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Influence of Chief Executive Officers' Managerial Attributes on Tax Avoidance of Selected Production Firms in Nigeria

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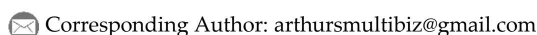
Abstract

The broad objective of this study is to explain the effect of Chief Executive Officers' (CEO) attributes on tax avoidance of listed firms in Nigeria. To this end, this study specifically examined the impact of CEOs' tenure, CEOs' share ownership, CEOs' gender, and CEOs' nationality on tax avoidance over a 10-year time frame (2012 – 2021) for listed non-finance firms in Nigeria. Notably, this study employed the upper echelon theory as the key theoretical framework, noting that the key tenet of the upper echelon theory is that a business organization reflects its top management team, comprised of the CEO. In this study, an ex-post factor research design was employed, and fifteen non-finance firms were drawn from a population of one hundred and nine using a non-probability sampling technique procedure. The robust regression analysis technique was employed to test the formulated hypotheses after fulfilling the conditions for obtaining non-spurious regression estimates. Specifically, the result reveals mixed evidence suggesting that the effect of CEOs' attributes on tax avoidance typically depends on the observed or unobserved traits of the CEO. Clearly, the result indicates that higher ownership rights in the hands of the CEO significantly reduce tax avoidance. Therefore, this study recommends, among others, that to optimize the non-debt tax saving strategy for listed non-finance firms in Nigeria, the management of each firm must develop a culture within the organization that values responsible tax planning practices and encourage CEOs to actively consider minimizing ownership right volume to serve as a strategic tool for gaining tax advantages.

Keywords: CEO, Tax avoidance, Upper echelons theory, Data normality test, Regression.

1 | Introduction

Following existing corporate governance tax avoidance nexus literature, it is widely acknowledged that the primary objective of establishing a corporate entity is to optimize financial gains and generate sustainable profit. Shareholders who have invested their resources in the organization anticipate a commensurate financial



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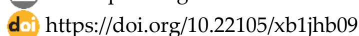

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gain on their invested capital [1]. Hence, the organization will maximize shareholder value, necessitating a sustainable competitive advantage to succeed in the marketplace. Corporate executives are strongly inclined to foster a sustainable competitive edge, employing various strategic measures, such as cost reduction through tax avoidance [2]. Practically, one may find it challenging to envision a high-ranking executive exerting an individual influence on the tax avoidance practices of a corporation.

The Chief Executive Officer (CEO) is typically inexperienced in tax matters and may have limited familiarity with various tax strategies [3]. However, the individual probably possesses a comprehensive knowledge of the fiercely competitive landscape prevalent within the industry and the inherent capacity for expansion to yield operational efficiencies through the realization of economies of scale. It is evident that the influence of a CEO extends to the formulation and implementation of the firm's operational and financial strategies, as well as potentially impacting the firm's tax avoidance endeavors [4]. The influence of a CEO on tax avoidance strategies can be discerned through the establishment of a prevailing tone at the top with regard to the tax-related operations of the organization [5]. In corporate governance, it is common for CEOs to strategically alter the relative emphasis placed on various functional areas within their organizations. These areas encompass critical domains such as marketing, operations, treasury, tax, and the allocation of resources toward engaging diverse advisors, both internal and external to the firm.

Moreover, it is imperative to consider how the corporate governance framework can influence the establishment of compensation incentives for the tax director, who plays a pivotal role in the firm's tax-related issues. In accordance with the scholarly findings of [6], it has been posited that the proclivity towards tax avoidance practices is subject to the intricate dynamics of the tax system, including the imperative of book-tax conformity and the perceived efficacy of tax law enforcement as perceived by key decision-makers. In the realm of corporate governance, it is imperative to acknowledge the intricate nature of decision-making processes that CEOs encounter. These challenges, which include information overload, ambiguous cues, and competing goals and objectives, necessitate a cognitive filtering and interpretation mechanism [7].

The inherent nature of individuals, encompassing their values, experiences, personalities, and various other human factors, significantly influences their subjective interpretations of business situations and subsequently shapes their strategic choices [8]. Corporate governance and tax policies profoundly influence various organizational outcomes, encompassing performance metrics, growth trajectories, investments in research and development (R and D), and tax obligations, among others. Furthermore, regarding the interplay between CEO attributes and tax avoidance, it is proposed that employing demographic indicators and observable characteristics as surrogates is a viable approach, given the intricate nature of cognitive foundations and values, which pose challenges in quantification Hambrick and Mason [9]. Moreover, the limited availability of senior executives, such as the CEO, for extensive psychological assessments further supports utilizing these proxies.

