



Corporate Board Attributes and Tax Aggressiveness of listed Non-financial Firms in Nigeria

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ABSTRACT

The study investigated corporate board attributes and tax aggressiveness of listed non-financial firms in Nigeria. The population of the study consists of one hundred and fourteen (114) non - financial firms in Nigeria. The study employed purposive sampling techniques to select seventy five (75) non-financial firms as the sample size based on availability of data. Secondary data was obtained from the audited annual financial reports of the listed non – financial firms in Nigeria from 2012 - 2021. Hypotheses formulated were tested using panel least squares regression through pooled effect, fixed effect, and random effect, determined by the Hausman test, fixed effect regression was preferred for results interpretation with the aid of E-views 10 econometric statistical software. Findings show that board independence, board expertise and board CEO nationality had positive and significant effects on tax aggressiveness of listed non-financial firms in Nigeria. Board size, board meeting had negative and insignificant effects on tax aggressiveness of listed non-financial firms in Nigeria while, board gender diversity had positive but insignificant effects on tax aggressiveness of listed non-financial firms in Nigeria. The study concludes that attributes of the board might have little or no impact on the corporate tax aggressiveness as the directors are not responsible for a firm tax management strategy. The study recommends, among others, that non-financial firms should be encouraged to have more of independent directors in their corporate boards since they are perceived to have influence on choice of tax management strategy, and also possess similar ideas and contributions towards tax aggressiveness. Emphasis on larger board size should be discouraged since it has insignificant effect on tax aggressiveness of non-financial firms in Nigeria. Finally, regular board meetings should be minimized since it was found to have insignificant effect on tax aggressiveness of non-financial firms in Nigeria.

Keywords: Corporate Board Attributes, Board Independence, Board Size, Board Meeting, Tax Aggressiveness

INTRODUCTION

The business and economic landscape for corporate organizations has essentially transformed as a result of the twin forces of globalization and technological innovation. The increase in corporate scandals over the past 10 years has caused researchers and authorities to think deeply about the topic of tax avoidance. Organizational managers are now expected to develop strategies that will aid their respective entities in achieving the overall goal of wealth maximization, particularly in the interests of identifiable stakeholders, while still working to pursue the predetermined profit levels of their respective entities. This shift in focus from merely maximizing profit levels to the objective of wealth maximization has mostly motivated management teams to actively invest in concepts and projects that are capable of maximally satisfying the interests of stakeholders generally while maintaining a profit margin. In light of this, businesses have turned to using tax avoidance and related measures as genuine investment options that

could guarantee a significant increase in revenue levels through a careful reduction in the amount of tax liabilities, without undermining legal or regulatory requirements relating to the taxation of firms.

In general, tax is a mandatory charge that the government imposes on its residents in order to raise money to finance developmental activities like the supply of infrastructure, the security of lives and property, and the creation of an environment that promotes social and economic stability. However, despite these advantages linked to tax collection, people and businesses still see taxes as an unjustified and unwanted compulsory imposition imposed on them by the government. Even while taxes are a significant source of income for the Nigerian economy, they come at a cost to businesses and their shareholders, which reduces the amount of cash flow that can be used for profit. Wealth creation and economic success are the main goals of any organization, and reducing expenses is one surefire approach to accomplish these goals. Since governments confiscate a sizable portion of the wealth of shareholders and other important stakeholders through taxation, management views corporate income tax as one of the main causes of firm cash outflow (Onatuyeh & Odu, 2019). Because of this, shareholders choose tax planning strategies that will both safeguard their interests and raise their available cash as well as profit after tax (Khurana & Moser, 2013).

One of the main justifications for businesses to engage in aggressive tax collection is the claim that businesses are increasingly constrained by the enormous amounts of money they must pay in taxes each year, despite the fact that taxes are one of the world's most reliable sources of income for most governments. Evidently, since taxes paid by corporate organizations significantly reduce annual profits and potential distributable revenue, management is nevertheless tempted to look into (legal and criminal) options for reducing the tax obligations of their various companies (Onyali & Okafor, 2018; Onatuyeh & Odu, 2019). The legal channels so far adopted by organizations to reduce tax liabilities/burden is best explained using the concept of tax aggressiveness.

Employing tax aggressive methods becomes essential given that the company's primary goal is to reduce tax liabilities and increase shareholder value (Ilaboya, Izevbekhai, & Ohiokha, 2016; Richardson, Taylor & Lanis, 2013). In today's society, tax planning is essential, if only to prevent double taxation for multinational corporations due to the complexity of (international) tax law. The balance between the marginal advantages and costs of managing taxes is taken into account when the majority of commercial organizations adopt their proactive tax policies (Chen, Chen, Cheng, & Shevlin, 2010). Government authorities are now closely monitoring businesses' tax aggressive operations as a result of their employment of aggressive tax policies to reduce tax payments.

