Independent | Total number of directors on the board that are non-Nigerian                                                         | None of the papers reviewed used it |
| 25 | CEOX   | Chief Executive Officer (CEO) Experience               | Independent | Total number of firms CEO has worked                                                                                 | None of the papers reviewed used it |
| 26 | CEORE  | Chief Executive Officer (CEO) Reputations              | Independent | A dummy variable which takes the value '1' if CEO has won an award, otherwise '0'                                    | None of the papers reviewed used it |
| 27 | CEOME  | Chief Executive Officer (CEO) with military experience | Independent | A dummy variable which takes the value '1' if CEO was an officer in the Army, Navy or Airforce, otherwise '0'        | None of the papers reviewed used it |
| 28 | CEOAG  | Chief Executive Officer (CEO) Age                      | Independent | Total number of years of CEO                                                                                         | Otuedon (2021)                      |
| 29 | CEOTEN | Chief Executive Officer (CEO) Tenure                   | Independent | Total number of years CEO has been in that position                                                                  | Otuedon (2021)                      |
| 30 | ACFE   | Audit committee financial expertise                    | Independent | Proportion (%) of audit committee members WITH financial expertise                                                   | None of the papers reviewed used it |
| 31 | ACGD   | Audit committee gender diversity.                      | Independent | Proportion (%) of audit committee members that are female.                                                           | None of the papers reviewed used it |

|    |       |                                                              |             |                                                                                                                  |                                     |
|----|-------|--------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| 32 | IMAC  | Internal members of audit committees                         | Independent | Number of internal members of audit committees                                                                   | None of the papers reviewed used it |
| 33 | EMAC  | External members of audit committees                         | Independent | This is the number of members of the audit committee from outside the company.                                   | None of the papers reviewed used it |
| 34 | ACMET | Audit committees meetings                                    | Independent | This is the number of times members of the audit committee hold meetings in a year                               | Egbunike et al. (2021)              |
| 35 | FAGE  | Firm age                                                     | Control     | This is the number of years since the company was established                                                    | -                                   |
| 36 | FSIZE | Firm size                                                    | Control     | Log of total assets                                                                                              | Srimindarti et al. (2022)           |
| 37 | LEV   | Leverage                                                     | Control     | Total liabilities divided bt Total Assets                                                                        | Appah (2022)                        |
| 38 | MTB   | Market-To-Book                                               | Control     | Market Value divided by Book Value                                                                               | -                                   |
| 39 | RISK  | Volatility of return on assets                               | Control     | Standard deviation of return on asset                                                                            | -                                   |
| 40 | LOSS  | Net loss reported each year                                  | Control     | This is a dummy variable that takes the value “1” if the firm makes a loss in any year, otherwise “0”            | -                                   |
| 41 | R&D   | Research & Development                                       | Control     | Research & Development Expenditure/Sales                                                                         | -                                   |
| 42 | BIG4  | Deloitte & Touche; Ernst & Young; PriceWater Cooper and KPMG | Control     | Dummy variable which equals “1” in year a firm is audited by one of the four biggest audit firms; “0” otherwise. | Andhitiyara and Dameria (2022)      |
| 43 | ADV   | Advertisement                                                | Control     | Advertisement expenses divided by total sales                                                                    | -                                   |
| 44 | IDUM  | Industry Sector Fixed Effect Dummy                           | Control     | A dummy variable which takes the value ‘1’ for each industry                                                     | -                                   |
| 45 | YDUM  | Year Fixed Effect Dummy                                      | Control     | A dummy variable which takes the value ‘1’ for each year                                                         | -                                   |

Source: Author’s Compilation from the Reviewed Literatures.

### 3.2.2 Derivation of the Dependent Variables

#### 3.2.2.1. Cash Effective Tax Rate (CAETR)

The cash tax is the actual tax paid or payable to the Federal Inland Revenue Services (FIRS) which is based on the reported amount on FIRS's tax return each year. The book tax and the cash tax do produce different results due to differences in policy objectives, and this lead to the concept of timing differences which are temporary difference and permanent difference. Cash effective tax rate is usually calculated as the cash tax expense paid in a particular year divided by pre-tax book income or profit before tax in that year

$$\text{CAETR} = \frac{\text{Cash Tax Expense Paid}}{\text{Pre-Tax Income or Profit Before Tax}}$$

#### 3.2.2.2. HS (Henry and Sansing's 2014) Measure.

$$\text{HS} = \frac{\Delta}{\text{MVA}} = \frac{\text{Cash Tax Paid} - (\text{Statutory Tax Rate} * \text{Profit Before Tax})}{\text{MVA}}$$

Where:

$$\text{MVA} = \text{book value of assets} + (\text{market value of equity} - \text{book value of equity}) = \text{BVA} + (\text{MV E} - \text{BV E})$$

#### 3.2.2.3. SHELTER(SHT):

- a) This is an indicator variable used when a firm is accused of engaging in any tax shelter activity
- b) Alternatively, the probability that a firm may be engaged in tax sheltering can be computed as follows:

$$\text{Tax Shelter Score (TSS)} = -4.30 + 6.63 * \text{BTD} - 1.72 * \text{LEV} + 0.66 * \text{SIZE} + 2.26 * \text{ROA} + 1.62 * \text{FOREIGN INCOME} + 1.56 * \text{R\&D}$$

$$\text{where: BTD} = \text{Book-Tax-Differences} = \frac{\text{Profit Before Tax} - (\text{Current Tax Expense})}{\text{Statutory Tax Rate}}$$

LEV = Leverage = Total Debts / Total Assets; SIZE = Log of Total Assets; ROA = PBT/Total Assets; Foreign Income = Income earned outside the shores of Nigeria; R&D = Research & Development Expenditures / Total Assets.

The above measures of tax avoidance are based on the works of Efendi (2020) and Salihu et al (2013)

#### 3.2.2.4. Tax Avoidance Extremism (TAE) :

Thus, the following steps are undertaken to obtain the value for tax avoidance extremism, extreme tax avoidance or tax avoidance extremeness as the case may be.

Step1: Calculate the value for each performance indicator (CAETR, HS and SHT) for each firm and for the sampled period, that is, for the firm-year observations.

Step2: Normalize each indicator by subtracting the industry-year average/mean and then divide the outcome by the industry-year standard deviation.

Step3: Take the absolute value of the results in Step2 above.

Step3: Finally, take the average value of all the tax avoidance indicators (CAETR, HS and SHT) to form a composite value for tax avoidance extremism. That is, sum the three indicators (CAETR, HS and SHT) and then divide by three. The larger the value, the greater the firm has deviated from the industry concentration or the mainstream trend.