Nevertheless, it is imperative to acknowledge that demographic variables, despite their validity, present inherent limitations as metrics, rendering them incomplete and prone to inaccuracy. Hence, it is essential to acknowledge that the personality profile of the top executive, specifically the CEO, encompassing salient attributes such as gender and nationality, emerges as a robust construct that holds significant potential in prognosticating decision-making processes, especially decisions pertaining to the selection of tax optimization strategies [10]. Building upon the preceding discourse, this study delves into the intricate relationship between CEO attributes and the implementation of corporate tax planning strategies, specifically focusing on the tax avoidance channel.

2 | Conceptual Framework

2.1 | Tax Avoidance

The phenomenon of corporate tax avoidance has been extensively examined within the realm of accounting and finance literature. Tax avoidance pertains to corporate endeavors that yield a diminution in explicit tax

obligations, encompassing the adoption of diverse legal and potentially illicit tax strategies [11]. The activities of corporate tax avoidance have been commonly described and compared through the terms of tax planning and aggressive tax behavior, which have been used interchangeably. The strategic practice of tax avoidance may allow corporations to postpone or entirely eradicate their fiscal obligations. Additionally, this strategy can potentially facilitate the transformation of a taxable asset, such as interest, into a tax-exempt entity, namely dividends [12].

Consequently, this maneuver allows for income redistribution, resulting in a comparatively reduced tax rate. Consequently, corporations experience reduced tax liabilities, leading to augmented cash inflows that can be allocated towards fulfilling their investment requirements, pursuing acquisitions, and engaging in various other operational endeavors. In firm-specific determinants, the influence of senior executives on corporate tax avoidance practices can be significant. The Upper Echelons Theory posits that senior executives, including CEOs and Chief Financial Officers (CFOs), employ a subjective perspective to assess and respond to organizational opportunities and threats, thereby shaping critical corporate policies [9].

The driving forces behind these idiosyncratic corporate decisions may stem from an executive's experiential background, personal characteristics, and other human factors. Hence, top executives' attitudes and preferences can manifest in their seminal study, the objective of which was to investigate. In particular, the influence exerted by executives on corporate GAAP effective tax rates and the behavior exhibited by upper-level corporate executives and CEOs significantly influences the extent to which companies engage in tax avoidance practices [13].

2.2 | Chief Executive Officer Attribute

Within the upper echelons of the corporate hierarchy, it is commonly observed that the CEO assumes a position of influence and authority among the board members. In corporate enterprises, the level of dedication a CEO exhibits toward the organization can be perceived as a genuine imperative, as a tangible manifestation of the CEO's profound affiliation and active engagement with the company [14]. The CEO is ultimately responsible for determining and sustaining a company's strategic direction and attaining company performance. According to several studies and literature reviews in the business sector, the CEO is primarily responsible for the company's reputation [15], [16]. The CEO assumes the role of overseeing various organizational activities, including but not limited to task coordination, formulation of a plan to mitigate reputational risks, effective reputation management, and proactive identification of external threats during times of crisis [17].

The individual holding the position of Chief Reputation Officer within an organization is typically the CEO, who assumes the primary responsibility for overseeing and managing the company's reputation. There is a growing trend among CEOs to engage in the analysis and evaluation of company reputation across various stakeholders. This entails the integration of reputational considerations into the overall company vision and establishing a dedicated department or board specifically focused on managing reputation [18]. This study provides a concise overview of CEO attribute proxies, namely CEO tenure, CEO ownership, CEO nationality, and CEO gender, which will be discussed in the subsequent section.

2.2.1 | Chief executive officer tenure

The concept of CEO tenure pertains to the duration for which CEOs remain in their present position, typically measured in years. It is generally anticipated that CEOs with longer tenures will serve at least six years [19]. The duration of a CEO's tenure is a significant indicator of their personal qualities and standing, as it directly impacts their approach to strategic management within the organization. The upper-echelon perspective posits that the actions of CEOs are influenced by their comprehension of the strategic circumstances they encounter [20]. Their length of service notably influences this comprehension. Extended tenure periods among CEOs may result in a stagnation of organizational dynamics due to the heightened level of commitment these long-tenured individuals develop towards their established paradigm for managing

the organization. Individuals tend to exhibit a tendency to evade information that challenges their existing paradigm, resulting in decreased job engagement and increased capacity to oppose proposed alterations [21].

