Board Diversity and Tax Saving Strategies of Financially Trouble Listed Firms in Nigeria

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Abstract
The study examined the relationship between board diversity and tax saving strategies of financially troubled listed firms in Nigeria. Board diversity was proxy using board gender diversity (BGD), board nationality diversity (BND) and board ethnicity diversity (BED) while tax savings was proxy as tax sheltering using effective tax rate (ETR). The ex post facto design was adopted and the data for the study was collected from the annual reports and accounts of the firms listed under industrial goods sector and oil & gas sector of the Nigerian Exchange Group (NGX)for the period of 2015-2022. Panel Least squares regression model was used in the data analysis and the results of the study show a significant and positive association between board gender diversity (BGD), board nationality diversity (BND), board ethnicity diversity (BED) and tax savings of listed financially troubled firms in Nigeria at 1% -5% significant level. The study therefore concludes that board diversity ensures corporate tax savings. The study recommends that firms should increase the number of female directors in the board as high proportion of female directorship presence ensures corporate tax savings so also the number of ethnic group in the board as it ensures ease resuscitation of financially troubled listed firms in Nigeria. A balanced approach towards the hiring of foreign directors was recommended for listed firms in Nigeria. With this development, corporate tax savings would constantly be maintained.

Keyword: *Board Diversity; Board Gender Diversity; Board Nationality Diversity; Board Ethnicity Diversity; Tax Sheltering*

1. Introduction

Today's dynamic business environment is characterized by the emergence of increasingly knowledge-based economies that encourage both global competition and innovative business practices. This is at the core of any competitive advantage today. Hence, corporate governance has attracted the attention of many researchers, investors, managers, policy makers and even potential investors as an appropriate governance mechanism needs to be incorporated to ensure that the organization functions well and also meets the needs of its various stakeholders. This is due to the high number of corporate failures in the recent years, particularly in Nigerian industry were many companies have failed because they did not follow or value the concept of board diversity (Omaliko & Okpala, 2023).The board diversity is an important mechanism and is at the apex of the internal corporate governance mechanism of firms (Onyekwere & Babangida, 2022). Thus, it is argued that optimal board composition is necessary to serve as an adequate corporate governance mechanism.

Board diversity has been advocated by different policies, systems and organizations due to the potential benefits that arise from it, such as more effective utilisation of talent pool, enhanced decision making and better investor relations amongst other things (Rajeha, 2020). It is for these reasons that various countries around the world pay considerable attention to the diversity of boards concerning professional codes and regulations. For instance, Terjesen, Couto and Francisco (2015) reported that 16 countries recommend the presence of female directors on the board and 14 countries have established a quota for the number of women on the board. As such, it becomes imperative to use empirical evidence to decipher whether these recommendations could impact positively on tax savings and financial performance of financially trouble firms in Nigeria.

The question as to whether highly diversified boards do better in discharging their fiduciary duties to shareholders in comparison to boards with lower levels of diversity has been widely debated in both the academic and business world. A review of the literature in this area shows that there is no clear consensus on how a diverse board improves financial performance. Existing studies have used various measures of diversity such as gender, nationality, ethnicity, age, skills, independence, expertise and experience among others (Ibrahim, Ouma and Koshal, 2019). Thus calls for further investigation in the areas of corporate board diversity.

Tax sheltering on the other hand is a tax savings strategy and an effort to apply lawful hitches to circumvent recompensing or minimize the payment of tax. Lambe, Orbunde and Akinpelu (2021) submitted that tax sheltering is an intentional reduction in the precise corporate tax liabilities of a firm. Hence, tax sheltering gave birth to certain terminologies such as tax management, tax planning, tax aggressiveness and tax avoidance in accounting literature and these terms are interchangeably used with tax sheltering.

Thus, the relationship between board diversity and tax sheltering has in recent time received great attention in the business world and especially in Nigeria as there are many financially troubled firms that require financial resuscitation through tax sheltering (tax savings) so as to meet their financial obligations. Hence the need for the present study to investigate if board diversity could ensure tax savings of financially trouble firms in Nigeria. This renewed interest stems from the fact that, for tax burden of a business concern to be minimized especially from the financially troubled firms, tax sheltering becomes imperative for management.

