



Firm Attributes and Tax Planning of Nigerian Oil and Gas Firms: Moderating Role of Managerial Ownership

Udisifan Michael Tanko *, Zaharaddeen Salisu Maigoshi (PhD.), Rabiun Ado (PhD.), Suleiman Lawan Waziri, Aminu Yusuf

*Federal University Wukari, Taraba; Bayero University Kano, Kano;
Binyaminu Usman Polytechnic, Jigawa, Nigeria*

*Corresponding Author: udisifan@fuwukari.edu.ng

Abstract

Objective— This study examined the moderating effect of managerial ownership on the relationship between firm attributes and tax avoidance in Nigerian listed manufacturing firms for the period of 2011-2020.

Design/methodology—Secondary data were extracted from the financial reports and accounts of the companies. The study employed a Generalized Least Square (GSL) estimator of the regression model.

Results — It was found that leverage has a positive significant effect on tax avoidance. The study found that the financial expertise of board members has a positive and significant impact on tax planning. The study documented that managerial ownership has a significant positive impact on tax avoidance. Similarly, managerial ownership positively and significantly moderates the relationship between firm size and tax avoidance.

Research limitations/implications — This study recommends that the board of directors in the oil and gas firms in Nigeria should ensure that the shareholding of the insider managers is increased in such a way that the proportion of their shareholding should be minimal which should not be less than 20% of the total shareholding in the company as it was found being among the factors that increase tax avoidance. Doing this will encourage managers to put more effort to work toward improving firm performance.

Novelty/Originality —This study contributes in recommending that as leverage improves tax avoidance, firms should obtain more debt than equity to advantage of interest on the loan which is tax-deductible. Since board financial expertise increase tax avoidance, a firm should encourage for inclusion of financial expertise as a member of the board of director to decide on tax issues that will benefit the company.

Keywords: Firm attributes, tax planning, ROA, board financial expertise, managerial ownership.

1. Introduction

It is worthy to note that tax is one of the important sources of revenue that has contributed largely to a country's economy. These taxes are deducted from the earnings of corporate entities and individual taxpayers. Every income earner must pay tax since is in the provision of law. The government uses tax to develop national structure and to achieve the general welfare of the citizenry (Darmawan & Sukartha, 2014) To reduce tax incidence taxpayer, put in place strategies of tax planning, thus government sometimes frowned at it since government needs revenue to meet their constitutional responsibilities while manager of corporate entity objective is to increase shareholders' wealth. However, tax planning is legal if is carried out within the armptit of tax law. Managers may undertake tax planning to achieve their financial benefit not purposely to increase shareholders' wealth. Tax planning entails costs for both firms. Thus, tax declining through tax planning might increase profits after tax (Khaoula & Moez, 2019). In addition, a tax increase will eventually decrease profit after tax. Any decrease

in taxes paid will contribute to an increase in earnings which will enhance shareholders' wealth. This is in line with the main objective of firms' activity which is to increase firm value to shareholders, by minimizing the tax burden.

Firm characteristics are one of the factors that influence tax planning and aid in the optimal operation and performance of companies. Firm characteristics have been studied to evaluate their influence on tax planning. Some of the firms' characteristics used in most literature comprise firm size, firm age, profitability, industry type, ownership concentration, and audit firm size, among others. Firm size may affect the way firms plan their tax. Large firms for example may employ more skillful and tax knowledgeable management teams who are more literate to reduce costs including taxes. Management designed an action by considering the level of profitability, size of the firm or engaged on debt contract to reduce taxes or by setting up tax planning activities through acquisitions of qualifying capital assets as well as giving more shares to managers to motivate them to reduce the taxes since less tax will yield more profit which will increase shareholders' wealth.

Managerial ownership deals with managers having a proportion of the company shares. The company allowed managers to have units of shares in a company to reduce agency costs. When managers are owners of businesses there is a possibility of managers engaging in tax avoidance to increase shareholders' wealth of which they are part. However, it has been argued that giving managers units of the company the area will not necessarily reduce agency costs (Peter, 2019; Tanko, 2020). They furthered argue that managers would engage in tax avoidance for their interest not for other shareholders.

Many studies have investigated the impact of firm characteristics on tax avoidance, tax aggressiveness, and tax planning both in emerging economies and developed economies. However, best of the researchers' knowledge no study considers managerial ownership as moderating variable. Since management is saddled with the responsibility of managing and preparing the financial report, in this regard, they have better knowledge of how the firm performed. When managers have a stake in a company in form of ownership this will motivate, them to engage in tax avoidance to increase firm performance. In addition, making managers part of shareholders may help to reduce the level of information asymmetry. Managers may use the information at their disposal for the benefit of all shareholders since they are part of the shareholders. However, they might pursue their interest than that of shareholders.

The manufacturing firms are companies that are not in the financial services sector. Firms in this sector are in the manufacturing of goods. There are six (6) sectors listed on the floor of the Nigerian Stock Exchange (NSE) that are into manufacturing activities. These sectors are conglomerate, construction/real estate firms, consumer goods firms, healthcare companies, industrial goods firms, and natural resources companies. The companies deal with different products which meet the daily needs of the people. Manufacturing industries in Nigeria have excelled in producing goods for the people of the nation as well as for export. Like any national economy, the industrial sectors of the developing economy in particular have contributed massively to the economy. However, the manufacturing sector's contributions to Nigeria's gross domestic product (GDP) are still small and have been declining recently. These sectors contribute 4.8% to the country's economic growth in 1960, and the contribution of manufacturing to GDP increased to 7.2% in 1970 and 7.4% in 1975. In 1980 it fell to 5.4% , but then rose to a record 10.7% in 1985. From 1990, manufacturing contributed 8.1% of GDP but then fell to 7.9%. 1992, 6.7% in 1995 and further reduced to 6.3% in 1997. In 2001 it fell from 6.2% in 2000 to 3.4%. Thus, in 2019 manufacturing companies contributed 20% to the Nigerian GDP (Ogunbanjo, 2019). However, recently, the contribution of the sectors to Nigerian Gross Domestic Product (GDP) reduced due to the corona pandemic as reported by the National Bureau of Statistics (2020).