2.2.2 | Chief executive officer ownership

CEO ownership refers to the percentage of shares possessed by a company's CEO at the conclusion of the fiscal year. The composition of the CEO's shareholding includes both direct and indirect holdings. The ownership of CEOs is widely acknowledged as a significant form of power, supported by both theoretical frameworks and empirical evidence [22]. The ownership of the company is the primary determinant of the agent-principal relationship within the agency theory framework. The potential influence of CEO ownership on CEO power can be analyzed in terms of its capacity to address both internal and external factors. The CEO wields significant authority and exerts substantial influence over the managerial and directorial functions within the organization [23]. When a CEO possesses less power and holds a smaller proportion of the company's shares, it allows for greater board involvement in decision-making. However, it is important to note that an excessive diversification of perspectives within the board can lead to inconclusive outcomes, potentially diminishing the positive effects of increased discussion. As the CEO's level of influence over decisions escalates, there is a corresponding rise in the concentration of ownership, consequently augmenting the level of power held [24].

2.2.3 | Chief executive officer gender

Firms with a higher representation of women in senior positions exhibit greater resilience during periods of economic downturn. This finding suggests that gender diversity within organizations significantly enhances overall performance [25]. Female CEOs have been found to foster a workplace environment more conducive to female employees' needs and preferences. These female leaders are also more committed to promoting wage equality, particularly among newly hired workers [26]. The perspectives and concepts put forth by female CEOs hold significant value.

Additionally, it is observed that female CEOs tend to exhibit a higher degree of apprehension toward failure, as highlighted by Wagner [27]. Previous studies have consistently reported a higher propensity for ethical behavior among females. Research suggests a gender difference in adopting a strict ethical stance, with females being more inclined towards this behavior than males. Women tend to be more inclined towards egalitarianism than men, often requesting lesser outcomes during negotiation processes [28].

2.2.4 | Chief executive officer nationality

The examination of CEO nationality is approached through the lens of a non-native CEO. The appointment of a CEO can occur through two primary means: internal promotion or external recruitment. Regardless of the chosen approach, varying perspectives exist on the specific mode of entry into this position [29]. The CEO who is promoted to their position enjoys certain advantages over their peers. The presence of diverse nationalities and cultures within a team has been found to potentially heighten the likelihood of encountering cross-cultural communication challenges as well as interpersonal conflicts [30].

Nevertheless, it is worth noting that adopting international networks, safeguarding shareholder rights, and avoiding managerial entrenchment are potential competitive advantages that firms may derive from such a strategy [31]. Previous studies have substantiated organizations' benefits when their managers possess a background in international affairs [32]. Managers with international experience tend to exhibit a reduced perception of risks linked to foreign expansion compared to their counterparts with diverse backgrounds and varying experience levels [33]. Consequently, these managers are more inclined to partake in foreign direct investments.

2.2.5 | Chief executive officer and tax avoidance

Although the CEO is not a tax expert and cannot directly influence the company's tax policies, the CEO is the ultimate decision-maker, whose position is higher than that of the tax director and CFO [34]. The CEO

can use tone at the top to indirectly influence tax policies, which suggests that the decision-making is affected by the CEO's characteristics and has been confirmed by many studies [35]. Prior studies believe that the CEO significantly impacts corporate tax rates. CEOs can adjust the company's annual budget to avoid taxes. Hiring or dismissing a tax director is part of the CEO's tax planning. The CEO can also instruct the CFO or tax directors to avoid tax by changing the compensation plan. Therefore, the CEO has the intention and ability to influence the company's tax strategy.

2.2.6 | Chief executive officer tenure and tax avoidance

CEO tenure describes how long a person has been in the CEO position. CEO tenure is usually measured by how many years the CEO has served [36]. Who becomes the CEO is decided at the shareholders' Annual General Meeting (AGM) and determined when he will take office until the end of his term of office; this is known as the CEO tenure. The CEO will face various things that must be decided regarding the company's policies to achieve the company's objectives. In making these decisions, the CEO will be influenced by the characteristics in him, both psychological and observable [37]. Tenure is one of the observable characteristics of a CEO. Upper Echelons Theory explains that CEO tenure gives the confidence to make a challenging decision in management. One such decision concerns tax matters [38]. The aggressiveness of a CEO during management is included as challenging or risky financial decisions. If any tax regulations are violated, the consequences will result in criminal acts. The longer he holds office, the more experienced and courageous the CEO will be in making decisions on tax. On the other hand, someone who has just been elected as CEO will be warier in reporting corporate taxes. Hence, in this study, we expect that a longer-tenured CEO will increase tax avoidance and decrease tax liability [39].

3 | Theoretical Framework

This study employs the Upper Echelon Theory. This subsection discusses this theory and its significance to CEO characteristics concerning firms' tax avoidance. A detailed discussion of this theory is presented below.