From the a priori expectations, it was also noted that studies on the relationship between corporate board diversity and tax savings of financially troubled firms in Nigeria have remained unexplored as there is a dearth of research in this area. For instance (Onyekwere & Babangida, 2022; Abdullahi, 2021; Temile, Jatmiko & Hidayat, 2019; Onyali & Okafor, 2018; Oyesola & Adelabu, 2017; Olayinka & Francis, 2016 etc) examined the effect of board diversity on financial performance of firms in Nigeria from different perspective, though with mixed findings and inconclusive results. None of the previous studies related board diversity to tax savings of financially troubled firms in Nigeria to reflect the extent to which tax savings (tax sheltering) activities could resuscitate such firms. Consequently, the present study attempts to fill the gap that exists in previous research. To this end, we formulated the following hypotheses to achieve the objectives of this study.

H_{01}: Board gender diversity has no significant relationship with tax saving strategies of financially trouble firms in Nigeria

H_{02}: There is no significant relationship between board nationality diversity and tax saving strategies of financially trouble firms in Nigeria

H_{03}: Board ethnicity diversity has no significant relationship with tax saving strategies of financially trouble firms in Nigeria

2. Review of Related Literature

2.1. Board Diversity

Board diversity is a corporate governance mechanism that has been defined in several ways. Onyekwere and Babangida (2022) view board diversity as the dissimilarities in both the observable (age, gender and nationality) and non-observable (experience, attitude and education) variables in the composition of the board.

Similarly, Ngo, Pham and Luu (2019) state that diversity involves having people with different socio-economic characteristics as well as backgrounds to ensure that consumers and stakeholders from different groups are better represented. The diversity of board members can influence the quality of the board’s oversight and resource provision roles, and hence the financial performance of the organization (Shehata, Salhin & El-Helaly, 2017).

For the purpose of this study, a model fit on board diversity was developed using the following Index; board gender diversity, board nationality diversity and board ethnicity diversity.

2.1.1. Board Gender Diversity

Campbell and Minguez-Vera (2018) reported that gender diversity is the most contested diversity issue both in terms of board diversity as well as female involvement in economic activity and society at large. Board gender diversity can be defined as the presence, number or percentage of female directors in the board room (Kweh, Ahmad, Kiong, Zhang & Hassan, 2019). Board gender diversity is a key aspect of board composition as it is considered a value generator in corporate strategy and corporate governance. A large number of scholars have advocated for further investigation on board gender diversity and organisational performance (Terjesen, Couto & Francisco, 2015).

2.1.2 Board Nationality Diversity

In analyzing the linkage between foreign directors and the affairs of the organization that they govern suggests that foreign directors, depending on their cultural distance from the country in which a firm is headquartered, can introduce different values, ways of cognition, and personality features to the board, and domestic internationally experienced managers and directors can contribute to the knowledge of such foreign values, cognition models, and typical personality profiles (Daniel, Aza & Pam, 2020). The study also found that board nationality positively related to performance and statistically significant at 5% level in determining the profitability of listed deposit money banks in Nigeria which is consistent with our a priori expectation.

2.1.3 Board Ethnicity Diversity

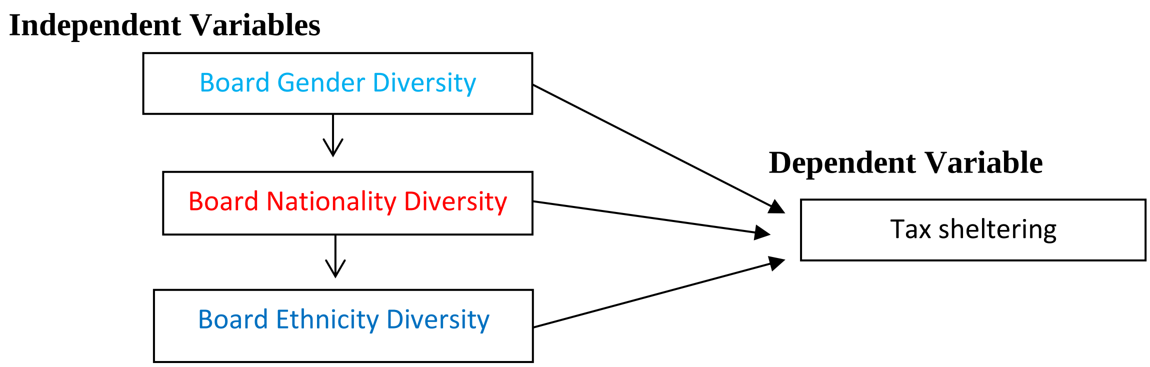
Ethnic groups can be defined as people of other countries that share a sense of mutual political or cultural grounds (Yin, 1973, cited in Ilaboya and Ashafoke, 2017). Ethnic also refers to a large group of people sharing the same custom, heritage, origin, race and religion. This implies that culture can be learnt while ethnicity is inherited. Extant literature has reported contradictory findings on board ethnic diversity and firm performance. First, a positive relationship has been established between board ethnic diversity and firm performance (Erhardt, Werbel & Shrader, 2013; Ujunwa, Okoyeuzu & Nwakoby, 2012). The proponent of the positive relationship believed that ethnicity can be used as an effective way to improve on corporate performance.