The calculation of tax avoidance extremism, extreme tax avoidance or tax avoidance extremeness adopts those of Tang et al.(2011); Egbadju(2024b) and Egbadju (2024c) performance extremeness

### 3.3 Model Specification

The tax avoidance extremism functional equation used in testing the hypotheses earlier stated in the introductory part is as specified in equation 1 below:

$$TAE = f(BODS, BODI, BODIV, BMET, BPC, BSSN, MOWN, FOWN, IOWN, T5, T10, T20, FF, BB, BCOMPEN, BND, BTD, NBC, NFODIR, CEOX, CEORE, CEOME, CEOAG, CEOTEN, ACFE, ACGD, IMAC, EMAC, ACMET, FAGE, FSIZE, LEV, MTB, RISK, LOSS, R\&D, BIG4, ADV, IDUM, YDUM) \quad (Eq1)$$

The functional model to be tested will be derived as:

$$TAE = \beta_0 + \beta_1 BODS + \beta_2 BODI + \beta_3 BODIV + \beta_4 BMET + \beta_5 BPC + \beta_6 BSSN + \beta_7 MOWN + \beta_8 FOWN + \beta_9 IOWN + \beta_{10} T5 + \beta_{11} T10 + \beta_{12} T20 + \beta_{13} FF + \beta_{14} BB + \beta_{15} BCOMPEN + \beta_{16} BND + \beta_{17} BTD + \beta_{18} NBC + \beta_{19} NFODIR + \beta_{20} CEOX + \beta_{21} CEORE + \beta_{22} CEOME + \beta_{23} CEOAG + \beta_{24} CEOTEN + \beta_{25} ACFE + \beta_{26} ACGD + \beta_{27} IMAC + \beta_{28} EMAC + \beta_{29} ACMET + \beta_{30} FAGE + \beta_{31} FSIZE + \beta_{32} LEV + \beta_{33} MTB + \beta_{34} RISK + \beta_{35} LOSS + \beta_{36} R\&D + \beta_{37} BIG4 + \beta_{38} DV + \beta_{39} YDUM + \beta_{40} IDUM + \varepsilon \quad (Eq2)$$

Since we are using panel data, the model will be specified in the appropriate form as:

$$TAE_{it} = \beta_0 + \beta_1 BODS_{it} + \beta_2 BODI_{it} + \beta_3 BODIV_{it} + \beta_4 BMET_{it} + \beta_5 BPC_{it} + \beta_6 BSSN_{it} + \beta_7 MOWN_{it} + \beta_8 FOWN_{it} + \beta_9 IOWN_{it} + \beta_{10} T5_{it} + \beta_{11} T10_{it} + \beta_{12} T20_{it} + \beta_{13} FF_{it} + \beta_{14} BB_{it} + \beta_{15} BCOMPEN_{it} + \beta_{16} BND_{it} + \beta_{17} BTD_{it} + \beta_{18} NBC_{it} + \beta_{19} NFODIR_{it} + \beta_{20} CEOX_{it} + \beta_{21} CEORE_{it} + \beta_{22} CEOME_{it} + \beta_{23} CEOAG_{it} + \beta_{24} CEOTEN_{it} + \beta_{25} ACFE_{it} + \beta_{26} ACGD_{it} + \beta_{27} IMAC_{it} + \beta_{28} EMAC_{it} + \beta_{29} ACMET_{it} + \beta_{30} FAGE_{it} + \beta_{31} FSIZE_{it} + \beta_{32} LEV_{it} + \beta_{33} MTB_{it} + \beta_{34} RISK_{it} + \beta_{35} LOSS_{it} + \beta_{36} R\&D_{it} + \beta_{37} BIG4_{it} + \beta_{38} ADV_{it} + \beta_{39} YDUM_{it} + \beta_{40} IDUM_{it} + \varepsilon_{it} \quad (Eq3)$$

### 3.3 Description of the Estimation Technique Used.

#### 3.4.1 Dynamic Data Analysis using Generalized Method of Moments (GMM):

The Generalized Method of Moments (GMM) regression estimate technique is a general method for estimating the parameters of statistical models. The primary objective of using GMM for dynamic panel data

is to practically resolve the endogeneity bias problem and address unobserved heterogeneity (Chung et al., 2018). GMM addresses problems with autocorrelation, especially second order correlation, heteroscedasticity, and multicollinearity. Due to unobserved heterogeneity, the dependent variable's lagged value, or  $TAE_{it-1}$ , is added to the static model to make it dynamic. Consequently, the lagged dependent variable to equation 3 is included in equation 4 below:

$$TAE_{it} = \beta_0 + \beta_1 TAE_{it-1} + \beta_2 BODS_{it} + \beta_3 BODI_{it} + \beta_4 BODIV_{it} + \beta_5 BMET_{it} + \beta_6 BPC_{it} + \beta_7 BSSN_{it} + \beta_8 MOWN_{it} + \beta_9 FOWN_{it} + \beta_{10} IOWN_{it} + \beta_{11} T5_{it} + \beta_{12} T10_{it} + \beta_{13} T20_{it} + \beta_{14} FF_{it} + \beta_{15} BB_{it} + \beta_{16} BCOMPEN_{it} + \beta_{17} BND_{it} + \beta_{18} BTD_{it} + \beta_{19} NBC_{it} + \beta_{20} NFODIR_{it} + \beta_{21} CEOX_{it} + \beta_{22} CEORE_{it} + \beta_{23} CEOME_{it} + \beta_{24} CEOAG_{it} + \beta_{25} CEOTEN_{it} + \beta_{26} ACFE_{it} + \beta_{27} ACGD_{it} + \beta_{28} IMAC_{it} + \beta_{29} EMAC_{it} + \beta_{30} ACMET_{it} + \beta_{31} FAGE_{it} + \beta_{32} FSIZE_{it} + \beta_{33} LEV_{it} + \beta_{34} MTB_{it} + \beta_{35} RISK_{it} + \beta_{36} LOSS_{it} + \beta_{37} R\&D_{it} + \beta_{38} BIG4_{it} + \beta_{39} ADV_{it} + \beta_{40} YDUM_{it} + \beta_{41} IDUM_{it} + \varepsilon_{it} \quad (Eq4)$$

Where the definitions are as stated in Table2 above.

$\beta_1$  to  $\beta_{41}$  are the beta coefficients of the instrumental, the independent as well as the control variables. We expect  $\beta_1$  to  $\beta_{41}$  to be greater than zero.

$\varepsilon_{it}$  = Error term for year 'i' in year 't'

The study adopts and adapts the model of Sani and Umar (2023) but while they used effective tax rate (ETR) as their dependent variable, we use a composite tax avoidance index computed from three dependent variables as explained in Section 3.2.2.4 above..

#### 4.0. Method of Data Analysis

Data collected are analyzed using EViews 13 in the following order: univariate data analyses or descriptive statistics; bivariate data analysis or correlation analysis; unit root test; estimation of the models; performance of some additional analysis and diagnostics tests.

##### 4.1 Univariate Data Analyses (Descriptive Statistics)

Table 2 below shows the parameters' mean, minimum, maximum, standard deviations, and Jarque-Bera Statistics Probability values. Each of the pertinent variables has maximum values that are greater than their corresponding minimum values. Furthermore, BODS, BODI, BODIV, BMET, BPC, BTD, NBC, CEOX, CEOAG, CEOTEN, IMAC, EMAC, ACMET, FAGE, FSIZE, IDUM, and YDUM all had mean values greater than their respective standard deviations. Given that there are no outliers in their data set, this suggests that these variables have reasonably high averages, with only a slight variation between the highest and lowest values over the preceding 16 years (Lestari & Setiany, 2023). However, the standard deviation values for each of the following are smaller than the mean values: BSSN, MOWN, IOWN, FOWN, T5, T10, T20, FF, BB, BCOMPEN, BND, NFODIR, CEORE, CEOME, ACGD, LEV, MTB, RISK, LOSS, R&D, BIG4, and ADV. This indicates that there are outliers in the data set for these variables, and that the average is very low because of the large difference between the highest and lowest values over the last 16 years (Lestari & Setiany, 2023).