Firm attributes,
tax planning,
ROA, board
financial
expertise,
managerial
ownership.

2. Literature Review, Theoretical Framework, and Hypothesis Development

The term corporate tax planning does not have a universally accepted definition. However, researchers have defined it in different ways that connote the same meaning. According to Annuar et al., (2014); Salihu, (2013), corporate tax planning is the means for reducing the corporate tax burden explicitly by corporate entities. However, it is worth noting that tax planning is not only corporate entities that engaged in this strategy but individual taxpayers also devise a means to reduce their tax incidence.

On the other hand, firm attributes according to Rabiou et al., (2021), are the various information provided by firms in their financial statements for a particular accounting period to show their performance. However, firm attributes include financial attributes such as Return on Assets (ROA), Return on Equity (ROE), and Earnings Per Share (EPS), among others. It also includes nonfinancial attributes such as firm size, firm age, audit quality, and board quality, among others.

Hoffman's tax planning theory supported that tax expenses are based on the taxable profit of a corporate body not on accounting profit, in this regard tax managers should put in place means to minimize their tax incidence through acquiring knowledge and a deeper understanding of tax laws in order not to minimize tax by not violating the tax law. Knowledge of tax laws will aid tax managers to reduce the tax burden and increase firm performance.

Agency theory is concerned with the principal-agent relationship because the interest between shareholders and management differ. The relationship between the two-party is centered on the decision taken by management in terms of corporate tax. Tax expenses represent the cost of doing business and every taxpayer desires to reduce the cost of doing business. Tax is one of the costs of doing business that management will like to reduce. However, tax planning is activities that may be an opportunity to managers to engage in opportunistic behavior. But if managers are owned shares in a company, they will ensure that management is engaged in tax planning activities to increase their profit after tax.

Studies have evaluated the relationship between firm attributes and corporate tax planning which includes;

Tanko, (2020) examined the moderating effect of profitability on the relationship between ownership structure and corporate tax avoidance in Nigerian consumer goods companies. The secondary data were used in the study. The study used Generalized Least Square (GLS), which used a random effect to analyze the data. The study showed a positive association between managerial ownership and ETR, on the other hand, the study shows a negative, insignificant association between institutional ownership and corporate tax avoidance. Similarly, (Peter, 2019) showed a positive relationship between management ownership and ETR. This indicates that manager ownership does not reduce ETR. However (Salaudeen & Ejeh, 2018) documented a positive relationship between management ownership and ETR. This suggests that managers who own an equity stake in the company are aggressively engaging in tax avoidance.

Kibiya, and Aminu, (2019) examined the impact of company attributes and tax planning of listed conglomerates in Nigeria. Five listed conglomerates in Nigeria were used for the study. Data for the study was extracted from the annual reports and accounts of the sampled companies for 12 years from 2006 to 2017. The data were analyzed using multiple regressions. The results of the statistical analysis showed a negative and significant impact of profitability, as measured by the return on investments, Tobin's Q, and corporate growth on tax planning, as measured by the effective tax rate. The study also shows a moderating effect of ROA on foreign ownership, which encourages tax avoidance. Similarly (Fernández-Rodríguez et al., 2019) examine the influence of ownership structure on the determinants of effective tax rates of Spanish companies. The study employed secondary data. The results from multiple regressions

reveal that firm size, leverage, research and development, and inventory intensity have a negative and significant impact on ETR. This signifies that efficient tax avoidance schemes yielded a lower tax burden.

Ernawati et al., (2019) demonstrated the effect of profitability, firm size and leverage on tax avoidance. The study used quantitative data. The variables of the study include profitability determined by return on investment, company size, leverage and tax avoidance determined by Cash Effective Tax Rate (CETR). The study used public companies in Indonesia for the period 2013-2017. The results of the study show that leverage has a significant impact on tax avoidance among listed companies in Indonesia. The size of the company has no significant influence on tax avoidance. Similarly (Hariani, and Waluyo, 2019) analyze the influence of profitability, leverage and CEO narcissism on tax avoidance in manufacturing companies listed on the Indonesian Stock Exchange from 2013 to 2017. This study uses secondary data, which is taken from the annual report of the company listed on the Indonesian Stock Exchange, the companies used were 41 out of 145 companies conducted through targeted sampling and the number of observations made between 2013 and 2017 were made so that the number of observations was 205 samples. The data were analyzed using multiple regression. The study found that profitability, leverage, and CEO narcissism variables had a positive and significant effect on tax avoidance.