Consequently, managers' and tax consultants' judgments may favor integrating tax-saving measures (Lanis & Richardson, 2012). Tax planning, sometimes known as tax aggression, is one of numerous strategies management may use to lower tax obligations. In all businesses worldwide, management initiatives intended only to lower taxes through the establishment of tax-aggressive operations are becoming increasingly prevalent. Briefly put, the international literature's understanding of tax evasion has grown significantly in recent years, but as we'll examine, there are still important knowledge gaps (Hanlon & Heitzman, 2010). Research in the field, specifically using the Nigerian context, has just started to grow, leaving many ambiguous issues to be investigated, especially in light of the particulars of the Nigerian reality. Therefore, whether corporate attributes have effects on tax aggressiveness in enhancing shareholders' wealth is yet to be confirmed hence the present study was geared towards unraveling the mystery. Postulating the operational proxy of corporate board attributes therefore as corporate board independence, corporate board size, corporate board gender diversity, corporate board meeting, corporate board expertise and CEO nationality and the dependent variable as tax aggressiveness gave rise to the following research hypotheses:

Ho₁: Corporate board independence has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.

Ho₂: Corporate board size has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.

- Ho₃:** Corporate board gender diversity has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.
- Ho₄:** Corporate board meeting has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.
- Ho₅:** Corporate board financial expertise has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.
- Ho₆:** Chief Executive Officer Nationality has no significant effect on tax aggressiveness of listed non-financial firms in Nigeria.

Theoretical Framework

This study considers stakeholders' theory to underpin the objective of the study. It assumes both knowledge and acceptance of the theory that this study depend upon.

Stakeholder Theory

Stakeholder theory was propounded by Edward Freeman in 1984. According to the stakeholder theory, businesses are responsible to a wide range of parties besides shareholders, including customers, suppliers, employees, the government, the community, the environment, lenders, and the next generation. Tax evasion is a background issue in stakeholder theory, one of the main hypotheses guiding this area of research. Most proponents of stakeholder theory agree that investors, employees, and customers are the three most significant stakeholder groups. According to the conventional definition, a stakeholder is any group or person who has the potential to influence or who may be impacted by the accomplishment of the organization's goals (Freeman, 1984). The fundamental tenet of the stakeholder theory is that all of the interactions between a corporation and its stakeholders must be successfully managed for a firm to succeed. This phrase was first used by Stanford Research Institute (SRI) to describe those organizations whose support is essential to their continued survival (Freeman, 1983).

The organization is redefined in accordance with the stakeholder concept. The term generally refers to what the organization ought to be and how it ought to be conceptualized. According to Friedman and Miles (2006), the organization should be viewed as a collection of stakeholders, and its goal should be to manage their interests, requirements, and opinions. The managers of a firm are thought to carry out this stakeholder management. The management should operate as the stockholders' agent to secure the survival of the company to protect the long-term interests of each group, while also managing the corporation for the benefit of its stakeholders to ensure their rights and involvement in decision-making (Friedman & Miles, 2006). Unfavorable environmental effects on economic development have grown more concerning in recent years.

Conceptual Review

Corporate Board Attributes

Corporate governance and the topic of tax avoidance are related in a similar way. It is the full range of tools used to manage and observe organizations. The board of directors, which sits above the chief executive and other managers in the organizational hierarchy, is according to Ndal, Ibanichuka, and Ofurum (2021) to have a strategic role in the firm's decision-making. Making sure that the interests of shareholders are protected is of utmost importance. According to Guluma (2021), the goal of implementing good corporate governance standards is to optimize operational and market efficiency while enhancing performance by reducing insider power abuse. However, when it comes to the issue of tax aggressiveness, there are usually multiple conflicts of interest that can lead to abuse of power. One is between management and shareholders while the other is between shareholders and stakeholders.

The likelihood of rent extraction and the former's opportunistic behavior are the basis for the conflict between management and shareholders (Aronmwan, & Ogbaisi, 2022). Typically, there is a conflict between shareholders and stakeholders from an ethical/legalistic perspective. Using tax strategies that are aggressive may increase shareholder value (Aronmwan, & Ogbaisi, 2022). The government is then less

able to respond to societal demands and sustainability issues as a result of a shortage or reduction in revenue. As a result, the problem of tax avoidance as it relates to governance is dual and necessitates the establishment of systems for effective oversight and management. The creation of a corporate board with various supervisory responsibilities is one such approach.

Numerous corporate financial scandals in the last two decades have been blamed, among other things, on bad corporate governance and the board's incapacity to control the risks of manipulations resulting from tax payments. This has caused a call for the corporate board to be properly balanced and composed in order to effectively monitor and reduce different aspects of tax aggression (Aronmwan, & Ogbaisi, 2022, Fowokan, Oyedokun, & Abdul, 2018). In order to improve their performance, publicly listed companies must create a corporate board of management framework in addition to the statutory audit committee and other board committees, according to the corporate governance codes of various nations, including the 2018 Nigerian Code of Corporate Governance (NCCG) (Al-Lawati & Hussainey, 2021). However, opponents question the requirements of the NCCG (2018) that it leads to duplication of roles and functions in the absence of evidence to support the effectiveness of having a corporate board committee.