3.1 | Upper Echelon Theory

The upper echelons management theory was published in 1984 by Hambrick and Mason [9]. The theory posits that the organizational outcomes are, to some extent, forecasted by the managerial background characteristics of the top-level management team. According to the Upper Echelons theory, the cognitive processes, values, and perceptions of top-level managers play a crucial role in shaping the strategic decisions made by the firm, ultimately impacting its performance. It posits a significant correlation between the attributes of top management teams, organizational strategies, the attainment of organizational objectives, and overall organizational performance [40]. The Upper Echelons Theory is based on two fundamental principles: the principle of freedom of choice and the principle of executive requirements. Management discretion refers to the flexibility and autonomy management possesses within an organizational context. It encompasses the range of actions and decisions management can undertake. The absence of constraints can arise from various factors, including environmental circumstances, organizational dynamics, or individual conditions, alongside the availability of multiple viable alternatives [41].

Managerial discretion refers to the level of autonomy managers possess when formulating strategies and making decisions [42]. An increased freedom of choice for management is likely to result in management features being a more reliable predictor of firm performance, in contrast to situations where managerial discretion is limited. A governing board consisting of members possessing both specific and shared knowledge regarding the organization's primary objective is better equipped to approve decisions made by the management Hambrick [10]. The concept of the Upper Echelons' theory has garnered significant scholarly interest. The strategic choices made by a CEO are influenced by their personality, experience, and values, as these factors shape their interpretation of the situation or events they encounter.

Consequently, it can be inferred that the attributes of senior managers exert a substantial influence on the formulation of management strategies and the establishment of control mechanisms. The impact of strategic

decisions, such as tax avoidance, is significantly influenced by the characteristics of CEOs, as determined by their bases and cognitive values [9]. The attributes of CEOs can be utilized to predict their behavior and engagement in tax avoidance, particularly in times of financial difficulty. The attributes of the CEO play a significant role in shaping the financial outcomes of the organization [43]; this study is based on the Upper Echelon Theory, which posits that the characteristics and behavior of a company are influenced by its CEO who possess the ability to influence a company's value creation, strategic decision-making, and financial reporting choices through their unique skills and personal attributes [9]. The theory acknowledges that the attributes of the CEOs have an impact on their strategic decision-making.

3.2 | Research Design

This study employs ex-post facto research designs, which is necessary since the study seeks to examine the cause-effect of CEO attributes on tax avoidance. Specifically, the study aims to provide evidence on the effect of the independent variable on the dependent variable for non-finance listed firms in Nigeria over the 2012 to 2021 fiscal period.

3.3 | Population of the Study

The population of this study covers 15 non-finance firms listed on the floor of the Nigerian Exchange Group (NGX) as of December 31st, 2021. The sectors where the population was obtained include Agriculture, Consumer goods, Industrial goods, Oil and gas, Healthcare, Services, Natural Resources, ICT, and Conglomerate. As of 31st December 2021, there were 109 listed non-finance firms in Nigeria (Nigerian Exchange Group Website).

3.4 | Sampling Technique

The study employed a purposive sampling technique since the firms were selected based on certain criteria. Fourteen firms that joined the stock exchange after 2012 were dropped to obtain homogeneity of the sample period (balanced panel data), and 21 firms that the exchange suspended due to the non-availability of annual reports were also dropped. *Table 1* shows a summary of the sample size selection.

3.5 | Sample Size

Based on the conditions set up in the sampling technique, the sample size for this study is 15 non-finance firms listed in Nigeria.

Table 1. Sample size representation.

S/N	Sector	Population Size	Sample Size	Percentage
1	Agriculture	5	2	80%
2	Consumer goods	22	1	72%
3	Industrial goods	17	3	53%
4	Oil and gas	12	1	50%
5	Healthcare	10	1	60%
6	Services	24	2	75%
7	Natural resources	5	2	80%
8	ICT	9	2	67%
10	Conglomerate	5	1	100%
	Total	109	15	

*Source: Compilation culled from NGX websites

3.6 | Sources of Data

The data are obtained from secondary sources, which include related companies' annual financial reports for the given period and the Nigerian Exchange Group Websites.

3.7 | Data Analysis Technique

The study will use descriptive statistics to provide an understanding of the data in terms of mean, standard deviation, maximum, and minimum. Correlation analysis will also be conducted to express the relationship between the independent and dependent variables employed in this study. However, the robust least square regression analysis estimator was employed to achieve the study's objective.