(Marhani, 2019) examined the relationship between corporate governance, profitability and liquidity versus tax avoidance in mining companies registered on the Indonesian Stock Exchange from 2012 to 2016. The study uses multiple regression to analyze the data. Audit committee variable and proportion of independent commissioners, audit quality, ROA and liquidity affect tax avoidance. (Osebe, 2019) examined the moderating effect of leverage on the relationship between corporate governance and effective tax rates at listed companies in Kenya over the period 2011 to 2017. The study used a longitudinal research design. A sample of 40 companies was specifically selected from the 67 listed companies in Kenya. Data extracted from the published financial statements of the sampled companies were analyzed using multiple regression. The results show that leverage has a significant moderating effect on the relationship between board size, board independence, board gender diversity, and effective tax rate. However, it was found that leverage does not have a dampening effect on the relationship between ownership structure and effective tax rate. Similarly (Irianto et. al, 2018) examine the impact of profitability, leverage, firm size and capital intensity on tax avoidance activities. They found that profitability and firm size have a significant negative impact on the effective tax rate. The results also show that leverage and capital intensity have an insignificant impact on the effective tax rate... The results also reveal that leverage and capital intensity have an insignificant impact on the effective tax rate of 36 sample listed firms in Indonesia. This suggests that shareholders which include managers of the samples firm benefited from tax avoidance activities.

(Uniaminkogbo et al. n.d.) examined the impact of firm attributes on tax aggressiveness in the Nigerian deposit-taking banks using a sample of 10 out of 15 listed deposit-taking banks for a four-year period from 2013 to 2016. The analysis shows results from ordinary least squares regression that leverage, liquidity and bank size have a positive and significant impact on tax aggressiveness as determined by effective tax rates. While the profitability represented by the ROA has no bearing on tax aggressiveness. This indicated that these characteristics do not reduce the tax burden on savings banks in Nigeria. In contrast (Rani, Susetyo, and Fuadah, 2018) examined the effect of firm characteristics on tax avoidance with yield management as the moderating variable with evidence from 49 manufacturing firms in Indonesia for a four (4) year period (2012-2016). The GLS random effect results show that profitability and firm size have a negative and significant impact on tax avoidance activity, while leverage has a positive effect on tax avoidance activity. The study also found that revenue management moderates the relationship between firm characteristics and tax avoid-

Firm attributes, tax planning, ROA, board financial expertise, managerial ownership.

ance activities. The study also, found that earnings management moderates the relationship between corporates characteristics and tax avoidance activities. The study (Hanny & Niandari, 2018) found a negative and significant impact of leverage on effective tax rates. This justified that tax avoidance activity if properly executed will lower the tax burden that may not only lead to higher after-tax profit but also higher firm value and firm performance.

(Chytis et al., 2018) examined factors that influenced tax avoidance of listed firms in Greece, their studies were based on 75 sample listed firms. The results from multiple regression results reveal that firm size and profitability have a positive and significant impact on tax avoidance proxied effective tax rate (ETR), whereas leverage and liquidity are found to have an insignificant impact on tax avoidance. This indicates that big firms have huge profits, and in less tax planning activities, therefore have a large burden of the tax. Furthermore, sample firms are not getting the best of using leverage in terms of tax avoidance. (Salaudeen & Eze, 2018) firm-specific determinants of the effective corporate tax rate of listed companies in Nigeria. The study also measures the neutrality of taxation within Nigeria's economic sectors and establishes the relationships between ETRs and firm-specific characteristics such as size, leverage, profitability, capital intensity, inventory intensity, labor intensity and accountant type. Data were extracted from the financial statements of the sampled companies in terms of the variables and subjected to analysis using Ordinary Least Squares (OLS), Random Effects and Fixed Effects models. The results show that ETRs were below the statutory tax rate during the study period. The study further shows that larger and more profitable companies face high tax burdens, while companies with high leverage, capital intensity and tax professionals (accountant-type) face lower ETR. There is no significant relationship between ETR and work intensity

Alfina, et al., (2018) assessed the impact of profitability, leverage, independent commissioner and company size on tax avoidance of mining companies listed on the Indonesian Stock Exchange in 2014-2016. The independent variables in this study are return on assets (ROA), debt to equity ratio (DER), independent commissioner and size of the company. The dependent variable in this study uses the Cash Effective Tax Rate (CETR). The population, using up to 45 companies, researches on samples using a targeted sampling technique that generates a sample of 10 companies with three years of research time. Linear regression analysis was used as the analysis technique. The research results show that leverage, independent agent of the company and size have an impact on tax avoidance. While profitability does not affect tax avoidance. Similarly, (Kimsen, and masitoh, 2018) studied the impact of Return on Assets (ROA), Debt To Equity Ratio (DER) and Asset on Tax Avoidance (TA) partially and simultaneously in the sector of different industries listed on the Indonesian Stock Exchange (IDX). The research period used was five years from 2012 to 2016. The study population included all industries and other sectors listed on the Indonesia Stock Exchange (IDX) in the period 2012 to 2016. The sampling technique used is the targeted sampling technique. Based on the specified criteria, the sample size was 8 companies. The type of data used was secondary data sourced from the Indonesian Stock Exchange. The data analysis method used was panel data regression analysis. The result of the F-test and the t-test showed that return on investment influenced tax avoidance, while leverage positively influenced tax avoidance.

(Jingga et al., 2017) examined the impact of firm characteristics on tax aggressiveness of listed firms in Nigeria, using panel data of 85 listed non-financial firms in Nigeria for six years from (2012-to 2016). The results from multiple regression analysis revealed that leverage has a negative and significant impact on tax aggressiveness, the other variables such as firms' size, audit quality, and interest charges revealed a positive and significant impact on tax aggressiveness represented by the effective tax rate. This indicated that only leverage lower tax burden in listed non-financial firms in Nigeria. (Jingga & Lina, 2017) Examined factors influencing tax avoidance activities of

listed companies in Indonesia. The analysis was based on 158 firm-year observations from 2010-to 2013. The results using multiple regression revealed that leverage has a positive and significant impact on tax avoidance activities. The results also indicate that other variables of the study such as firm size, capital intensity, and inventory intensity have an insignificant impact on tax avoidance.