Directors should be very concerned about the underlying financial and reputational hazards in corporations' aggressive tax tactics. However, research on the connection between board characteristics and company tax evasion has shown contradictory results. Since these studies tend to be more quantitative, the current study combines both a qualitative and a quantitative thread to explain the mixed results. As a result, it is important to assess the claim and the legal criteria for a correct mix of business supported by actual data. In order to represent corporate board attributes in this study, we employed CEO nationality, corporate board independence, corporate board size, corporate board gender diversity, corporate board meeting, and corporate board expertise.

Tax Aggressiveness

There is no accepted definition of corporate tax aggression. The terms "tax avoidance," "tax management," "tax planning," and "tax sheltering," all of which are related, are frequently used to describe business operations aimed at lowering tax burdens or raising after-tax cash flows through the optimization of the effective tax rate. Tax avoidance is tied to tax aggression, which Aronmwan and Ogbaisi (2022) described as everything a firm does to lessen its tax obligation. According to Aronmwan and Ogbaisi (2022), who cited Richardson et al. (2013), tax avoidance is the primary goal of a company's aggressive tax planning. Tax aggressiveness is further described by Taylor and Richardson (2014) as quoted by Aronmwan and Ogbaisi (2022) as any transaction, passive or otherwise, that lowers a company's tax liability. From the aforementioned, it can be seen that one common mindset that underlies the definitions of tax aggressiveness is setting up a firm's financial activities in a way that lowers the amount of tax that must be paid. Tax aggressiveness was further described by Aronmwan and Ogbaisi (2022) as the adoption of tax planning techniques to lower taxable income and tax liabilities.

Zachariah, Tahir and Mohammed (2020) quoting Frank, Lynch and Rego (2009) defined tax aggressiveness as the downward manipulation of taxable income through tax aggressive activities. Zachariah, Tahir and Mohammed (2020) narrowly defined tax aggressiveness as the process of embarking on significant tax activities without strong facts. However, a more comprehensive definition was provided by Lisowsky (2010) as quoted by Salihu and Kawi (2021), in which they presented tax aggressiveness as activities close to the end of a continuum of tax avoidance actions that range from legitimate tax planning to investments in abusive tax shelters. Aburajab, Maali, Jaradat and Alsharairi, (2019) argued that taxes are considered an additional cost to the firm and its shareholders because these taxes reduce the available cash flow. Therefore, firms tend to employ different tax aggressiveness techniques.

Activities such as tax evasion, tax avoidance, and lawful tax savings are all examples of aggressive tax planning or strategic tax behaviors, which are often intended to lower tax liabilities. According to earlier studies, tax aggressiveness refers to the procedures, tactics, techniques, and actions developed and used by entity management to maximize profits by meticulously and purposefully lowering the reporting firm's tax base (Tijjani, 2019; Onatuyeh & Ukolobi, 2020; Jbir, Neifar, & Makni Fourati, 2021). Tax planning, tax avoidance, tax minimization, tax management, and tax sheltering have all been phrases that have been

used interchangeably with the concept of tax aggressiveness, according to the literature (Hafkamp, 2020; Salihu & Kawi, 2021; Tijjani & Peter, 2020; Nwezoku & Egbunike, 2020; Aronmwan, & Ogbaisi, 2022). According to Aburajab, Maali, Jaradat, and Alsharairi (2019), tax evasion and legal tax savings are examples of aggressive tax planning or strategic tax behaviors that are generally intended to lower tax liabilities. They added that tax avoidance is the primary or dominant goal of any plan or arrangement that has been devised. Therefore, the term "tax aggressiveness" refers to the aggressive aspect of tax evasion techniques (Zachariah, Tahir & Mohammed, 2020). In order to reduce the tax burden and increase after-tax earnings per share and cash available for shareholders, tax aggressive tactics are typically used (Hafkamp, 2020). Therefore, it could also signify a drop in taxable income when handled using legal and possibly unlawful tax planning strategies (Salihu & Kawi, 2021; Tijjani & Peter, 2020; Nwezoku & Egbunike, 2020; Aronmwan, & Ogbaisi, 2022) in order to lower tax burden.

According to Jbir, Neifar, and Makni Fourati (2021), tax avoidance, tax planning, and tax sheltering can all be used as alternatives to tax evasion. Tax planning, tax avoidance, and tax shelters are all considered forms of tax aggression if they adhere to the moral and legal guidelines set forth by the tax authorities. Although there are numerous conceptualizations, references, and measurement approaches for this idea, the majority of them share the same intent and objectives but differ in how they affect the health of the companies (Boussaidi & Hamed, 2015). It is verifiable that the Company and Allied Matters Act (CAMA), which documents the recent rapid change in enterprises' accounting information policies and settings, has changed the factors that determine and have an impact on tax aggression (Wilde & Wilson, 2017).