Table 2

| Variables of Interest | Number of Observations | Mean Variables | Std Deviations of the Variables | Minimum Variables | Maximum Variables | Probability of Jarque-Bera( |
|-----------------------|------------------------|----------------|---------------------------------|-------------------|-------------------|-----------------------------|
| BODS                  | 1200                   | 8.6800         | 2.4600                          | 3.0000            | 17.0000           | 0.0000                      |
| BODI                  | 1200                   | 0.7300         | 0.1500                          | 0.1700            | 1.2500            | 0.0000                      |
| BODIV                 | 1200                   | 0.1100         | 0.1100                          | 0.0000            | 0.6700            | 0.0000                      |
| BMET                  | 1200                   | 4.6500         | 1.2500                          | 2.0000            | 10.0000           | 0.0000                      |
| BPC                   | 1200                   | 0.5600         | 0.5000                          | 0.0000            | 1.0000            | 0.0000                      |
| BSSN                  | 1200                   | 0.6500         | 1.1100                          | 0.0000            | 4.0000            | 0.0000                      |
| MOWN                  | 1200                   | 1.1500         | 16.6900                         | 0.0000            | 502.0400          | 0.0000                      |
| IOWN                  | 1200                   | 4.2200         | 45.8400                         | 0.0000            | 919.6000          | 0.0000                      |
| FOWN                  | 1200                   | 0.1300         | 0.3300                          | 0.0000            | 4.5800            | 0.0000                      |
| T5                    | 1200                   | 28.1800        | 223.4300                        | 0.0000            | 5285.0000         | 0.0000                      |
| T10                   | 1200                   | 2.9300         | 31.0300                         | 0.0000            | 761.0000          | 0.0000                      |
| T20                   | 1200                   | 5.8500         | 77.9700                         | 0.0000            | 2301.0000         | 0.0000                      |
| FF                    | 1200                   | 0.0400         | 0.1900                          | 0.0000            | 4.4500            | 0.0000                      |
| BB                    | 1200                   | 0.7000         | 0.8200                          | 0.0000            | 4.0000            | 0.0000                      |
| BCOMPEN               | 1200                   | 2127888.8100   | 6451763.0500                    | 0.0000            | 56750000.0000     | 0.0000                      |
| BND                   | 1200                   | 1.9300         | 2.7400                          | 1.0000            | 66.0000           | 0.0000                      |
| BTD                   | 1200                   | 1.4700         | 1.3100                          | 0.0000            | 9.0000            | 0.0000                      |
| NBC                   | 1200                   | 3.5400         | 0.9000                          | 2.0000            | 8.0000            | 0.0000                      |
| NFODIR                | 1200                   | 0.1700         | 0.2100                          | 0.0000            | 0.8300            | 0.0000                      |
| CEOX                  | 1200                   | 3.8300         | 0.7100                          | 2.0000            | 9.0000            | 0.0000                      |
| CEORE                 | 1200                   | 0.2300         | 0.4300                          | 0.0000            | 2.0000            | 0.0000                      |
| CEOME                 | 1200                   | 0.2400         | 0.4500                          | 0.0000            | 4.0000            | 0.0000                      |
| CEOAG                 | 1200                   | 60.3700        | 9.1300                          | 2.0000            | 88.0000           | 0.0000                      |
| CEOTEN                | 1200                   | 2.7800         | 1.2200                          | 4.0000            | 25.0000           | 0.0000                      |
| ACFE                  | 1200                   | 5.3700         | 0.9200                          | 0.0000            | 6.0000            | 0.0000                      |
| ACGD                  | 1200                   | 0.0700         | 0.0900                          | 3.0000            | 0.4400            | 0.0000                      |
| IMAC                  | 1200                   | 5.4100         | 0.9100                          | 2.0000            | 6.0000            | 0.0000                      |
| EMAC                  | 1200                   | 2.7100         | 0.4500                          | 2.0000            | 3.0000            | 0.0000                      |
| ACMET                 | 1200                   | 3.5600         | 0.8900                          | 1.0000            | 10.0000           | 0.0000                      |
| FAGE                  | 1200                   | 40.9800        | 18.9100                         | 3.6800            | 97.0000           | 0.0000                      |
| FSIZE                 | 1200                   | 7.0500         | 1.0100                          | -15.8100          | 9.8200            | 0.0000                      |

|      |      |        |         |          |           |        |
|------|------|--------|---------|----------|-----------|--------|
| LEV  | 1200 | 8.4100 | 88.4200 | 0.0000   | 1661.4400 | 0.0000 |
| MTB  | 1200 | 0.6800 | 5.3500  | 0.0000   | 100.2200  | 0.0000 |
| RISK | 1200 | 0.0800 | 0.2000  | -26.6500 | 2.7500    | 0.0000 |
| LOSS | 1200 | 0.2000 | 0.4000  | 0.0000   | 1.0000    | 0.0000 |
| R&D  | 1200 | 0.0000 | 0.0200  | 0.0000   | 0.3100    | 0.0000 |
| BIG4 | 1200 | 0.3300 | 0.4700  | 0.0000   | 1.0000    | 0.0000 |
| ADV  | 1200 | 0.1900 | 3.7200  | 0.0000   | 69.4700   | 0.0000 |
| IDUM | 1200 | 4.3000 | 2.6900  | 0.0000   | 9.0000    | 0.0000 |
| YDUM | 1200 | 8.6600 | 4.6000  | 1.0000   | 16.0000   | 0.0000 |

Sources: Authors' Computations using EViews 13 Software

#### 4.2 Bivariate Data Analysis (Variance Inflation Factor)

Variance Inflation Factors (VIFs) is a statistical technique used to identify the collinearity or multicollinearity of independent variables. Murray et al. (2012) stated that a high VIF denotes collinearity between the independent variables, which leads to very low t-statistics and increases the standard errors and variances of the regression coefficient estimations. Table 3 shows the variance inflation factor (VIF) and associated tolerance column results. Variables with a VIF between 5 and 10 are regarded as significantly correlated, while any variable with a VIF of less than 10 and a tolerance level greater than 0.2 is regarded as free of multicollinearity (Shrestha, 2020). Every variable has a VIF less than 10 and a tolerance more than 0.2, with the exception of T10, T20, ACFE, IMAC, and EMAC, which are above the thresholds. Since these variables only account for about 12.5% of the total variables, they might not be the source of multicollinearity. Since there isn't a single way to get rid of multicollinearity in a model, you might want to think about doing nothing, removing a redundant variable, changing the multicollinear variables, or expanding the sample size. According to Belsley et al. (1980) as cited in Murray et al. (2012), researchers should exercise caution when deciding whether to eliminate or reduce collinearity because other factors, such as sample size, that affect the variability of regression coefficients should also be taken into account.

**Table 3**

| S/N | Variables | Variance Inflation Factor (VIF) | Tolerance | S/N | Variables | Variance Inflation Factor (VIF) | Tolerance |
|-----|-----------|---------------------------------|-----------|-----|-----------|---------------------------------|-----------|
| 1   | BODS      | 1.717889                        | 0.581395  | 21  | CEORE     | 1.360992                        | 0.714286  |
| 2   | BODI      | 1.332943                        | 0.746269  | 22  | CEOME     | 1.346329                        | 0.714286  |
| 3   | BODIV     | 1.817439                        | 0.549451  | 23  | CEOAG     | 1.139479                        | 0.833333  |
| 4   | BMET      | 1.577905                        | 0.636943  | 24  | CEOTEN    | 1.389256                        | 0.714286  |
| 5   | BPC       | 1.052891                        | 0.909091  | 25  | ACFE      | 12.38520                        | 0.080645  |
| 6   | BSSN      | 1.222437                        | 0.813008  | 26  | ACGD      | 1.663029                        | 0.588235  |
| 7   | MOWN      | 2.789384                        | 0.357143  | 27  | IMAC      | 96.30878                        | 0.010373  |
| 8   | FOWN      | 1.371201                        | 0.714286  | 28  | EMAC      | 85.11471                        | 0.011737  |
| 9   | IOWN      | 1.455241                        | 0.684932  | 29  | ACMET     | 1.694835                        | 0.588235  |

|    |         |          |          |    |       |          |          |
|----|---------|----------|----------|----|-------|----------|----------|
| 10 | T5      | 4.163073 | 0.238095 | 30 | FAGE  | 1.714991 | 0.581395 |
| 11 | T10     | 33.17372 | 0.043103 | 31 | FSIZE | 1.573484 | 0.625    |
| 12 | T20     | 23.60462 | 0.042194 | 32 | LEV   | 3.523068 | 0.395257 |
| 13 | FF      | 1.149590 | 0.833333 | 33 | MTB   | 1.414471 | 0.704225 |
| 14 | BB      | 1.729305 | 0.578035 | 34 | RISK  | 1.100996 | 0.833333 |
| 15 | BCOMPEN | 1.417969 | 0.704225 | 35 | LOSS  | 1.237467 | 0.769231 |
| 16 | BND     | 1.146190 | 0.833333 | 36 | R&D   | 1.131625 | 0.833333 |
| 17 | BTD     | 1.378357 | 0.714286 | 37 | BIG4  | 1.465227 | 0.666667 |
| 18 | NBC     | 1.270985 | 0.769231 | 38 | ADV   | 3.272006 | 0.78125  |
| 19 | NFODIR  | 1.693115 | 0.588235 | 39 | IDUM  | 1.543249 | 0.645161 |
| 20 | CEOX    | 1.268682 | 0.769231 | 40 | YDUM  | 1.501459 | 0.662252 |