(Pratama, 2017) investigated the influence of company characteristics and corporate governance on aggressive tax avoidance practices among 27 selected Indonesian companies for five years from 2011-to 2015. The study found that firm size and firm age have a positive and significant impact on tax avoidance activities and leverage was found to have no impact on tax avoidance. Furthermore, the results showed that profitability has a negative and significant impact on tax avoidance. This suggested that selected firms in Indonesia achieved the objectives of tax planning activities by achieving lower ETR. (Ogbeide, 2017) assess the effect of company characteristics on the tax aggressiveness of listed companies in Nigeria. The study uses pool and panel data for the period 2012 to 2016. The data used was taken from the annual reports of the selected companies. Both the panel and the dynamic panel method were used to analyze the generated data. The results of the study showed that firm size has a positive and significant impact on tax aggressiveness. There is a significant and positive correlation between the quality of the external audit and tax aggressiveness. Leverage has a significant and negative relationship to tax aggressiveness. Interest charges have a significant and positive impact on tax aggressiveness. (Salehi et al., 2016) examined the impact of institutional ownership on the relationship between taxes and capital structure. The study used a sample of 98 companies from 2005 to 2014 selected from companies listed on the Tehran Stock Exchange (TSE). The study used multiple linear regression based on panel data. The results show that taxes have a negative and significant relationship with institutional ownership, while institutional ownership has a positive and significant impact on capital structure. Institutional ownership incorporates corporate impact and adjusts the relationship between tax and capital structure.

From the literature is worthy to note that other firms' attributes such as ROA, audit quality, and firm age could equally influence tax aggressiveness but are ignored by most authors. However, only a few authors considered these attributes (Kibiya & Aminu, 2019; Tanko, 2020).

3. Research Method

This study used a correlative research design. The design was used to find the causal relationship between firm attributes and tax avoidance. The study population includes 58 listed manufacturing companies in Nigeria, of which 30 companies were used as the sample size between 2011 and 2020. Secondary data was extracted from annual reports and financial statements of the sample companies. Multiple regression analysis (GLS) was used as the technique of data analysis. The choice of multiple regression focuses on its ability to predict empirical relationships. The model of the study was adopted with modification from the work of (Jingga et al., 2017; Kibiya & Aminu, 2019) presented as follows:

$$\begin{aligned}
 BTD_{it} &= \beta_0 + \beta_1 Fsize_{it} + \beta_2 AQ_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 BGED_{it} + \beta_6 BFE_{it} \\
 &\quad + \varepsilon_{it} \\
 BTD_{it} &= \beta_0 + \beta_1 Fsize_{it} + \beta_2 AQ_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 BGED_{it} + \beta_6 BFE_{it} \\
 &\quad + \beta_7 MO_{it} + \beta_8 Fsize * MO_{it} + \beta_9 AQ * MO_{it} + \beta_{10} LEV * MO_{it} \\
 &\quad + \beta_{11} ROA * MO_{it} + \beta_{12} BGED * MO_{it} + \beta_{13} BFE * MO_{it} + \varepsilon_{it}
 \end{aligned}$$

Where:

BTD=Book Tax Difference

Fsize=Firm Size

AQ=Audit quality

Firm attributes, tax planning, ROA, board financial expertise, managerial ownership.

LEV=Leverage
 ROA=Return on Assets
 BGED=Board gender diversity
 BFE=Board financial expertise
 MO=Managerial ownership
 $\beta_1 - \beta_{13}$ are the coefficient of the parameter estimate
 *=Interaction
 ε is the error term

Variables	Definition	Measurement	Sources
Book Tax Difference	BTB	$\frac{\text{Profit before tax} - \text{current tax expenses}}{\text{statutory tax rate}}$	(Tanko, et al. 2021; Siyanbola, 2021; Desai, and Dharmapala, 2006)
Firm Size	FS	Log of total assets	(Kibiya, and Biyaminu, 2020)
Audit quality	AQ	"1" if the firm is audited by Big Four "0" if otherwise.	(Tanko, 2019)
Leverage	Lev	Total interest-bearing debt divided equity capital	(Sani, 2016)
Return on assets	ROA	Profit before tax divided by total assets	(Sani, 2016)
Board gender diversity	BGED	The proportion of females on board	(Tanko, and Siyanbola, 2019)
Board financial expertise	BFE	The proportion of board members with a qualification in accounting and finance.	(Tanko, et al. 2021)
Managerial ownership	MO	Shares held by managers divide by total shares	(Peter, 2019; Tanko, 2020)

Table 3.1 Variable Definition and their measurement

4. Results and Discussions

Variables	Mean	Std. Dev.	Min.	Max.
BTB	0.1757	0.3532	-1.6885	1.0792
Firm Size	7.2149	0.8018	5.6261	8.5810
Audit quality	0.6200	0.4878	0.0000	1.0000
Leverage	1.1348	0.9652	0.0321	5.5834
ROA	0.0175	0.1188	-0.3521	0.3870
BGED	0.1550	0.1285	0.0000	0.6000
BFE	0.3643	0.2156	0.0000	0.8800
MO	0.3436	0.2366	0.0002	0.8192

Table 4.1 Descriptive statistics (Obs=300)

The table 4.1 presents the descriptive statistics from the data on the explanatory variables and the dependent variable of the study. The summary statistics include measures of central tendency such as mean as well as the measures of dispersion such as the standard deviation, minimum and maximum values of explanatory variables, and the dependent variable. Table 4.1 shows that the mean for the book-tax difference is 0.1757. This means that the tax planning of manufacturing firms is about 17% on average, which is an indication of poor tax planning, with a minimum of -1.6885. The minimum indicates that the taxable profit is greater than the book income and the maximum of 1.0792 while the standard deviation of 0.3532 suggests that, there is insignificant variation in financial reporting quality among the sampled firms since the standard deviation is not greater than the mean.