Evidence from the literature reveals that businesses have recently implemented a number of tax-evasive tactics and strategies (Aronmwan, & Ogbaisi, 2022, Jbir, Neifar, & Makni Fourati, 2021; Yahaya & Yusuf, 2020; Ugbogbo, Omoregie & Eguavo, 2019). Salihu and Kawi (2021) grouped these tactics into three (3) main categories as a result. The Effective Tax Rate (ETR), which is regarded as the most pertinent and superior indicator of listed corporations' capacity to reduce tax payments, stands out among various kinds of tax aggressive methods (Oyeleke, Erin & Emeni, 2016). Companies are therefore considered to be tax aggressive if their respective ETR looks to be lower than their company income tax rate (CIT). It is therefore worthy to note that prior studies used many measures of tax aggressiveness such as cash effective tax rate, book-tax difference measures and a residual book-tax difference (Aronmwan, & Ogbaisi, 2022; Salihu and Kawi, 2021; Nwezoku & Egbunike, 2020; Armstrong, Blouin, & Larcker, 2012). This study used effective tax rate (ETR) as a measure for tax aggressiveness in line with other prior studies.

Empirical Review

Salihu and Kawi (2021) investigated the relationship between the board's attributes and corporate tax avoidance. They used a qualitative strand in providing explanations to the mixed findings in addition to the quantitative strand. The quantitative data came from the annual reports of the top 100 Malaysian companies based on FTSE tradable index. The panel data were analyzed using the system Generalized Methods of Moment (GMM). The findings were used to develop a semi-structured instrument for further qualitative inquiry through personal interview sessions with ten tax auditors of the Inland Revenue Board of Malaysia (IRBM). The quantitative analysis shows board effectiveness to be negatively related to corporate tax avoidance. However, board independence and board members' financial literacy were not. The analysis of the interview responses shows that the members of the board have little influence on the choice of the company's tax management strategy. Nevertheless, the findings are relevant for the revision of the guidelines on the appointment and oversight roles of directors in the Malaysian Codes of Corporate Governance (MCCG).

Ndalu, Ibanichuka & Ofurum (2021) investigated the relationship between board characteristics and environmental disclosure of quoted oil and gas firms in Nigeria: The moderating role of firm size with its specific objectives such as to determine the relationship between board independence and environmental disclosure. The research design adopted was ex-post facto design while, the population and the sample

size for the study was the 12 quoted oil and gas companies in the Nigerian Stock Exchange (NSE). Secondary data was used in their study and data were analyzed using both descriptive, inferential statistics and Pearson Correlation Coefficient Statistical tool complementarily with the aid of Statistical Package for Social Sciences version 23.0 to test the null hypotheses. The findings of the study reveal that board independence has a negative relationship with environmental disclosure. The findings of the study further indicate that firm size significantly moderates the relationship between board characteristics and environmental disclosure. Based on the findings, the study recommended that independence should be assessed by weighing all the relevant factors that may compromise independence while the classification of directors as independent or otherwise in the integrated report should be done on the basis of assessment. Finally, increase in total asset is required as firm size was identified as a moderator variable between board characteristics and environmental disclosure.

Zachariah, Tahir, and Mohammed, (2020) examined the effects of board attributes on tax planning of listed non-financial companies in Nigeria. It aims at finding out using quantitative research method, board attributes that increase tax planning, thus, reducing tax liability of listed non-financial firms in Nigeria. Data for the study were collected from the annual reports and accounts of the sampled companies for a period of ten years (2008 to 2017). The data collected were analyzed using descriptive statistics to provide summary statistics for the variables, and correlation analysis was carried out using Pearson Product-Moment Correlation to determine the relationship between the dependent and independent variables. Regression analysis was also conducted. The study revealed that board independence has a significant negative effect on tax planning; foreign directorship has a non-significant negative effect, while gender diversity, board size, and board meetings have non-significant positive effect on tax planning in listed non-financial companies in Nigeria. In addition, profitability has a significant positive effect on tax planning as leverage depicts significant negative effect on tax planning.

Aburajab, Maali, Jaradat and Alsharairi (2019) examine the relationship between Board of director's characteristics and tax aggressiveness. This study is the first in Jordan which tests the relationship between Board of Director's characteristics (Board Duality, Board Composition and Board Independence) on tax aggressiveness. Based on a sample of 140 Jordanian firms during the period 2013-2017, this study used regression analysis to examine the effect of board composition, board independence, CEO duality, return on assets (ROA) and firm size on the tax aggressiveness. The study found that there is a negative relationship between board composition and board independence from one side, and the tax aggressiveness from the other side. Furthermore, the study found that there is a positive relationship between board duality and tax aggressiveness. Finally, both the return on assets (ROA) and the firm size variables, which were included as control variables, were found to be positively related to the tax aggressiveness.

Onatuyeh and Odu, (2019), examined the association between corporate board characteristics and tax aggressiveness. This study therefore seeks to provide empirical evidence on whether corporate board characteristics such as board size, board gender diversity, and board independence are significantly associated with tax aggressiveness amongst manufacturing firms in Nigeria. Leaning on the agency theory and to achieve the above objective, a sample of forty-nine (49) manufacturing firms listed on the Nigeria Stock Exchange (NSE) as at December 2016 was examined. Data for the study were obtained solely from annual financial statements of the studied firms for the period 2011 to 2016. The econometric model adopted for the study was estimated using panel data regression approach with a preference for the fixed effect model based on the result of the Hausman test. Results of the study show that both board size and board independence exert negative and significant impacts on tax aggressiveness in manufacturing firms in Nigeria, while board gender exerts no significant effects. The insufficient women corporate board membership in the firms is assumed to be a plausible reason for this outcome. In light of the findings of the study, they, recommend that listed manufacturing firms in Nigeria should ensure more women are included in their boards of directors.