**Source: Researcher's Computations (2024) Using EViews13 Software.**

#### 4.3. Unit Root Test.

When the EViews workfile is arranged in panel data form, as shown in Table 4 below, a panel data unit root test can be performed.

Table 4

| Variables | Augmented Dickey Fuller test-Statistic | Phillip-Perron test-Statistic | 1% Critical Value | 5% Critical Value | 10% Critical Value | Order of Integration or Stationarity |
|-----------|----------------------------------------|-------------------------------|-------------------|-------------------|--------------------|--------------------------------------|
| CAETR     | -17.1152                               | -24.1856                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| HS        | -21.0529                               | -21.4706                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| SHT       | -13.7144                               | -16.0449                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| TAE3      | -14.6506                               | -20.6692                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BODS      | -10.3201                               | -10.1319                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BODI      | -10.7770                               | -10.6003                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BODIV     | -11.5532                               | -11.8019                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BMET      | -9.5548                                | -12.5395                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BPC       | -29.0183                               | -18.8122                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| BSSN      | -5.5425                                | -9.4503                       | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| MOWN      | -13.4849                               | -26.8389                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| IOWN      | -9.5096                                | -18.2028                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| FOWN      | -4.5685                                | -10.5780                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| T5        | -11.2387                               | -26.1777                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| T10       | -13.5588                               | -28.3575                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |
| T20       | -13.5588                               | -28.3575                      | -3.9657           | -3.4135           | -3.1288            | I(0) stationary                      |

|         |          |          |         |         |         |                 |
|---------|----------|----------|---------|---------|---------|-----------------|
| F_F     | -13.4672 | -21.1850 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| BB      | -7.0216  | -7.3919  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| BCOMPEN | -6.0260  | -7.4799  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| BND     | -10.4738 | -23.3461 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| BTD     | -15.5447 | -14.8200 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| NBC     | -7.5789  | -8.0960  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| NFODIR  | -7.5373  | -7.5483  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| CEOX    | -11.0355 | -10.9024 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| CEORE   | -10.2613 | -9.7751  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| CEOME   | -5.5140  | -6.0386  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| CEOAG   | -12.3328 | -18.6046 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| CEOTEN  | -6.3783  | -21.0022 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| ACFE    | -7.5086  | -8.6551  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| ACGD    | -8.5410  | -9.7341  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| IMAC    | -7.8316  | -8.9650  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| EMAC    | -8.0230  | -9.2778  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| ACMEET  | -12.8187 | -11.6937 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| FAGE    | -6.4977  | -6.7048  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| FSIZE   | -8.6418  | -8.7576  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| LEV     | -23.2966 | -10.3305 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| INVENT  | -12.1543 | -15.1327 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| RISK    | -7.0858  | -8.8354  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| LOSS    | -14.2961 | -22.0885 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| R&D     | -11.0462 | -10.4645 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| BIG4    | -8.0956  | -8.1121  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| ADV     | -12.0029 | -14.6658 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| IDUM    | -4.5003  | -6.7888  | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |
| YDUM    | -6.0883  | -13.1225 | -3.9657 | -3.4135 | -3.1288 | I(0) stationary |

**Source: Researcher's Computations (2024) Using EViews13 Software.**

The results of the Augmented Dickey Fuller (ADF) test-Statistic as well as that of the Phillip-Perron (PP) test-Statistic for all the variables of interest are reported in Table 4 above. The results showed that the two test statistics (ADF & PP) are greater than all the tabulated critical values at the 1% Critical Value, 5% Critical Value and 10% Critical Value. This means that all the variables of interest are I(0), or stationary at

levels. Variables that are not stationary may gradually drift apart, producing regression results that are inaccurate or illogical. The ordinary least squares (OLS) estimate method can therefore be used.

#### 4.4 Testing for Endogeneity Problem in Our Regression Model

Every linear regression model is built on certain basic assumptions. When any of these assumptions are violated, it causes severe econometric problems and therefore renders the OLS regression results biased, spurious or nonsensical. One of the major problems that these assumptions violations can cause is endogeneity bias. The assumption is that the error term has a constant variance among the sample and it is expected to be uncorrelated with the explanatory variables. Thus, endogeneity problem occurs if an independent variable in our regression model is correlated with the unobserved error term. Since the independent variables are assumed to be uncorrelated with the error term, any one of them that is correlated with the error term is called endogenous independent or explanatory variable. It can also occur in a situation where the current or present value of independent variables correlate with the past values or lagged values of the dependent variable in what is known as a dynamic endogeneity. This endogeneity can be as a result of measurement error, omitted variables, simultaneity biases. Endogeneity is a problem that many corporate finance studies that attempt to explain causal-effect relationships face. This can result in inconsistent and biased parameter estimates (Wintoki et al., 2012) or even in the wrong coefficient being sign-positive or negative (Ketokivi & McIntosh, 2017), which can lead to misleading conclusions, inferences, and interpretations (Li et al., 2021). Li et al. (2021) observed that out of about twelve (12) papers where endogeneity bias were ever mentioned, only three of them used the dynamic model approach while only one applied the rigorous way by reporting the results of the test.

To identify endogeneity in our model, we run a fixed effect regression model for only the independent variables with each independent variable being a dependent variable in turn and then extract its residual. This residual variable is used to replace the main dependent variable in the original regression equation and then, rerun and observe the p-value. If the p-value of the residual variable is less than or equal to 5%, then there is an endogeneity in our model. The endogeneity test results in Table 5 below showed that RES\_BODI, RES\_FOWN, RES\_BCOMPEN, RES\_BTD, RES\_ACGD, RES\_ACMET, RES\_LEV, RES\_ADVERT and RES\_YDUM have endogeneity problem since their P-values are less than 5%.