3.8 | Model Specification

Based on the theoretical literature and earlier empirical studies, this study intends to modify the model of Oktaviani et al. [44] and express the econometric form of the model as

$$NONDEBT_{it} = \beta_0 + \beta_1 TENCEO_{it} + \beta_2 SCEO_{it} + \beta_3 CEOSEX_{it} + \beta_4 NATCEO_{it} + e_{it}.$$

Thus, the apriori expectation based on the reviewed literature and related theories is stated as follows: $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 < 0$, $\beta_4 > 0$. The basis for this expectation follows from the outcome of the literature review and empirical findings. The operationalization of variables is displayed in *Table 2*.

Where

NON-DEBT: non-debt tax shield.

TENCEO: CEO tenure.

SCEO: CEO ownership.

CEOSEX: CEO gender.

NATCEO: CEO nationality.

β_0: constant.

β_1- β_6: slope coefficient.

μ: stochastic disturbance.

i: i^{th} company.

t: time period.

3.9 | Operationalization of the Variables

This study employs CEO attributes, including CEO Tenure, CEO ownership, CEO Gender, CEO nationality, and non-debt tax shield as a tax avoidance measure.

Table 2. Operational variables.

S/N	Variables	CODE	Measurement	Sources
Dependent Variables				
1	Tax avoidance	NON-DEBT	Calculated in % as depreciation and amortization divided by total asset.	Ilaboya and Aronmwan [45]
Independent Variables				
1	CEO tenure	TENCEO	CEO Tenure in Dummy (1,0) is computed as "1" for companies that have CEOs that have to stay for 3 years and "0" for CEOs with less than 3 years of engagement.	Ilaboya and Aronmwan [45]
2	CEO ownership	SCEO	CEO ownership in percentage is computed as CEO shares to total outstanding shares.	Ilaboya and Aronmwan [45]
3	CEO gender	CEOSEX	CEO Gender in Dummy (1,0) is computed as "1" for companies that have Female CEOs and "0" otherwise.	Ilaboya and Aronmwan [45]
4	CEO nationality	NATCEO	CEO nationality in Dummy (1,0) is computed as "1" for companies that have foreign CEOs and "0" otherwise.	Ilaboya and Aronmwan [45]

*Source: secondary data

4 | Data Analysis

The study provides some basic statistics information for both the explanatory and dependent variables of interest. Each variable is described based on its mean, standard deviation, maximum and minimum values. *Table 3* displays the results of the study's descriptive statistics.

Table 3. Descriptive statistics result.

Variable	Mean	Std. Dev.	Min	Max
Non-debt	3.878813	3.744879	0	49.88
Sceo	5.937942	14.6804	0	85
Ceosex	0.0626911	0.2425921	0	1
Tenceo	0.6370597	0.4812164	0	1
Natceo	0.2660655	0.4422316	0	1

*Secondary Data (2023)

Table 2 shows that about 3.8% of the value of total assets consists of non-debt expenditures. It may be recalled that a non-debt tax shield refers to the tax advantage that a company gains from the tax deductibility of certain expenses, such as depreciation and amortization, unrelated to debt financing. From *Table 2*, it can be deduced that, on average, the usage of non-debt tax strategy as a tool for gaining tax advantage is barely low (3.8%). However, some firms within the sample frame used the tool up to about 50% during the period under study. The result also shows that some non-finance firms did not employ the strategy during the period under study. On the variable of CEO share ownership, the table shows that CEOs of some sampled listed non-finance firms in Nigeria own their company's share to as high as 85% during the period under investigation. When compared to the average, the descriptive statistics table reveals that most CEOs in the sample possessed only about 6% of their company's share, while at some point, some CEOs had no share ownership during the period under review.

From the descriptive statistic table, it can be deduced that, on average, only 6% of the sampled non-finance firms' CEOs are female. In comparison, about 64% of the observations showed that their company's CEOs remained in office over 3 years. Therefore, it invariably suggests that about 36% of the CEO observations indicate CEOs that stayed less than or about 3 years during the period under review. Concerning the independent variable of CEO nationality, the table reveals that about 27% of the CEO observations are foreigners or non-Nigerian descent. This outcome suggests that the bulk of non-finance firm CEOs (73%) in

Nigeria are indigenous. Further, the data normality test is conducted using the Shapiro Wilk procedure module in Stata, and the result is presented in *Table 3*.

Table 4. Shapiro wilk test result for data normality.