Ogbebor, Onomuhara and Evbota (2019) examined corporate attributes and tax aggressiveness in listed Nigerian companies using fifty (50) companies listed on the Nigeria Stock Exchange (NSE) for a period

of six (6) years (2012 –2017). The objective was to determine relationship between firm size, board size, financial performance, firm age and tax aggressiveness. The Ordinary Least Square (OLS) was employed in estimating the data and testing the hypotheses, the findings revealed that profitability and firm size had a positive and statistically insignificant relationship with tax aggressiveness; while board size, company age had a positive and statistically significant relationship with tax aggressiveness. In line with the finding, they recommend that investors in Nigeria Stock Market should make their investment in shares by watching the accounting data of firms, especially the profitability measures of return on equity to increase dividend yield of companies as they are critical factors in predicting tax aggressive behaviour.

Ifurueze, John-Akamelu, and Iyidiobi (2018) investigate the effect of corporate tax aggressiveness strategies on firm growth in Nigeria. The specific objectives were to; investigate the effect of leverage tax aggressiveness strategy on firm growth in Nigeria and evaluate the effect of effective tax rate aggressiveness strategy on firm growth in Nigeria. Ex post Facto research design was adopted and the data were collected from annual reports and accounts of Nigerian food production companies. Pooled multiple regression analysis was employed to test the formulated hypotheses. The study found that Leverage (LEV) to impact positively on our dependent variable, Firm Growth. This impact was not statistically significant. The study found that Effective tax rate (ETR) to impact positive on our dependent variable, Firm Growth, but this impact was statistically significant. Since the influence of effective tax rate is not statistically significant and so, should be ignored as a determinant of firm growth in Nigeria. Therefore on the basis of efficient use of tax rate to generate growth should be encouraged.

RESEARCH METHODS

The study investigated corporate board attributes and tax aggressiveness of listed non-financial firms in Nigeria. The research design adopted in this study was *ex-post facto* research design; hence the study is a descriptive research. The population of the study consists of one hundred and fourteen (114) non - financial firms in Nigeria. The study employed purposive sampling techniques to select seventy five (75) non-financial firms as the sample size based on availability of data. Secondary data was obtained from the audited annual financial reports of the listed non – financial firms in Nigeria through Nigerian Stock Exchange from 2012 - 2021. Hypotheses formulated were tested using panel least squares regression through pooled effect, fixed effect, and random effect, determined by the Hausman test, fixed effect regression was preferred for results interpretation with the aid of E-views 10 econometric statistical software.

RESULTS AND FINDINGS

Descriptive Statistics

The detailed result of the descriptive statistics are presented in table 1 below:

Table 1:	Descriptive Statistics.						
	TAXAG	COBIND	COBSIZE	GENDV	COBMET	COBFEX	CBCEON
Mean	30.59600	49.04865	5.262667	1.289333	5.768000	1.621333	1.049333
Median	27.26000	50.00000	5.000000	1.000000	6.000000	2.000000	1.000000
Maximum	99.28000	75.00000	6.000000	3.000000	8.000000	3.000000	2.000000
Minimum	10.11000	18.18000	5.000000	0.000000	4.000000	1.000000	0.000000
Std. Dev.	15.01322	11.21857	0.440377	0.860197	1.075043	0.603128	0.612699
Skewness	2.032564	0.100825	1.078585	0.226222	0.193388	0.403338	-0.027323
Kurtosis	7.963852	2.796411	2.163345	2.414032	2.437387	2.328791	2.654510
Jarque-Bera	1286.410	2.565970	167.2929	17.12700	14.56654	34.41404	3.823421
Probability	0.000000	0.277209	0.000000	0.000191	0.000687	0.000000	0.147827
Sum	22947.00	36786.49	3947.000	967.0000	4326.000	1216.000	787.0000
Sum Sq. Dev.	168822.2	94266.36	145.2547	554.2147	865.6320	272.4587	281.1747
Observations	750	750	750	750	750	750	750

Source: Researcher’s summary of descriptive statistics result (2022)

Descriptive statistics describes a collection of data by condensing the amounts of data into simple representative numerical quantities or plots that can provide a better understanding of the collected data. The overall descriptive statistics result in table 4.2.1 above shows the mean values for each of the variables, their maximum values, minimum values, standard deviation and Jarque-Bera values which show the normality and nature of the data. The result provided some insight into the nature of the selected listed non-financial firms from Nigeria Exchange limited that were used in the study. The aim of the descriptive statistics was to describe the general distributional properties of the data, to identify any unusual observations or any unusual patterns of observations that may cause problems for later analyses to be carried out on the data. Thus, initial exploration of the data using simple descriptive tools was provided to describe and summarize the data generated for the study.