Table 5 Endogeneity Test Results

| S/N | Estimated Residuals of Variables | P-Values | S/N | Estimated Residuals of Variables | P-Values |
|-----|----------------------------------|----------|-----|----------------------------------|----------|
| 1   | RES_BODS                         | 0.1385   | 21  | RES_CEORE                        | 0.8459   |
| 2   | RES_BODI                         | 0.0201   | 22  | RES_CEOME                        | 0.3391   |
| 3   | RES_BODIV                        | 0.7177   | 23  | RES_CEOAG                        | 0.5859   |
| 4   | RES_BMET                         | 0.1369   | 24  | RES_CEOTEN                       | 0.9972   |
| 5   | RES_BPC                          | 0.0749   | 25  | RES_ACFE                         | 0.7909   |

|    |             |        |    |            |        |
|----|-------------|--------|----|------------|--------|
| 6  | RES_BSSN    | 0.0986 | 26 | RES_ACGD   | 0.0021 |
| 7  | RES_MOWN    | 0.8883 | 27 | RES_IMAC   | 0.4778 |
| 8  | RES_IOWN    | 0.8277 | 28 | RES_EMAC   | 0.3344 |
| 9  | RES_FOWN    | 0.0295 | 29 | RES_ACMET  | 0.0281 |
| 10 | RES_T5      | 0.6609 | 30 | RES_FAGE   | 0.1185 |
| 11 | RES_T10     | 0.8063 | 31 | RES_FSIZE  | 0.3391 |
| 12 | RES_T20     | 0.7940 | 32 | RES_LEV    | 0.0000 |
| 13 | RES_F&F     | 0.0719 | 33 | RES_INVENT | 0.6938 |
| 14 | RES_BB      | 0.8861 | 34 | RES_RISK   | 0.4191 |
| 15 | RES_BCOMPEN | 0.0019 | 35 | RES_LOSS   | 0.0235 |
| 16 | RES_BND     | 0.6409 | 36 | RES_R&D    | 0.1051 |
| 17 | RES_BT D    | 0.0000 | 37 | RES_BIG4   | 0.9081 |
| 18 | RES_NBC     | 0.5759 | 38 | RES_ADVERT | 0.0000 |
| 19 | RES_NFODIR  | 0.1073 | 39 | RES_IDUM   | 0.6355 |
| 20 | RES_CEOX    | 0.6833 | 40 | RES_YDUM   | 0.0060 |

Source: Researcher's Computations (2024) Using EViews13 Software.

#### 4.5 Regression Models Estimation Results.

Table 6. Dependent Variable: TAE

Method: Panel Generalized Method of Moments

Transformation: Orthogonal Deviations

Date: 04/06/24 Time: 15:42

Sample (adjusted): 2007 2022

Periods included: 16

Cross-sections included: 75

Total panel (unbalanced) observations: 1200

White period (period correlation) instrument weighting matrix

White period (cross-section cluster) standard errors & covariance (d.f. corrected)

Standard error and t-statistic probabilities adjusted for clustering

Instrument specification: @DYN(TAE3,-2)

Constant added to instrument list

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| TAE(-1)  | 0.134782    | 0.021410   | 6.295426    | 0.0000 |
| BODS     | 0.018835    | 0.026599   | 0.708090    | 0.4811 |
| BODI     | -0.675287   | 0.682860   | -0.988909   | 0.3260 |



|         |           |          |           |        |
|---------|-----------|----------|-----------|--------|
| BODIV   | -1.464639 | 0.601092 | -2.436630 | 0.0173 |
| BMET    | 0.049433  | 0.043842 | 1.127515  | 0.2632 |
| BPC     | -0.013252 | 0.067483 | -0.196376 | 0.8449 |
| BSSN    | -0.116880 | 0.080006 | -1.460883 | 0.1483 |
| MOWN    | 0.761530  | 0.312491 | 2.436968  | 0.0172 |
| IOWN    | 0.011860  | 0.018239 | 0.650256  | 0.5176 |
| FOWN    | 4.110106  | 1.983558 | 2.072087  | 0.0418 |
| T5      | -0.021072 | 0.015153 | -1.390603 | 0.1686 |
| T10     | 0.109873  | 0.081551 | 1.347293  | 0.1821 |
| T20     | 0.013112  | 0.030260 | 0.433293  | 0.6661 |
| F&F     | -1.796784 | 0.740809 | -2.425437 | 0.0178 |
| BB      | -0.038601 | 0.183065 | -0.210858 | 0.8336 |
| BCOMPEN | 6.82E-08  | 3.13E-08 | 2.177787  | 0.0327 |
| BND     | 0.081469  | 0.045718 | 1.781979  | 0.0789 |
| BTD     | 0.334589  | 0.048957 | 6.834319  | 0.0000 |
| NBC     | -0.329304 | 0.129681 | -2.539341 | 0.0132 |
| NFODIR  | -0.292247 | 0.857295 | -0.340894 | 0.7342 |
| CEOX    | -0.068590 | 0.084656 | -0.810220 | 0.4204 |
| CEORE   | 0.387158  | 0.163815 | 2.363383  | 0.0208 |
| CEOME   | 0.906266  | 4.118794 | 0.220032  | 0.8265 |
| CEOAG   | -0.009846 | 0.002459 | -4.004108 | 0.0001 |
| CEOTEN  | 1.112198  | 0.992160 | 1.120986  | 0.2660 |
| ACFE    | 0.415520  | 0.252081 | 1.648360  | 0.1036 |
| ACGD    | 6.359738  | 1.140000 | 5.578715  | 0.0000 |
| IMAC    | 0.291540  | 0.200523 | 1.453900  | 0.1503 |
| EMAC    | -0.819689 | 0.649449 | -1.262129 | 0.2109 |
| ACMEET  | -0.223599 | 0.103365 | -2.163198 | 0.0338 |
| FAGE    | -0.045870 | 0.024465 | -1.874935 | 0.0648 |
| FSIZE   | 0.044938  | 0.131458 | 0.341842  | 0.7335 |
| LEV     | 0.005287  | 0.001109 | 4.767112  | 0.0000 |
| INVENT  | -0.063673 | 0.039645 | -1.606082 | 0.1126 |
| RISK    | 0.235065  | 0.370023 | 0.635273  | 0.5272 |
| LOSS    | 0.063569  | 0.168371 | 0.377551  | 0.7069 |
| R&D     | 2.580215  | 0.485504 | 5.314512  | 0.0000 |
| BIG4    | 0.316352  | 0.217590 | 1.453889  | 0.1503 |
| ADV     | -0.159884 | 0.029509 | -5.418144 | 0.0000 |
| IDUM    | -12.10971 | 21.80464 | -0.555373 | 0.5803 |
| YDUM    | 0.082186  | 0.032714 | 2.512260  | 0.0142 |

---



---

Effects Specification

---



---

Cross-section fixed (orthogonal deviations)

---



---

|                    |          |                    |          |
|--------------------|----------|--------------------|----------|
| Mean dependent var | 0.056247 | S.D. dependent var | 0.524732 |
| S.E. of regression | 14.01760 | Sum squared resid  | 179201.7 |
| J-statistic        | 34.46994 | Instrument rank    | 74       |
| Prob(J-statistic)  | 0.397356 |                    |          |

---



---

Source: Researcher's Computations (2024) Using EViews13 Software.

#### 4.5 Discussion of the Regression Estimation Results and Hypotheses Testing.

According to Table 5 above, the coefficient (0.134782) of TAE(-1) shows that it is favorably significant at the 1% levels of significance (t-Statistics = 6.295426 and  $p = 0.0000$ ). The dependent variable and its lag must be significant and move in the same direction, according to the body of existing research, which is in line with this conclusion (Egbadju & Jacob, 2022). The significantly positive coefficient shows that the capital structure of the previous period has a direct impact on the capital structure of the current year. Again,

given the p-value of the Sargon statistic or J-Statistic (0.397356) is higher than the 5% and 10% barrier or higher suggested by Roodman (2009), our model is unaffected by the proliferation of instruments.

With a p-value of 0.0173, a t-statistic of -2.436630, and a coefficient of -1.464639, the association between BODIV and TAE is specifically adversely significant. Accordingly, TAE falls when BODIV rises, or vice versa, TAE rises when BODIV falls. This implies that managers' inclinations to engage in tax avoidance decrease with the number of women on the board. Both the size or magnitude and the sign or direction match our expectations. Therefore, we accept the alternative that there is a substantial association between BODIV and TAE and reject the null hypothesis that there is no significant relationship. This finding is consistent with that of Khan et al. (2022), however it runs counter to Appah's (2022) positive finding.