Firm size has a mean of 7.2149 with a minimum of 5.6261 and a maximum of 8.5810. The standard deviation of 0.8018 shows a low level of dispersion in the total assets of the sampled firms. More so, audit quality has an average of 62% with a meaning of 0. This indicates that 62% of firms engaged in high-quality audit firms. The minimum of 0 indicates Big 4s audit firms and a maximum of 1 means Non-Big 4s. The table also shows that audit quality has a standard deviation of 0.4878. This indicates moderate variation around the mean. The leverage has the mean is about 1.1348 which means that the average debt owed by the companies is about 113% this indicates that most of the firms have high debts with a minimum debt of 0.0321 and maximum debts of about 5.5834. The standard deviation of 0.9652 indicates that there is no significant difference between the leverage of the selected firms since the mean is greater than the standard deviation. Also, the average proportion of ROA is 1.75%. This implies that on average the sampled firms generate 1.75% of ROA. The minimum value is -0.3521 which implies that for some years the sampled firms make a loss. The maximum value is 0.3870. The standard deviation is 0.1188 this indicates wide variation around the mean. This implies that the standard deviation is greater than the mean.

The Table also shows that board gender diversity has a mean of 0.1550 this indicates that the average percentage of composition of females on the board of directors is 15.50%, while the standard deviation is 0.1285 this suggests that there is a moderate significant difference in the composition of the membership of the board of director among the sampled companies concerning the involvement of a female. This implies that the mean is greater than the standard deviation. The minimum is 0 while the maximum is 0.16. This also implies that about 16% of members of the board of directors of the sampled firms are female. The mean of board financial expertise is about 0.3643 with a minimum of 0 and maximum of 0.88 and a standard deviation of 0.1256. The standard deviation shows that there is no significant variation in the board financial expertise of the sampled firms. In addition, the Table documented that average managerial ownership is 0.3436 this suggests that 34.36% of shares are owned by managers and directors. The minimum and maximum shares owned by managers are 0.0002 and 0.8192 with a standard deviation of 0.2366 which suggests moderate variation around the mean since the standard deviation is less than the mean.

Firm attributes, tax planning, ROA, board financial expertise, managerial ownership.

Variables	BTD	Firm size	AQ	Leverage	ROA	BGD	BFE
BTD	1.0000						
Firm size	0.0692	1.0000					
AQ	0.0537	0.0459	1.0000				
Leverage	-0.3353	0.1580	-0.1092	1.0000			
ROA	0.0419	0.4852	0.1288	-0.0977	1.0000		
BGD	-0.0048	0.2165	0.0170	-0.0197	0.1253	1.0000	
BFE	0.1215	0.2156	-0.2100	0.0799	0.0793	0.1763	1.0000

Table 4.2
Correlation matrix for the Parsimonious Model

The table 4.2 shows the correlation coefficients between the dependent and independent variables as well as among the explanatory variables. Table 2 shows that the relationship between firm size, audit quality, ROA, and board financial expertise with book-tax differences is weak and positive with coefficients of 0.00692, 0.0537, 0.0419, and 0.1215 respectively. This implies that the more the firm size, audit quality ROA and board financial expertise increase, the higher the tax planning. This also indicates that firm size, audit quality, ROA, and board financial expertise move in the same direction. On the contrary, the Table also reveals that leverage and board gender diversity exhibit a weak and negative relationship with a book-tax difference with coefficients of -0.3353 and -0.0048. This shows that leverage and board gender diversity tend to increase the tax planning of the sampled firms. In addition, it suggests that leverage, board gender diversity, and tax planning moved in separate directions. The results show that there is no evidence of multicollinearity between the explanatory variables

since none of the explanatory variables have a relationship with each other at 0.8 (Gujarati, 2009) This result is supported by Variance Inflation Factors (*VIF*) in Table 4.3 below.

Table 4.3
Correlation matrix
for the Dependent
Variable, the
Moderating Vari-
able, and the In-
teraction Terms

Variables	BTD	MO	FS*MO	AQ*MO	Lev*MO	ROA*MO	BGD*MO	BFE*MO
BTD	1.0000							
MO	-0.0695	1.0000						
FS*MO	-0.0533	0.6815	1.0000					
AQ*MO	0.0920	0.3873	0.3625	1.0000				
Lev*MO	-0.3181	0.4739	0.5059	0.1075	1.0000			
ROA*MO	-0.0430	0.4304	0.3631	-0.1568	-0.2648	1.0000		
BGD*MO	-0.0881	0.5522	0.5481	-0.1015	0.2288	0.2129	1.0000	
BFE*MO	0.1117	0.6976	0.6821	0.2779	0.3517	0.2750	0.3846	1.0000

From the correlation matrix in table 4.3, it shows that managerial ownership as moderator, moderating effect of managerial ownership on firm size, leverage, ROA, and gender diversity are negatively correlated with BTD. This indicates managerial ownership, the moderating effect of managerial ownership on firm size, leverage, ROA, and board gender diversity. This indicates that managerial ownership as moderator, moderating the effect of managerial ownership on firm size, leverage, ROA gender diversity, and BTD does not move in the same direction. Also, the results show that the moderating effect of managerial ownership on audit quality, board financial expertise, and BTD is a positive relationship. This indicates that moderating role of managerial ownership on audit quality, and board financial expertise moved in the same direction. The results show that the relationship between the explanatory variables does not show evidence of multicollinearity since the relationship is not up to 0.8 (Gujarati, 2009).