Variable	W	V	z	Prob>z
Non-debt	0.68414	154.829	12.344	0.00000
Sceo	0.60216	195.013	12.908	0.00000
Ceosex	0.95546	19.099	7.175	0.00000
Tenceo	0.99902	0.419	-2.118	0.98291
Natceo	0.99460	2.314	2.040	0.02065

* Data normality test (2023)

Having conducted the data normality test, the result presented in *Table 4* suggests that the independent and dependent variables of interest, including CEO nationality, CEO share ownership, CEO gender, and non-debt tax, do not follow a normal distribution. This is ascertained from the probabilities of the z statistics: CEO nationality (natceo; 0.02065), CEO share ownership (sceo; 0.00000), CEO gender (ceosex; 0.00000), and non-debt tax (non-debt; 0.00000) seen to be statistically significant at 1%, respectively. The independent variable of CEO tenure (0.98291) is statistically insignificant and, therefore, is deemed to be normally distributed during the period under consideration. However, we proceeded to conduct regression analysis to test the study hypothesis but anchored the result interpretation on the probability values of the t statistics due to the non-normality of some of the variables (Greene 2003). Further pre-regression analysis involved the test for correlation among the variables of interest, as presented in *Table 5*.

Table 5. Correlation analysis.

Variable	Non-Debt	Sceo	Ceosex	Tenceo	Natceo
Nondebt	1.0000				
Sceo	0.0240	1.0000			
Ceosex	0.0953	0.0498	1.0000		
Tenceo	-0.0128	0.3724	-0.0595	1.0000	
Natceo	0.0689	-0.4722	-0.1534	-0.0376	1.0000

*Authors' Computation (2023)

In *Table 5*, the correlation analysis, which helped to determine the extent of collinearity (degree of association) among the variables of interest, suggests that no variable of interest is highly correlated. Clearly, from the table, it is evident that the degree of association was between 47% and 37% during the period under investigation. Specifically, we find that while CEO gender has a positive association with non-debt tax (10%), CEO share ownership also shows a positive association with non-debt tax (02%) during the period under review. In this study, CEO tenure is seen to have a negative association (-1%) with the non-debt tax variable during the period under review. The variable of CEO nationality showed a positive association (7%) with non-debt tax, while CEO tenure also revealed a positive correlation with the CEO share ownership variable. Clearly, no association is seen to be too high (80%) to warrant the consequences of highly correlated variables.

5 | Discussion of Regression Results

Specifically, to test the formulated hypotheses of this study, the pool ordinary least square regression analysis technique was first employed, and a diagnostic test was conducted. The test for heteroscedasticity and the variance inflation factor test were conducted in this study. Results from the heteroscedasticity test suggest the presence of heteroskedasticity, and the variance inflation factor test result shows no possibility of multicollinearity in the estimated model. However, a robust regression analysis technique was introduced to address the presence of heteroscedasticity in the pool least square regression estimate, as recommended by Gujarati [46]. The pool least square regression result is presented in *Table 6*.

Table 6. Pool least square regression analysis results.

Variables	Ceo Tenure	Ceo Ownership	Ceo Gender	Ceo Nationality
Coef.	0.176	0.055	1.753	0.456
t_ Stat	(1.55)	(3.99)	(2.80)	(1.32)
Prob_ t	{0.582}	{0.000} ***	{0.005) **	{0.187)

F-Statistics: {5.75 (0.0000)}; R-Squared: 0.0425; Mean VIF: 1.07; Heteroscedasticity: {444.46 (0.0000)}
Note: () and {} contains t-statistics and the respective probabilities
Where: *** and ** represent 1% and 5% levels of statistical significance, respectively.
Regression Analysis Test (2023)

5.1 | Robust Regression Analysis

The robust regression analysis technique is an approach that estimates regression coefficients using a robust M-estimator in the presence of heteroscedasticity. Also known as Iteratively Reweighted Least Squares (IRLS), the robust least square regression estimator, rather than correcting the standard errors, directly estimates the coefficients by minimizing a robust objective function less sensitive to outliers and heteroscedasticity. The estimated result is shown in *Table 5*.

Table 7. Robust least square regression analysis results.

Variables	Ceo Tenure	Ceo Ownership	Ceo Gender	Ceo Nationality
Coef.	-0.131	-0.017	1.288	0.507
t_ Stat	(-0.63)	(-1.96)	(3.20)	(2.29)
Prob_ t	{0.528}	{0.050} **	{0.001) **	{0.022) **

F-Statistics: {2.41 (0.0027)}; R-Squared: 0.037
Note: () and {} contains t-statistics and the respective probabilities
Where: ** represents a 5% level of statistical significance
Regression Analysis Test (2023)

5.2 | Test of Hypotheses

Hypothesis 1. CEO tenure has no significant effect on the tax avoidance of listed non-finance firms in Nigeria.

CEO tenure {-0.130855 (0.528)} as an explanatory variable appears to have a negative insignificant effect on tax avoidance (non-debt tax shield). Hence, the null hypothesis, which states that CEO tenure has no significant impact on tax avoidance of listed non-finance firms in Nigeria, is accepted. This result is misaligning with prior related empirical findings of [47], who document that CEO tenure significantly negatively affects tax avoidance.