With a p-value of 0.0172, a t-statistic of 2.436968, and a coefficient of 0.761530, the association between MOWN and TAE is positively significant. This implies that TAE rises in tandem with MOWN. This implies that managers are less inclined to avoid paying taxes when their shareholdings rise. Both the size or magnitude and the sign or direction match our expectations. Therefore, we accept the alternative that MOWN and TAE have a substantial relationship and reject the null hypothesis that there is no significant association between the two. This result contradicts that of Srimindarti et al. (2022), which was negative, but it is consistent with that of Andhitiyara and Dameria (2022) and Hasan et al. (2023).

With a coefficient of 5057.331, a t-statistic of 16.74953, and a p-value of 0.0000, the association between FOWN and TAE is positively significant. This implies that TAE rises in tandem with FOWN. This implies that managers are less inclined to avoid paying taxes as the number of foreign ownership shareholdings rises. Both the size or magnitude and the sign or direction match our expectations. Therefore, we accept the alternative that MOWN and TAE have a substantial relationship and reject the null hypothesis that there is no significant association between the two. This outcome is consistent with Hohmann's (2021) findings.

The F&F relationship with TAE is negatively significant, as indicated by the p-value of 0.0178, the t-statistic of -2.425437, and the coefficient of -1.796784. To put it another way, TAE typically increases when F&F declines or vice versa. This suggests that when founders' and family members' shareholdings increase, managers' propensity to engage in tax avoidance declines. The sign or direction and the size or magnitude are both in line with what we would expect. As a result, we reject the null hypothesis that there is no significant relationship between F&F and TAE and accept the alternative that there is a large association. This result is in line with the findings of Mohammad et al. (2024) and Hohmann (2021).

With a coefficient of 6.82E-08, a t-statistic of 2.177787, and a p-value of 0.0327, the association between BCOMPEN and TAE is positively significant. This implies that TAE rises in tandem with BCOMPEN. This implies that managers are less inclined to avoid paying taxes as their salary rises. Both the size or magnitude and the sign or direction match our expectations. Therefore, we accept the alternative that there is a substantial association between BCOMPEN and TAE and reject the null hypothesis that there is no significant relationship. This outcome is consistent with those of Kusumah et al. (2021) and Sugiyarti (2021).

With a p-value of 0.0001, a t-statistic of -4.004108, and a coefficient of -0.009846, the association between CEOAG and TAE is negatively significant. Accordingly, TAE falls when CEOAG rises, or vice versa, TAE rises when CEOAG falls. This implies that the older CEOs get, the less inclined they are to engage in tax avoidance. Both the size or magnitude and the sign or direction match our expectations. Therefore, we accept the alternative that there is a substantial association between CEOAG and TAE and reject the null hypothesis that there is no significant relationship. This conclusion contradicts the favorable findings of Otuedon (2021) and is not consistent with any of the previously evaluated literature.

Also, BTD, CEORE and ACGD are positively significant with TAE while NBC and ACMEET are negatively significant with TAE. For the control variables, while LEV and R&D are positively and statistically significant with TAE; ADV and YDUM are negatively significant.

#### 4.6.. Arellano and Bond Serial Correlation Diagnostic Tests of AR (1) and AR (2):

For if there are reasons that autoregressive errors are expected in a regression model, we can use the lagged value of the dependent variable as a valid instrument in the differenced equation (Arellano & Bond, 1991). When an estimator uses lags as instruments with the assumption that the disturbance or error term is white noise, such an estimator would produce inconsistent results if the disturbance terms are indeed serially correlated (Arellano & Bond, 1991). Thus, it is very necessary to be sure of no autocorrelation by carrying out test statistics of no serial correlation by validating the instrumental variables through a second-order residual serial correlation test (Arellano & Bond, 1991). The AR (1) may be or may not be significant but AR (2) must never be insignificant at all. AR (2) is more important in evaluating our results as it shows whether there is second-order serial correlation. If AR (2) is significant, it indicates that some of the lagged dependent variables which might be used as instrumental variables are bad instrument and thus endogenous. Since the p-values of AR (1) = NA(Not Available) while AR (2) = 0.99924 which is greater than 0.05, we then accept the null hypothesis that there is no second order serial correlation in the model. See Table 7 below.

Table 7. Arellano-Bond Serial Correlation Test

Equation: Untitled

Date: 04/06/24 Time: 13:16

Sample: 2007 2022

Included observations: 1200

| Test order | m-Statistic | rho     | SE(rho)  | Prob.  |
|------------|-------------|---------|----------|--------|
| AR(1)      | NA          | -613.17 | NA       | NA     |
| AR(2)      | -0.000972   | -944.34 | 971722.7 | 0.9992 |

\*Standard errors could not be computed. Try different covariance matrix options

#### 4.8 Additional Tests of Robustness Comparing Three Scenarios.

To test the robustness of our results, we model three scenarios where the CAETR Model, the HS Model and the SHT Model are compared.

Table 8. The Regression Results of the Three Models Using Their P-Values

| S/N | VARIABLES                | CAETR Model-21 Variables | HS Model-25 Variables | SHT Model-15 Variables |
|-----|--------------------------|--------------------------|-----------------------|------------------------|
| 1   | Lag One                  | 0.0000                   | 0.0000                | 0.0010                 |
| 2   | BODS                     | 0.0001                   | 0.8922                | 0.3557                 |
| 3   | BODI                     | 0.0000                   | 0.0000                | 0.0000                 |
| 4   | BODIV                    | 0.0000                   | 0.0000                | 0.0316                 |
| 5   | BMET                     | 0.0000                   | 0.0000                | 0.0614                 |
| 6   | BPC                      | 0.0000                   | 0.0000                | 0.0000                 |
| 7   | BSSN                     | 0.0003                   | 0.0000                | 0.0891                 |
| 8   | MOWN                     | 0.8824                   | 0.0663                | 0.2506                 |
| 9   | FOWN                     | 0.3965                   | 0.5633                | 0.7192                 |
| 10  | IOWN                     | 0.0000                   | 0.0000                | 0.0000                 |
| 11  | T5                       | 0.7194                   | 0.0002                | 0.0001                 |
| 12  | T10                      | 0.3715                   | 0.0000                | 0.0704                 |
| 13  | T20                      | 0.1977                   | 0.0000                | 0.7880                 |
| 14  | FF                       | 0.0000                   | 0.0006                | 0.0004                 |
| 15  | BB                       | 0.0000                   | 0.0036                | 0.1235                 |
| 16  | BCOMPEN                  | 0.0023                   | 0.0011                | 0.0049                 |
| 17  | BND                      | 0.0001                   | 0.0000                | 0.7307                 |
| 18  | BTD                      | 0.0000                   | 0.0000                | 0.8557                 |
| 19  | NBC                      | 0.7620                   | 0.0000                | 0.0000                 |
| 20  | NFODIR                   | 0.0000                   | 0.0000                | 0.4496                 |
| 21  | CEOX                     | 0.0000                   | 0.0000                | 0.0000                 |
| 22  | CEORE                    | 0.0293                   | 0.0405                | 0.7691                 |
| 23  | CEOME                    | 0.0277                   | 0.0000                | 0.0000                 |
| 24  | CEOAG                    | 0.0000                   | 0.0234                | 0.9170                 |
| 25  | CEOTEN                   | 0.6490                   | 0.0000                | 0.0021                 |
| 26  | ACFE                     | 0.0000                   | 0.0000                | 0.0001                 |
| 27  | ACGD                     | 0.0000                   | 0.0000                | 0.0000                 |
| 28  | IMAC                     | 0.0803                   | 0.0000                | 0.0000                 |
| 29  | EMAC                     | 0.0021                   | 0.0000                | 0.0000                 |
| 30  | ACMET                    | 0.0026                   | 0.0047                | 0.8184                 |
| 31  | FAGE                     | 0.1650                   | 0.0000                | 0.0000                 |
| 32  | FSIZE                    | 0.0000                   | 0.0000                | 0.0000                 |
| 33  | LEV                      | 0.0000                   | 0.0005                | 0.0000                 |
| 34  | MTB                      | 0.0000                   | 0.0000                | 0.0513                 |
| 35  | RISK                     | 0.1469                   | 0.0195                | 0.0000                 |
| 36  | LOSS                     | 0.0000                   | 0.1141                | 0.7641                 |
| 37  | R&D                      | 0.8380                   | 0.0610                | 0.0035                 |
| 38  | BIG4                     | 0.0652                   | 0.0000                | 0.0000                 |
| 39  | ADV                      | 0.0023                   | 0.3556                | 0.9042                 |
| 40  | IDUM                     | 0.5843                   | 0.0000                | 0.7755                 |
| 41  | YDUM                     | 0.0104                   | 0.0000                | 0.0010                 |
| 42  | Prob(J-statistic)        | 0.553231                 | 0.494856              | 0.669318               |
| 43  | AR(1) Serial Correlation | NA                       | 0.9911                | 0.9966                 |
| 44  | AR(2) Serial Correlation | 0.9998                   | NA                    | NA                     |