Diagnostic Analysis of the Data

The result of the VIF test shows that the maximum VIF is 1.49 and the minimum is 1.07, which indicates the absence of significant multicollinearity among the explanatory variables. The result of the Breusch-pagan/Cookweisberg test for heteroskedasticity revealed that there is a presence of heteroskedasticity with a chi-square of 18.82, the probability value of 0.000, and 16.81, the probability value of 0.0000 for models one and two respectively. The study used robust regression to correct this. Furthermore, the normality test shows that data are not normally distributed because the p-value of most of the variable clusters is around 0.0000 only audit quality is normally distributed. Because of this fact the study uses panel data, the Hausman Specification test was conducted to choose the consistent estimator between the random effect and fixed-effect models. The result of the test for model one shows that the p-value is 0.9619 which is greater than the 0.05 level of significance. Therefore, random effect estimation was used for the study. To determine between OLS and random effect estimates, a Lagrange multiplier test is performed. Test findings are in favor of a random effect since the p-values are less than 5%. The result probability value is 0.000. Model two probability value is 0.027 which indicates that fixed effects are preferable to random effects. Also, the study conducted the Pesaran CD test to check cross-sectional problems within the panel data. The results show an absence of a cross-sectional problem for both models one and two at probability values of 0.310 and 0.307 respectively.

Firm attributes, tax planning, ROA, board financial expertise, managerial ownership.

Table 4.4
Summary of Multiple regression Results

Variables	Model 1 (Random effects)			Model 2 (Fixed effects)		
	Coefficient	T	P>t	Coefficient	T	P>t
Constant	0.3951	1.98	0.032	0.1591	3.56	0.000
Firm size	-0.0135	-0.16	0.875	0.1417	0.76	0.467
Audit quality	0.0568	1.98	0.043	-0.1804	-2.86	0.019
Leverage	0.1252	3.32	0.001	0.2658	1.86	0.091
ROA	0.0772	0.24	0.812	-0.1976	-0.21	0.837
BGED	-0.3013	-1.18	0.236	0.1585	0.24	0.816
BFE	0.0824	3.44	0.000	0.0892	3.57	0.000
MO				0.6777	1.97	0.046
FS*MO				0.4557	1.70	0.087
AQ*MO				0.4636	3.32	0.009
Lev*MO				0.2868	0.97	0.359
ROA*MO				0.4023	0.26	0.798
BGED*MO				-0.7606	-0.52	0.618
BFE*MO				1.5437	1.86	0.096
R ²		0.1518			0.2564	
F-Stat		2.77			2.28	
P-Value>F-Stat.		0.0159			0.0123	
Hottest Chi2		18.82			16.81	
Prob>Chi2		0.0000			0.0000	
Hausman Chi2		1.46			24.78	
Prob>Chi2		0.9619			0.0247	
LMT		0.1986				
Prob>Chi2		0.0000				

The table 4.4 shows the coefficients and t-statistics of Random effects for regression results for model 1 and a fixed effect for model 2. The results show that the R² is about 0.1518 for model one which expresses the percentage of the total variation in the dependent variable explained by firm size, audit quality, leverage, ROA, board gender diversity, and board financial expertise variables jointly. This indicates that firm size, audit quality, leverage, ROA, board gender diversity, and board financial expertise constitute about 15.18% variation in tax planning of listed Nigerian manufacturing firms while the remaining 84.82% are factors not included in this study model.

Similarly, the results show that the R² for model two is about 0.2564 for model two which expresses the percentage of the total variation in the dependent variable explained by the audit firm size, audit quality, leverage, ROA, board gender diversity, board financial expertise, managerial ownership and moderating effect of managerial ownership on firm attributes varies jointly. The increase in the R² is due to the inclusion of the moderating variables and their interaction. This indicates that managerial ownership has the moderating power to influence the relationship between firm attributes and tax planning by increasing the R² by 10.46%. The probability of F-values is 0.0159 and 0.0123 for a model for one and two respectively. This indicates that the models are of good fit and the explanatory variables have the explanatory power on tax planning and are properly selected.

Under model one in Table 4.4, the results show that firm size has negative and insignificant effects on tax planning. This result aligns with the results of (Irianto, et al. 2018; Uniaminkogbo, et al. n.d) who provided a negative relationship between firm size and tax planning, and is inconsistent with the findings of (Fernández-Rodríguez et al., 2019) as well as (Ernawati et al., 2019) firm size has a positive effect on tax planning. This study suggests that as firm size increases by 1% and other factors remain constant, tax planning will decrease at a coefficient value of 1.35%. on the other hand, the study documented that audit quality has a positive and significant effect on tax planning. The finding is in line with (Jingga et al., 2017; Marhani, 2019) and disa-

greed with the findings of (Jingga & Lina, 2017; Salaudeen & Eze, 2018) who documented the negative impact of audit quality on tax planning. The positive coefficient indicates that a 1% increase in audit quality in terms of tax consultation will increase tax planning by 5.68%.

The study further revealed that leverage has a positive and significant impact on tax planning. The result is in agreement with tax planning theory and M and M theory which opined that the firm goes for more debts to benefit tax shield since interest on debts is tax-deductible. The study also aligned with the finding of (Ernawati et al., 2019; Waluyo, 2019) who documented a positive relationship between leverage and tax avoidance. However, the finding is not in line with the findings of (Fernández-Rodríguez et al., 2019; Irianto et al., 2018). The positive coefficient value implies that the N1 increase of debts would lead to 12.52%. Similarly, the study shows that Return on Assets (ROA) has a positive and insignificant influence on tax planning. The result is consistent with the findings of (Marhani, 2019; Waluyo, 2019) who documented a positive relationship between ROA and tax planning. However, the finding is not in line with the findings of (Irianto, et al. 2018; Kibiya & Bilyaminu, 2019) The positive impact also indicates that an increase in ROA by 1% would increase tax planning by 7.2%.