Hypothesis 2. CEO Ownership has no significant effect on tax avoidance of listed non-finance firms in Nigeria.

CEO share ownership corresponding to the coefficient -0.017 and probability statistics 0.050 suggest a negative effect on tax avoidance for listed non-finance firms in Nigeria. CEOs with a substantial ownership stake may face increased scrutiny from shareholders, the board of directors, and other stakeholders. This scrutiny can discourage CEOs from pursuing aggressive tax avoidance strategies that could be viewed as unethical or non-compliant with tax laws [48]. They may prioritize maintaining transparency, good corporate governance practices, and adherence to tax regulations to ensure the trust and confidence of shareholders and other stakeholders. Furthermore, the result aligns with that of Lee and Kao [49], who explained that CEOs who hold substantial shares may prioritize sustainable growth and long-term value creation rather than short-term tax savings. They may focus on strategic decisions and investments that enhance the company's competitive position, even if it means forgoing aggressive tax avoidance strategies that could raise concerns about its ethical or reputational standing.

They may be more concerned about maintaining a positive public image and avoiding potential controversies associated with aggressive tax planning, which could negatively affect shareholder value. This finding also supports the view of Laguir and Staglianò [50], who noted that CEOs with significant share ownership have

a personal stake in the company's performance and may be more cautious about engaging in aggressive tax avoidance strategies that could attract scrutiny from tax authorities or regulatory bodies. They may adopt a more conservative approach to tax planning to mitigate potential risks associated with aggressive tax positions, protecting both the company and its investment.

Hypothesis 3. CEO Gender has no significant effect on tax avoidance of listed non-finance firms in Nigeria.

CEO gender corresponding to the coefficient 1.288 and probability t-statistics 0.002 suggest a positive effect on tax avoidance for listed non-finance firms in Nigeria during the period under consideration. These findings align with suggestions that female CEOs tend to exhibit greater risk aversion and a stronger ethical orientation. Female CEOs may be more cautious about engaging in aggressive tax avoidance strategies that could raise ethical concerns or attract negative attention from stakeholders [51]. Instead, they employ the non-debt tax shield strategy as a more conservative and compliant approach to managing tax liabilities. Their risk aversion and ethical considerations may lead to higher utilization of non-debt tax shield methods. Female CEOs may focus more on stakeholder management and maintaining a positive corporate reputation. They recognize the importance of aligning their tax practices with stakeholders' expectations and values. Therefore, by employing the non-debt tax shield strategy, female CEOs can demonstrate responsible tax planning that complies with regulations while minimizing tax liabilities. This approach builds trust, enhances reputation, and fosters positive relationships with stakeholders [3].

Hypothesis 4. CEO Nationality has no significant effect on tax avoidance of listed non-finance firms in Nigeria.

The independent variable of CEO nationality corresponds to coefficient 0.507 with a probability t-statistics value of 0.002 for listed non-finance firms in Nigeria during the 2012 to 2021 fiscal year period. This result suggests that non-indigenous CEOs prefer the non-debt tax-saving method of constraining tax liabilities. Non-indigenous CEOs may have experience or knowledge of managing cross-border operations and are more familiar with international tax planning opportunities. Non-indigenous CEOs leverage their expertise in navigating complex tax systems across different jurisdictions to employ the non-debt tax shield strategy [52]. By utilizing tax planning techniques that optimize the allocation of income and expenses across international operations, non-indigenous CEOs can effectively minimize tax liabilities. This outcome can mean that Non-indigenous CEOs operating in unfamiliar tax jurisdictions may be more cautious about potential risks associated with aggressive tax avoidance strategies. They may prioritize compliance with tax regulations to mitigate legal and reputational risks. As a result, the non-debt tax shield strategy should be relied on as a more conservative approach to managing tax liabilities. Non-indigenous CEOs may view this strategy to minimize tax burdens while maintaining a higher level of compliance and reducing potential tax-related risks.

6 | Summary of Findings

This study evaluates the effect of CEO attributes on tax avoidance of listed non-finance firms in Nigeria. The period scope of this study covers 10 years, ranging from 2012 to 2021. The dependent variable of tax avoidance is in terms of non-debt tax shield, while the independent variable of CEO attribute is regarding CEO tenure, gender, CEO share ownership, and CEO Nationality. The need to conduct some pre-regression analysis, descriptive statistics, correlation analysis, and normality of data analysis is of interest to the researcher to substantiate the credibility of the data set employed for analysis. Next, panel least square regression analysis was conducted, and diagnostic tests were carried out on the estimates. Diagnostic tests performed on the estimates include tests for multicollinearity and homoscedasticity. In addressing the problem of heteroscedasticity noticed in the regression estimates, robust regression was employed while the t-statistics values of the estimates were carefully interpreted in response to the issue of non-normality that the data set faced. The findings summary are as follows.