Source: Researcher's Computations (2024) Using EViews13 Software

Where the three scenarios are taken into considerations, the regression results indicate that the CAETR Model has 21 variables statistically significant; the HS Model has 25 variables statistically significant while the SHT Model has 15 variables statistically significant as shown in Table 8 above. This attests to the robustness of the fact that corporate governance attributes considered in this study have helped in mitigating managers' desires to engage in extreme tax avoidance.

## 5.0 Conclusion and Recommendations

This study examines the connection between tax avoidance extremism and corporate governance in Nigerian quoted non-financial companies. The study makes use of panel data from secondary sources covering 75 companies listed on the Nigerian Exchange Group (NXG) floor between 2007 and 2022. The results of the generalized method of moments indicated that managerial ownership (MOWN), foreign ownership (FOWN), Board compensation (BCOMPEN), board tribal diversity (BTD), Chief Executive Officer (CEO) Reputations (CEORE) and audit committee gender diversity (ACGD) are positively significant with TAE; Board gender diversity (BODIV), founder & family ownership (F&F), Chief Executive Officer age (CEOAG), number of board committees (NBC) and audit committees meetings (ACMEET) are negatively significant with TAE. For the control variables, while leverage (LEV) as well as research & development expenditures (R&D) are positively and statistically significant with TAE; advertisement expenses (ADV) and year dummy (YDUM) are negatively significant.

Based on the results above, the study recommends the followings:

- (i) Managerial ownership (MOWN), foreign ownership (FOWN), board compensation (BCOMPEN), board tribal diversity (BTD), Chief Executive Officer (CEO) Reputations (CEORE) and audit committee gender diversity (ACGD) could not help in reducing the effective tax rates and so could not increase cashflows through tax avoidance since they all have a positive relationship with the effective tax rate. Therefore, management should investigate the reasons these variables could not effectively minimize tax costs to the organization.
- (ii) Board gender diversity (BODIV), founder & family ownership (F&F), chief executive officer age (CEOAG), number of board committees (NBC) and audit committees' meetings (ACMEET) help in reducing the effective tax rates and so increase cashflows through tax avoidance since they all have a negative relationship with the effective tax rate. Therefore, management should maintain the current state of these

variables or consider increasing them so as to guarantee their effectiveness in minimizing tax costs to the organization.

## References

- Adewole, E. A., Kehinde, J. S. & Adebayo, A. M. (2024). Effects of corporate governance on corporate tax avoidance of selected deposit money banks in Nigeria. *International Journal of Research and Innovations and Social Sciences (IJRISS)*, 8(8), 3329-3339.
- Akintoye, I. R., Adegbie, F. A. & Onyeka-Iheme, C. V. (2020) Tax Planning Strategies and Profitability of Quoted Manufacturing Companies in Nigeria. *Journal of Finance and Accounting*. 8 (3), 148-157.
- Andhitiyara, S. R. & Dameria, R. P. (2022).The influence of corporate governance on tax avoidance (study on basic industry and chemicals companies listed on the Indonesia stock exchange). *International Journal of Economics, Business and Accounting Research (IJEBAR)*, 6(1), 304-313
- Appah, E. (2022). Corporate governance attributes and tax planning of listed pharmaceutical companies in Nigeria. *British Journal of Management and Marketing Studies* 5(1), 1-38.
- Arellano, M. & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*. 58(2): 277-297.
- Charles, I. I., & Uford, I. C. (2023). Comparative analysis and evaluation of business and financial performance of Amazon. Com: A three-year period critical review of exceptional success. *European Journal of Business, Economics and Accountancy*, 11(2), 69-92.
- Chen, C., Garg, M., Hanlon, D. & Tan, E. (2020).CEO-Board social ties and corporate tax avoidance.(n. p.)
- Chitimira, H. & Animashaun, O. (2021).Combating legal uncertainty in the Nigerian tax avoidance laws, *ÆCONOMICA*, 17 (2), 67-83
- Chukwu, G. J., Appah, E. & Awogbade, A. (2020).Corporate governance mechanism and tax aggressiveness of listed consumer goods firms in Nigeria. (n. p.), 614-631
- Chung, D. J., Kim, B. & Park, B. G. (2018). How do sales efforts pay off? Dynamic panel data analysis in the Nerlove-Arrow framework. (n. d.), 1-50
- Dyreng, S. D., Hanlon, M. & Maydew, E. L. (2008). Long-run corporate tax avoidance. *Accounting Review*, 83(1), 61–82.
- Dyreng, S. D., Hanlon, M. & Maydew, E. L. (2010).The effects of executives on corporate tax avoidance. *The Accounting Review* 85 (4): 1163–1189



- Efendi, S. (2020). Covid-19 and corporate tax avoidance: measuring longrun tax burdens as an alternative bailout test. *Kajian Ekonomi Keuangan* 4(3), 216-244.
- Egbadju, L. U. & Jacob, R. B. (2022). Corporate governance mechanisms and performance of quoted non-financial firms in Nigeria. *International Journal of Intellectual Discourse (IJID)*, 5(4), 135-147.
- Egbadju, L. U. & Oriavwote, V. E. (2016). Value added tax and macroeconomic performance: A dynamic modeling of the Nigerian experience. *European Journal of Business and Management*. 8 (17), 49-59.
- Egbadju, L. U. & Chukwu, G. J. (2024). Corporate governance mechanisms and tax avoidance of quoted non-financial firms in Nigeria. *Journal of Accounting and Financial Management*, 10(3), 150-182.
- Egbadju, L. U. (2024a). Business strategy-strategic deviance- business complexity and managerial ability on accounting-based performance extremism of quoted non-financial firms in Nigeria. *World Journal of Entrepreneurial Development Studies (WJEDS)*, 9(1), 124-150.
- Egbadju, L. U. (2024b). Product market competition and market-based performance extremeness of quoted non-financial firms in Nigeria. *International Journal of Marketing and Communication Studies*, 8(2), 61-85.
- Flamini, G., Vola, P., Songini, L. & Gnan, L. (2021). The determinants of tax aggressiveness in family firms: An investigation of Italian private family firms. *Sustainability* 13, 1-21.
- [Hasan, A., Anwar, W., Zahir-Ul-Hassan, M. K. & Ahmed, A. \(2023\).](#) Corporate governance and tax avoidance: evidence from an emerging market, 2688-2704. Retrieved from: <https://doi.org/10.1080/00036846.2023.2198195>
- Hohmann, M. (2021). *Ownership Structure and Tax Avoidance: An empirical analysis of listed Indonesian mining companies*. (Master thesis, University of Twente Repository, Indonesia. Open Access).
- Ketokivi, M., & McIntosh, C. N. (2017). Addressing the endogeneity dilemma in operations management research: Theoretical, empirical, and pragmatic considerations. *Journal of Operations Management*, (52), 1-14.
- Khan, M. T., Nawaz, F., Mahmood, Z. & Saeed, M. Z. (2022). The association between corporate governance and tax aggressiveness: Empirical evidence from Pakistan. *Journal of ISOSS*, 8(1), 15-32
- Kiabel, B. D. & Akenbor, C. O. (2014). Tax Planning and Corporate Governance in Nigerian Banks. *European Journal of Business and Management*, 6 (19), 235-243
- Kusumah, R. W. R., Tejaksuma, M. N. & Soraya, B. I. S. (2021). Tax avoidance is influenced by good corporate governance factors (empirical study on LQ-45 companies recorded on the Indonesia stock trade for the period 2018-2019). *Turkish Journal of Physiotherapy and Rehabilitation*; 32(2). 36-54
- Lanis, R., Richardson, G., Liu, C., & McClure, R. (2019). The impact of corporate tax avoidance on board of directors and CEO reputation. *Journal of Business Ethics*, 160(2).