This study also revealed that board gender diversity has a negative insignificant effect on the tax planning of the sampled firms within the period of the study. The finding is inconsistent with the result of (Osebe, et al., 2019) who revealed that board gender diversity has a positive impact on tax planning. The study asserts that gender diversity does not encourage tax avoidance. However, the negative coefficient value indicates that each 1% increase of females on board would lead to 30.13 decreases in tax avoidance as other variables remain constant. Contrary, the study shows that board financial expertise has a positive and significant impact on tax planning. The positive coefficient indicates that board financial expertise improves tax planning. The study revealed This finding implies that as board financial expertise increases by 1% it will equally lead to an increase in tax planning by 8.24%.

Furthermore, under model two the Table shows that managerial ownership has a positive and significant impact on the tax planning of the sampled firm. The positive coefficient indicates that managerial ownership increased tax avoidance. This finding is in agreement with agency theory which suggests that making managers part of shareholders would increase firm performance and reduces agency cost. The study also agreed with the findings of (Peter, 2019; Tanko, 2020). However, disagreed with (Osebe, 2019).

In addition, the moderating effect of managerial ownership on firm size, board financial expertise, and audit quality both are positive and significant at 10%, 10%, and 1% levels of significance respectively. The positive relationship indicates that managers having company shares will motivate them to engage in tax planning using firm size, audit quality, and financial expertise. Similarly, leverage and ROA are moderated by managerial ownership positive though insignificant. The positive coefficient means that moderating effect of managerial ownership on leverage and ROA encourages tax planning. The results also show that managerial ownership moderated the relationship between board gender diversity and tax planning negatively.

5. Conclusion

The objective of the study is to investigate the effect of firm attributes on tax planning with moderating role of managerial ownership of listed manufacturing firms in Nigeria. The findings from the study show that firm size has a negative and significant effect on tax planning this implies that larger firm size does not consider tax planning as means of increasing firm value. The implication is that a further increase in firm size will result in low tax avoidance. The study also provides that leverage has

Firm attributes,
tax planning,
ROA, board
financial
expertise,
managerial
ownership.

improved tax avoidance. This indicates that the firm obtained more debt from debtholders to benefit from the tax shield on interest on tax which is tax-deductible. It also documented that firms that engaged in service of quality audit firms in terms of tax consult paid less tax than other firms that engaged in service low-quality firms.

The study further provides that ROA which was proxied for profitability increases tax planning. Firms considered the level of profit before tax to engage in tax planning. The study concluded that a firm with high profit does not engage in tax planning like a firm with low profit. In addition, the study concluded that having many females on board does not reduce tax incidence but, increased tax incidence. Since women are considered to be more ethical than men. They considered tax planning as a way of robbing the government though is a legal means of reducing the tax burden. It was noted that board financial expertise improves tax planning. This implies that the involvement of financial expertise in the board of directors encourages tax planning and increases firm performance. This conforms with the resource dependence theory which suggests that the acquired experience of members of the board of directors enhances the firm performance through tax planning. Thus, it is apt to conclude that the financial experience of board members affords them versatility, experience, and a comprehensive understanding of company business activities, managerial dealings, and tax laws. The study also concluded that managers only encourage tax planning only and only if they have shared in a company.

Since firm size decrease tax planning of larger firm small firm should focus more on increasing their size to encourage tax planning. Also, as leverage improves tax planning firms should obtain more debt than equity to take advantage of interest on the loan which is tax-deductible. Also, a firm should take into cognizance the level of firm profitability. When firms have low profits, they should acquire more qualifying capital expenditure and more debts. A firm should engage the service of a qualified audit firm that will render tax service that will improve the firm financial performance. The firm should have at least one female on board since gender diversity does not encourage tax planning. Since board financial expertise increases tax planning, a firm should encourage for inclusion of financial expertise as a member of the board of directors to take decisions on tax issues that will benefit the company. Managers should be encouraged by giving a proportion of shares in the company to encourage them to work for the interest of the company and reduce agency costs.

References

- Alfina dan Nurlaela. (2018). The Influence of Profitability, Leverage, Independent Commissioner, and Company Size to Tax Avoidance. The 2nd International Conference on Technology, Education, and Social Science 2018, 2018(10), 102–106.
- Annuar, H. A., Salihu, I. A., Normala, S., & Obid, S. (2014). Corporate ownership, governance and tax avoidance: An interactive effects. *Procedia - Social and Behavioral Sciences*, 164(August), 150–160. <https://doi.org/10.1016/j.sbspro.2014.11.063>
- Ayuba, R. P., Tanko, D., Peter, A., Adang, K. L., & Bakam, H. (2020). Breeding records of hooded vultures *Necrosyrtes monachus* (Timmernek, 1823) at Kpokap, Zango Kataf Local Government Area, Kaduna State, Nigeria. *Science World Journal*, 15(2), 96–99.
- Chytis, E. (2018). Tax avoidance and corporate governance attribute : evidence from listed Tax avoidance and corporate governance attributes : Evidence from listed companies in Greece. April 2019.
- Darmawan, I. G. H., & Sukartha, I. M. (2014). Pengaruh penerapan corporate