Pearson Correlation Matrix

Pearson’s correlation matrix was applied to check the degree of association between corporate board attributes and tax aggressiveness of listed non-financial firms in Nigeria so as to determine the nature or degree of association; that positive or negative correlation and the magnitude of the correlation between dependent variable (tax aggressiveness) and independent variables.

Table 2: Correlation Analysis Result

	TAXAG	COBIND	COBSZE	GENDV	COBMET	COBFEX	CBCEON
TAXAG	1.000000						
COBIND	0.019834	1.000000					
COBSZE	-0.055713	0.007595	1.000000				
GENDV	0.022964	0.033622	-0.021142	1.000000			
COBMET	-0.081355	0.005210	-0.009295	0.001940	1.000000		
COBFEX	-0.067747	0.031401	0.013056	-0.020148	-0.059484	1.000000	
CBCEON	0.082678	-0.052510	-0.048090	0.079276	0.013346	-0.054156	1.000000

Source: researcher’s summary of correlation result (2022)

The result shows that there is a positive and very weak association between tax aggressiveness, corporate board independence, gender diversity and board chief executive officers nationality (TAXAG/COBIND/GENDV and CBCEON = 0.019/0.022 and 0.082) respectively. There also exist a negative and very weak association between tax aggressiveness, corporate board size, corporate board meeting and board financial expertise (TAXAG/CBSZE/COBMET and COBFEX = -0.0557/ -0.081 and -0.067) respectively. It was discovered that a negative and very weak association exists between corporate board independence and corporate board chief executive officers nationality (COBIND and CBCEON = -0.0525) while a very weak but positive association was reported against corporate board independence, board size, corporate board meeting, gender diversity and corporate board financial expertise respectively. Similarly, another positive but very weak relationship was established between corporate board size and corporate board financial expertise (CBSZE and COBFEX = 0.013) while corporate board size was negatively correlated with gender diversity, corporate board meeting and corporate board chief executive officers nationality (CBSZE/GENDV/ COBMET and CBCFON = -0.0211/ -0.0092 and -0.048) respectively.

There exists a negative and weak association between, gender diversity and corporate board financial expertise (GENDV and COBFEX = -0.0201) while there exist a positive but very weak association between gender diversity, corporate board meeting and corporate board chief executive officers nationality (GENDV/COBMET and CBCEON = 0.0019 and 0.079) respectively. There exists another weak and negative association between corporate board meeting and corporate board financial expertise (COBMET and COBFEX = -0.059) while corporate board meeting is positively correlated with corporate board CEO nationality respectively. Generally, the perusal of the correlation matrix reported in Table 4.2.2 shows none of the coefficient to be above 0.4. This suggests the non-severity or non-existence of multi co-linearity among the independent variables.

In checking for multi co-linearity, the study noticed from the correlation table above that no two explanatory variables were perfectly or highly correlated and thereby ruled out the case of having an outlier. This indicates the absence of multi co-linearity problem in the model used for the analysis. This correlation matrix will not serve as a basis for generalization on the actual relationship between corporate attributes and tax aggressiveness as correlation matrix only gives a mere degree of relationship between the dependent and the independent variables. This also warrants the use of the panel regression analysis in accepting or rejecting a hypothesis and also justifies the use of variation inflation factor (VIF) for further test of perfect correlation or multi co-linearity problem.

Test of Hypotheses

In order to examine the relationship between the dependent variable (TAXAG) and the independent variables (COBIND, COBSZE, GENDV, COBMET, COBFEX and CBCEON) and to test the formulated hypotheses, we employed panel regression analysis since the data had both time series (2012-2021) and cross sectional properties (75 quoted non-financial firms). Our analysis is presented in table 3 below:

Table 3 Hausman Effect Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.335366	6	0.7657

Source: Researcher’s summary of Hausman effect analysis result (2022)

Fixed effects and random effects models are designed to address the issue of heterogeneity based on their different assumptions about the heterogeneity (i.e., the individual specific effect). Hausman-type test was carried out to determine which of the two models should be more appropriate. Hausman test was performed to select the best fitted panel regression model among the Fixed Effect model and Random Effect model. Table 3 above clearly illustrates the results of Hausman test. The result shows a chi-square statistics value of 3.33536 and probability value 0.7657 which is greater than 5%; this means that there is heterogeneity in the collection of the firms’ data. Since the Chi-square (Prob) value is greater than 5%, we accept the random effect and interpret its regression while the fixed effect is rejected. Since the p value is greater than 0.05, Random Effect model was chosen as the best fitted model. Random effects models assume there are differences in disturbance or the error term while fixed effects model assumes that heterogeneous groups or time had different intercepts. We used the Hausman test to choose between random effects and fixed effects model which is to be applied in this study. Hausman test shows that the Random-effects estimation (REM) method is more appropriate than the fixed effects (FEM) for all non-financial firms in Nigeria; hence the results from REM is presented and interpreted. Hence the study used the random effect to correct the problem of heterogeneity in the data used for the study; the random effect regression result is presented in table 4 below:

Table 4 Random Effect Panel Regression Result

Cross-section random effects test equation:

Dependent Variable: TAXAG

Method: Panel Least Squares

Date: 07/08/22 Time: 21:13

Sample: 2012 2021

Periods included: 10

Cross-sections included: 75

Total panel (balanced) observations: 750

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	40.32067	8.687945	4.640990	0.0000
COBIND	0.052341	3.056013	2.934439	0.0504
COBSZE	-1.778995	1.227640	-1.449118	0.1478
GENDV	0.078054	0.832088	0.093805	0.9253
COBMET	-0.292741	0.717561	-0.407966	0.6834
COBFEX	2.014786	1.080144	2.865294	0.0126
CBCEON	1.834380	1.050421	1.946329	0.0512

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.647600	Mean dependent var	30.59600
Adjusted R-squared	0.545669	S.D. dependent var	15.01322
S.E. of regression	14.66640	Akaike info criterion	8.310706
Sum squared resid	143904.1	Schwarz criterion	8.809674
Log likelihood	-3035.515	Hannan-Quinn criter.	8.502969
F-statistic	1.448033	Durbin-Watson stat	2.175842
Prob(F-statistic)	0.009042		

Source: Researcher's summary of random effects panel regression result (2022).

The table 4 above shows the random effects panel regression analysis of listed non-financial firms in Nigeria. From the result, the study observed that the R. squared value is 0.647 (65%) approximately and R-squared adjusted value is 0.545 (55%) approximately. The value of R- squared which is the coefficient of determination stood at 65%. This implies that 65% of the systematic variations in individual dependent variables were explained in the model while about 35% were unexplained and captured by the stochastic error term. Again, the adjusted R-squared stood at 55%. This indicates that all the independent variables jointly explain about 55% of the system variation in tax aggressiveness of our sampled companies over the 10 years period while about 45% of the total variations were unaccounted for, hence captured by the stochastic error term. The R-squared adjusted value indicates that corporate attributes used in this study explained about 55% of the variation in tax aggressive strategies of non-financial companies listed in Nigeria while about 45% were unexplained. As a summary, coefficient of determination (R^2) measures the overall fitness and explains how well a model predicts future outcome (Uwuigbe, Jafaru & Ajayi, 2012). From Table 4.3.2 above, the R^2 value was 65%. This indicates that COBIND, COBSZE, GENDV, COBMET, COBFEX and CBCEON explain 65% of variation in tax aggressiveness strategies. In addition, the adjusted R2 was 55% which also compliments the proportion of tax aggressive strategies that is explained by COBIND, COBSZE, GENDV, COBMET, COBFEX and CBCEON. In other words, 35% of the strategies in tax aggressiveness are caused by other factors not accounted for in the model. Similarly, the findings from the Fishers ratio (i.e. the F-Statistics, which is a proof of the validity of the estimated model) as reflected in table 4.3.2 indicates that the F-statistics is about 1.448 and a p-value that is less than 0.05 (P-value =0.0090), this invariably explains that the explanatory variables are significantly associated with the dependent variable. That means they strongly determine the behavior of

the corporate boards in tax saving via tax aggressive strategies. The F-statistics value of 1.448 and its probability value of 0.009 shows that the overall corporate attributes model used for the analysis were statistically significant at 5% level. This confirms the appropriateness of our model used for the analysis. Moreover, the Durbin Watson statistic of 2.1758 showed that the model is well spread since the value is approximately 2 and that there have not been self or auto correlation problem and that error are independent of each other. This means that the regression model is valid and can be used for statistical inference.

DISCUSSION OF FINDINGS

On the test of hypothesis one (H_{01}), the study established that corporate board independence had a positive and significant effect on tax aggressiveness of non-financial firms in Nigeria having recorded a positive coefficient value 0.052 ($\beta_1 = 0.052$, $p = 0.0504$). The value β_1 was positive showing that independent directors have a positive effect on tax aggressiveness of listed non-financial firms Nigeria. This result is supported by the study of Owens (2008) who found a direct relationship between the independent board and aggressive tax planning, leading them to conclude that boards comprising too many outsiders lose the tax aggressive strategies associated with officers serving on the board.

The test of hypothesis two (H_{02}), indicate that corporate board size showed a negative coefficient value of 1.778, and P-value of 0.1478. The result from the model indicated that corporate board size has negative but insignificant effect on tax aggressiveness of listed non-financial firms in Nigeria. This implies that the negative coefficient and the probability value indicate that corporate board size negatively affects the tax aggressiveness of firms but the effect is not statistically significant. The finding supports the findings of Aliani and Zarai (2012) that discovered a non-significant relationship between board size and tax aggressiveness, which shows that the number of corporate directors does not affect strategies designed to reduce tax liabilities.

The test of hypothesis three (H_{03}), the study observed that gender diversity has a positive but insignificant effect on tax aggressiveness of 75 selected non-financial firms in Nigeria ($\beta_3 = 0.078$, $p = 0.9253 > \alpha = 0.05$). The value β_3 was positive showing that gender diversity has a positive but insignificant effect on tax aggressiveness of listed non-financial firms in Nigeria. This study is in support of the findings of Ogbemor, Onomuhara and Evbota (2019) who examined corporate attributes and tax aggressiveness in listed Nigerian companies using fifty (50) companies listed on the Nigeria Stock Exchange (NSE) for a period of six (6) years (2012 –2017). The findings revealed that profitability and firm size had a positive and statistically insignificant relationship with tax aggressiveness; while board size, company age had a positive and statistically significant relationship with tax aggressiveness.