- Lestari, F. D. & Setiany, E. (2023). The impact of governance, audit quality, and financial performance on increasing corporate value. *International Journal for Multidisciplinary Research (IJFMR)*, 5(2), 1-17.
- Li, J., Ding, H., Hu, Y. & Wan, G. (2021). Dealing with dynamic endogeneity in international business research. *Journal of International Business Studies*, 52, 339–362.
- Li, J., Ding, H., Hu, Y. & Wan, G. (2021). Dealing with dynamic endogeneity in international business research. *Journal of International Business Studies*, 52, 339–362.
- Mohammad, A., Shehadeh, A., Alkayed, H., Aladwan, M. & Iskandrani, M. (2024). Family ownership, corporate governance quality and tax avoidance: Evidence from an emerging market—The case of Jordan. *Journal of Risk and Financial Management* 17: 86
- Mujiani, S., Sa'diah, K., Efrinal, & Kurniawan, E. (2021). The moderating role of sustainability report on good corporate governance and tax avoidance. *The 2nd International Conference on Innovations in Social Sciences Education and Engineering (ICoISSEE) August 07th, 2021*
- Murray, L., Nguyen, H., Lee, H., Yu-Feng; R., Marta, D. & Smith, D. W. (2012). Variance inflation factors in regression models with dummy variables," Conference on Applied Statistics in Agriculture, 160-177.
- Nguyen, V. N. K. & Nyberg, S. L. (2021). *Common Ownership and Tax Avoidance*. (Master thesis, Norwegian School of Economics (NHH), Norway)
- Okoye, E. & Ofoegbu, G. N. (2006). Regulation of financial reporting and corporate governance in Nigeria: A critical review. *Journal of Global Accounting*, 2 (1), 1-20
- Okoye, E. I. & Akenbor, C. O. (2010). Accounting policies and efficient corporate tax planning in Nigeria. *A Quarterly Journal of Association of Certified National Accountants of Nigeria*, 18 (2), 1-11.
- Oktavia, (2020). Independent corporate governance organs' activities, tax avoidance, and country tax environment: Evidence from ASEAN countries. *Pertanika J. Soc. Sci. & Hum.* 28 (2): 1485 – 1505
- Omesi, I. & Appah, E. (2021). Corporate governance and tax avoidance of listed consumer and industrial goods companies in Nigeria. *IOSR Journal of Economics and Finance (IOSRJEF)*, 12(2), 17-31.
- Omesi, I. & Appah, E. (2021). Corporate governance and tax avoidance of listed consumer and industrial goods companies in Nigeria. *IOSR Journal of Economics and Finance (IOSRJEF)*, 12(2), 17-31.
- Otuedon, A. M. (2021). *Corporate governance and tax aggressiveness in non-financial quoted firms in Nigeria*. (Doctoral thesis, Igbinedion University Repository, Okada. Open Access).
- Otuedon, A. M. (2021). Corporate governance and tax aggressiveness in non-financial quoted firms in Nigeria. (Doctoral thesis, Igbinedion University Repository, Okada. Open Access).
- Otusanya, O. J. (2011). The role of multinational companies in tax evasion and tax avoidance: The case of Nigeria. *Critical Perspectives on Accounting* 22, 316–332

- Pham, M.T., Nguyen, L.V., & Nguyen, T.T. M. (2024). The effect of corporate governance on tax avoidance: Evidence from listed firms in Vietnam. *Economic Insights – Trends and Challenges*, 13(2), 1-15.
- Rahmi, N. A. & Novriadi (2024). Effect of good corporate governance (GCG), corporate social responsibility (CSR) disclosure, and intellectual capital on tax avoidance (empirical study on transportation and logistics companies listed on the Indonesia stock exchange for the 2019-2021 period). *Jurnal Akuntansi*, 14(1), 25-41
- Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, 71(1), 135-158.
- Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, 71(1), 135-158,
- Saffie, F. (2013). *Taxes as practices of mutual recognition: Towards a general theory of tax law* (Doctoral thesis, The University of Edinburgh. Open Access).
- Salehi, M., Jabbari, S., Hosseiny, Z. N. & Khargh, F. E. (2024). Impact of corporate governance on tax avoidance. *J Public Affairs*, DOI: 10.1002/pa.2929, 1-16
- Salihu, I. A., Obid, S. N. S. & Annuar, H. A. (2013). Measures of corporate tax avoidance: Empirical evidence from an emerging economy. *International Journal of Business and Society*, 14(3), 412 - 427
- Sani, A. B. & Umar, S. I. (2023). Corporate governance factors and tax avoidance of listed deposit money banks in Nigeria. *Lafia Journal of Economics and Management Sciences*:8(1), 242-264
- Saputri, I. & Husen, S. (2020). The influence of independent commissioners, audit committee, and institutional ownership structure on tax avoidance (Study on Manufacturing Companies Registered at Indonesia Stock Exchange 2014-2017). *Indonesian College of Economics*, 1-23.
- Saputri, I. & Husen, S. (2020). The influence of independent commissioners, audit committee, and institutional ownership structure on tax avoidance (Study on Manufacturing Companies Registered at Indonesia Stock Exchange 2014-2017). *Indonesian College of Economics*, 1-23.
- Shrestha, N. (2020). Detecting multicollinearity in regression analysis. *American Journal of Applied Mathematics and Statistics*, 8(2), 39-42
- Srimindarti, C., Andriani, W, C., Meita, O, R. & Hardiningsih, P. (2022). The effect of corporate governance and company size on tax avoidance. *Jurnal Organisasi dan Manajemen* 18(1), 114-125.
- Sugiyarti, L. (2021). The effect of executive compensation, representation of chief financial officer's women, executive characteristic on tax aggressiveness. *Nominal: Barometer Riset Akuntansi dan Manajemen*, 10(2), 153-167.
- Sunarto, S., Widjaja, B. & Oktaviani, R. M. (2021). The effect of corporate governance on tax avoidance: The role of profitability as a mediating variable. *Journal of Asian Finance, Economics and Business*, 8(3), 217-227

- Tang, J., Crossan, M. & Rowe, W. G. (2011). Dominant CEO, deviant strategy, and extreme performance: The moderating role of a powerful board *Journal of Management Studies* 48(:7), 1479-1503.
- Uford, I. C. (2017). *Customer and Employee-based Brand Equity Driving United Bank for Africa's Market Performance* (Doctoral dissertation, University of the Witwatersrand, Faculty of Commerce, Law and Management, School of Economic & Business Sciences).
- Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, 105(3): 581–606.
- Zachariah, P. (2019). *Corporate governance and tax planning in listed non-financial services companies in Nigeria*. (PhD thesis, Bayero University, Kano, Nigeria. Open Access).