I. CEO tenure has a statistically insignificant effect on tax avoidance for listed non-finance firms in Nigeria.

II. CEO share ownership has a statistically significant negative effect on tax avoidance for listed non-finance firms in Nigeria.

III. CEO gender has a statistically significant positive effect on tax avoidance for listed non-finance firms in Nigeria.

IV. CEO nationality has a statistically significant positive effect on tax avoidance for listed non-finance firms in Nigeria.

7 | Conclusion

Theoretically, a firm's tax liability is proportionally related to its profitability. However, attaining a firm's wealth maximization objective through diverse means of increasing profitability poses more challenges to reducing its tax liability. Effective tax planning is strategies that maximize the firm's expected discounted after-tax cash flows. Apart from being knowledgeable about tax laws, the tax consultants of any organization should have extensive knowledge of the company, its history, and how the organization operates. It extends to coordinating parties with diverse interests and information, involving domestic and foreign operations across multiple business segments, including finance and financial reporting, management, and technology. Effective tax planning strategies should produce benefits in terms of wealth creation for the company. Hence, tax planning is a subset of a company's overall financial plan, which needs to consider the company's investment, financing, and wealth-building strategies. The majority of Nigerian firms are highly financed through equity, thus unable to enjoy the benefits of tax shield concerning CEO attributes. From the outcomes of this study, it can be concluded that CEO attributes with respect to CEO tenure, CEO gender, and CEO nationality have significant effects on tax avoidance in Nigeria.

The following recommendations are made based on the findings:

I. Based on the regression results, which indicate that increasing CEO share ownership negatively affects tax avoidance practices in Nigeria, the policy implication is that solely relying on CEO share ownership may not be an effective approach to optimizing the non-debt tax saving strategy. To address this issue and optimize the non-debt tax saving strategy, management must develop a culture that values responsible tax planning and encourages CEOs to consider the non-debt tax shield as a strategic tool. The management team may further promote transparency and open communication about tax strategies, ensuring that tax planning is integrated into overall business decision-making processes. This may also require management to encourage collaboration between CEOs, finance teams, and tax experts to identify opportunities for optimizing the non-debt tax saving strategy.

II. Based on the regression results, which indicate that female CEOs tend to deploy more of a non-debt tax shield saving strategy in Nigeria, the policy implication is that promoting gender diversity in CEO positions can be advantageous for maximizing non-debt tax shield saving. To address this outcome and leverage the potential benefits, firm management must encourage gender diversity and inclusion in CEO Hiring. In this regard, firm management must actively promote and prioritize gender diversity and inclusion in CEO hiring processes. Establish diversity goals and strategies that aim to increase the representation of women in top leadership positions, including the CEO role. Implement policies and practices that ensure a fair and unbiased selection process, giving both male and female candidates equal opportunities and creating an inclusive culture that values diverse perspectives and encourages the participation and advancement of women in leadership roles.

III. The further outcome suggests that hiring non-indigenous CEOs is a tool for maximizing the non-debt tax shield saving strategy. The policy implication is that considering non-indigenous CEOs in executive hiring can be advantageous for tax planning purposes. In leveraging the potential benefits of this outcome, management must embrace diversity in CEO hiring and foster cross-cultural expertise. Policy actions should also actively embrace diversity in CEO hiring processes by considering non-indigenous candidates and seeking out CEOs with diverse cultural backgrounds, experiences, and perspectives. This approach can help foster cross-cultural expertise within the leadership team, including a deeper understanding of tax regulations

and planning opportunities in different jurisdictions, and ensure that the selection process remains fair, transparent, and based on merit, allowing for the identification of the most qualified candidates, regardless of their nationality.

Author Contributions

Akaninyene Akpan Arthur led the conceptualization, design, and data collection for the study. Jephtar Uviefovwe Ohwoekevwo contributed to the methodology, statistical analysis, and interpretation of findings. Iniobong Udeme Asuquo participated in the literature review, drafting, and critical revisions of the manuscript. All authors collaboratively reviewed and approved the final version of the paper.

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Data Availability

The data used for this study are derived from publicly available records of the selected production firms and can be made available upon reasonable request to the corresponding author.

Conflicts of Interest

The authors declare no conflicts of interest in relation to this research.

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