- governance, leverage, return on assets, dan ukuran perusahaan pada penghindaran pajak. *E-Jurnal Akuntansi Universitas Udayana*, 9(1), 143–161.
- Ernawati, S., Chandrarin, G., & Respati, H. (2019). Analysis Of The Effect Of Profitability, Company Size And Leverage On Tax Avoidance (Study On Go Public Companies In Indonesia). *International Journal Of Advances In Scientific Research And Engineering*, 5(10), 74–80.
- Fernández-Rodríguez, E., García-Fernández, R., & Martínez-Arias, A. (2019). Influence of ownership structure on the determinants of effective tax rates of Spanish companies. *Sustainability*, 11(5), 1441.
- Gujarati, D., & Porter, D. (2009). *Essentials of Econometrics* 4e. McGraw Hill.
- Hanny, R. Y., & Niandari, N. (2018). Tax Avoidance Practice : Political Connection, Firm Characteristics and Audit Quality Test in Banking Industry in Indonesia. *International Journal of Business Management and Economic Research*, 9(3), 1296–1303.
- Irianto, D. B. S., & S.Ak, A. W. (2017). The Influence of Profitability, Leverage, Firm Size and Capital Intensity Towards Tax Avoidance. *International Journal of Accounting and Taxation*, 5(2), 33–41. <https://doi.org/10.15640/ijat.v5n2a3>
- Jingga, V., & Lina, L. (2017). Factors influencing tax avoidance activity: an empirical study from Indonesia stock exchange. *Indian-Pacific Journal of Accounting and Finance*, 1(1), 17–25.
- Jingga, V., Lina, & Ogbeide, S. O. (2017). Firm Characteristics and Tax Aggressiveness of Listed Firms in Nigeria : Empirical Evidence. *International Journal of Academic Research in Public Policy and Governance*, 1(1), 556–569. <https://doi.org/10.6007/IJARPPG/v4-i1/562>
- Khaoula, F., & Moez, D. (2019). The moderating effect of the board of directors on firm value and tax planning: Evidence from European listed firms. *Borsa Istanbul Review*, 19(4), 331–343.
- Kibiya, I. U., & Aminu, B. S. (2019). Firm attributes and tax planning of listed conglomerates firms in Nigeria. 1(2), 217–226. <https://doi.org/10.1017/CBO9781107415324.004>
- Kibiya, I. U., Aminu, B. S., & Abubakar, K. S. (2019). The moderating effect of institutional ownership on intellectual capital and financial performance of listed conglomerates. *SEISENSE Journal of Management*, 2(5), 20–28.
- Kimsen, K., Kismanah, I., & Masitoh, S. (2019). Profitability, leverage, size of company towards tax avoidance. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, 4(1), 29–36.
- Marhani, M. (2019). *Pemikiran Akhlak Al-Gazali dan Relevansinya dengan Kehidupan Sosial Kemasyarakatan*. Universitas Islam Negeri Alauddin Makassar.
- Ogbeide, S. O. (2017). Firm characteristics and tax aggressiveness of listed firms in Nigeria: Empirical evidence. *International Journal of Academic Research in Public Policy and Governance*, 4(1), 556–569.
- Osebe, P. R. (2019). Impact of Corporate Governance on Effective Corporate Tax Rates Among Listed Firms in Kenya. *Research Journal of Finance and Accounting*, VII(9), 37–48. <https://doi.org/10.7176/rjfa/10-18-04>
- Pratama, A. (2017). Does corporate governance reduce thin capitalization practice? The case of Indonesian manufacturing firms. *Review of Integrative Business and Economics Research*, 6(4), 276.
- Rabiu, A. T., Mohan, A., Cavdaroglu, S., Xenophontos, E., Costa, A. C. S., Tzagkaris, C., Hashim, H. T., Ahmad, S., & Essar, M. Y. (2021). Dengue and COVID-19: a double burden to Brazil. *Journal of Medical Virology*, 93(7), 4092.
- Rani, S., Susetyo, D., & Fuadah, L. L. (2018). The effects of the corporate's characteristics on tax avoidance are moderated by earnings management (Indonesian evidence). *Journal of Accounting, Finance, and Auditing Studies*, 4(3), 149–169.

Firm attributes,
tax planning,
ROA, board
financial
expertise,
managerial
ownership.

- Salaudeen, Y. M., & Ejeh, B. U. (2018). Equity ownership structure and corporate tax aggressiveness: the Nigerian context. *Research Journal of Business and Management*, 5(2), 90–99.
- Salaudeen, Y. M., & Eze, U. C. (2018). Firm-specific determinants of a corporate effective tax rate of listed firms in Nigeria. 10(February), 19–28. <https://doi.org/10.5897/JAT2017.0288>
- Salehi, A. K., Baharipour, A., & Mohammadi, S. (2016). The Impact of Institutional Ownership on The Relationship between Tax and Capital Structure. *Advances in Mathematical Finance & Application*, 1(2), 57–67.
- Salihu, I. A. (2013). Ownership Structure and Corporate Tax Aggressiveness: A Conceptual Approach. 1–23.
- Sani, A. A. (2016). The Impact Of Ownership Structure and Cash Flow On Dividend Policy in the Nigerian Oil and Gas Industry. https://doi.org/10.5176/2251-2012_qqe16.43
- Tanko, U. M. (2020). The Moderating Effect of Profitability on the Relationship Between Ownership Structure and Corporate Tax Avoidance in Nigeria Listed Consumers Goods Firms. 10(2), 153–172.
- Waluyo, S. L. H. &. (2019). Effect of Profitability, Leverage, and CEO Narcissism on Tax Avoidance. *International Journal Scholars Middle East Publishers*, Dubai, United Arab Emirates, 6(8), 414–421. <https://doi.org/10.21276/sb.2019.5.8.2>