On the test of hypothesis four (H_{04}), the result of random effects regression shows that corporate board meeting have negative but insignificant effect on tax aggressiveness of listed non-financial firms in Nigeria. From table, we found corporate board meeting (COBMET) to have a negative but insignificant relationship with tax aggressiveness. This findings is in consonance with the findings of Salihu and Kawi (2021) who investigated the relationship between the board's attributes and corporate tax avoidance in Inland Revenue Board of Malaysia (IRBM). The findings indicate that quantitative analysis shows board effectiveness to be negatively related to corporate tax avoidance. However, board independence and board members' financial literacy were not.

The test of hypothesis five (H_{05}) showed that board expertise has a positive coefficient value of 2.0147 and P-value of 0.0126. The result of the analysis from the model indicates that corporate board financial expertise has positive and significant effect on tax aggressiveness. This findings is in tandem with the findings of Ifurueze, John-Akamelu, and Iyidiobi (2018) who investigated the effect of corporate tax aggressiveness strategies on firm growth in Nigeria. The study found that Leverage (LEV) to impact positively on our dependent variable, Firm Growth. This impact was not statistically significant. The study found that Effective tax rate (ETR) to impact positive on our dependent variable, Firm Growth, but this impact was statistically significant.

The test of hypothesis six (H_{06}) showed that corporate board CEO nationality has a positive and statistically significant effect on tax aggressiveness having recorded a positive coefficient value of 1.834 and a p value of 0.0512 ($\beta_6 = 1.834$, $p = 0.0512$). The value β_6 was positive confirming that corporate board CEO nationality has a positive effect on tax aggressiveness of listed non-financial firms in Nigeria. The findings is in support of Al-Lawati and Hussainey (2021) who stated that the inclusion of at least one foreign director in boards of firms is associated with a growing tendency of directors to emphasize openness and frankness in performing their monitoring tasks, rather than giving priority to politeness and courtesy among board members.

CONCLUSION AND RECOMMENDATIONS

The present study has provided a new dimension in the study of the relationships between the attributes of the board of directors and corporate tax aggressiveness. With the use of six different variants of corporate board attributes, the study tried to capture tax aggressiveness comprehensively. Also, the mixed quantitative findings on the impacts of the corporate board on corporate tax aggressiveness were subjected to quantitative investigation through secondary data obtained from annual report of selected non-financial firms in Nigeria. The findings from the quantitative strand of data showed that attributes of the board might have little or no impact on the corporate tax aggressiveness practices, as the directors are not responsible for a firm tax management strategy.

However, the fact that these directors are appointed by the company could overshadow their concern for organizational legitimacy. Moreover, the directors in most cases sit on more than one board and have little concern for the legal issues as compared to financial matters. Thus, the directors might take little cognizance of the tax status of the companies where they sit. The choice of tax management strategy is therefore left in the hands of the management. Based on the results presented, the study concludes that corporate board size, gender diversity, board meetings do not encourage tax aggressive activities while corporate board independence, corporate board expertise and foreign directors encourage tax planning activities. The findings implies that having independent board members that are financial experts and foreign directors increases tax planning activities, thereby reducing tax liabilities. Therefore, expert independent and foreign directors have similar ideas and contributions towards tax aggressiveness. The result also implies that having foreign directors is a means of importing more knowledge in the practice of tax planning.

The result shows that corporate board independence, financial expertise and CEO Nationality have significant effects on aggressive tax planning. The positive relationship between corporate board independence, financial expertise and CEO Nationality and tax aggressiveness indicates that non-financial companies in the Nigerian Exchange Group, which have a mix combination of independent directors with expertise in accounting and tax related matters earns higher profits, pays tax at a lower tax rate and exercises more planning to reduce the tax burden. Thus, the result of this study supports the assumption that companies are focusing more on tax strategies to reduce their income tax liabilities but not on income in their financial statement (Kraft, 2014).

Based on the fore going, the study makes the following recommendations:

1. Non-financial firms should be encouraged to have more of independent directors in their corporate boards since they are perceived to have influence on choice of tax management strategy, and also possess similar ideas and contributions towards tax aggressiveness.
2. Emphasis on larger board size should be discouraged since it has insignificant effect on tax aggressiveness of non-financial firms in Nigeria.
3. Having more women on corporate board should be the encouraged by every non-financial firms in Nigeria but minimal level or better still ignored since it was found to have insignificant effect on tax aggressiveness.
4. Emphasis on regular board meetings should be minimized since it was found to have insignificant effect on tax aggressiveness of non-financial firms in Nigeria.

5. Proportion of board members with financial expertise should be increased to help improve tax aggressive strategies since it was found to have a positive and significant effect.
6. Non-financial firms in Nigeria should ensure that their board is made up of foreign and indigenous nationals to improve tax aggressive strategies thereby reducing tax liabilities.

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