2.1.4 Tax Saving (Tax Sheltering)

Tax sheltering gave birth to certain terminologies such as tax management, tax planning, tax aggressiveness and tax avoidance in accounting literature and these terms are interchangeably used with tax sheltering. It is the legitimate and legal way of paying less tax or not paying at all (Onyali & Okafor, 2018).Tax sheltering is an act that has the objective to reduce taxable income through tax planning as well as using methods that are either classified or not classified as tax evasion. Although not all actions taken are against the rules, the more the methods used by the company should make the company assumed to be more tax-aggressive (Lambe, Orbunde & Akinpelu, 2021).

Tax sheltering practices are usually implemented to minimise the tax burden to achieve greater after-tax earnings per share and cash available for shareholders (Chen, Chen, Cheng &Shevlin, 2020). Thus, it could also reflect a decline in taxable income when managed through tax planning practices that are legal as well as activities that may be viewed as illegal in some circumstances to reduce tax liability.

Figure 1: The Diagram of Conceptual Model



Source: Researcher's Concept (2023)

2.2 Theoretical Framework

2.2.1 Agency and Hoffman's Theory

This study is guided by Agency and Hoffman's tax planning theories. The theories were propounded by Jensen and Meckling (1976) and Hoffman (1961) respectively. Agency theory is a theory that "identifies the agency relationship where one party, the principal, delegates work to another party, the agent. In the context of corporation, the owners are the principal and the directors are the agents" (Mallin, 2007). Based on agency theory, managers may engage in tax planning in order to seek their own interests, and they will occupy the company resources from tax savings and damage the interests of other shareholders. At the same time, big shareholders may also advocate some tax planning activities to damage the interests of small shareholders and other stakeholders in order to seek personal gain in the enterprise with the dominant equity structure. This is through managerial activities that protect management's interest, and shareholders who have block ownership will be interested as it will fetch them more returns/value than small shareholders.

This has implications for, among other things, corporate governance and business ethics. The interaction between tax sheltering decisions and managerial opportunism is the foundation of agency perspective in tax planning as claimed by Desai and Dharmapala (2008). The authors emphasize that the relationship between board diversity and taxation could exist in three settings which are; characteristics of a tax system, the nature of corporate governance environment and manager's potential to capture a share of tax planning benefits.

Hoffman tax planning theory is a theory that supports firms redirecting corporate returns to other firms other than flowing to government authorities (Hoffman, 1961). Due to the sophisticated nature of tax process and structures, loopholes in the legal system are unavoidable enabling tax payers to benefit on tax position. Hoffman (1961) argued that tax planning seeks to divert cash, which would ordinarily flow to tax authorities, to the corporate entities. Tax planning activities are desirable to the extent that it ensures tax savings and reduce taxable income to the barest minimum, without sacrificing accounting income. The theory is premised on the fact that firms tax liability is based on taxable income rather than accounting income. The idea is thus to intensify activities that reduce taxable income for more accounting profit for financially troubled firms. Hence, the study is anchored on this theory.

2.3 Empirical Review

Onyekwere and Babangida (2022) examined the relationship between board diversity and firm performance in Nigeria. The key dependent variables of interest were Return on Assets (ROA) and Return on Equity (ROE) and the independent variables of interest were board gender diversity and board independence. The study sampled 12 listed banks from the Nigerian stock exchange and relied on secondary data from the Bloomberg database and the annual reports of the banking institutions. Panel data methodology was used to analyse the data for the period under review (2015-2019). The results of the study indicated that board gender diversity has a significant positive impact on both ROA and ROE of the banking institutions. Conversely, the findings of the study indicated that board independence has a significant negative impact on both ROA and ROE of banking institutions.

Okpala and Omaliko (2022) examined the relationship between corporate governance mechanisms and tax sheltering of publicly traded tax aggressive companies in Nigeria. To determine the relationship between corporate governance mechanisms and tax sheltering, corporate governance mechanisms were measured with CEO share ownership, directors' remuneration, board independence and board diligence, while tax sheltering was proxy using effective tax rate. Using regression model, the results indicate that corporate governance mechanisms having significant and positive association with tax sheltering of listed tax aggressive companies in the country. The study concludes that corporate governance mechanisms ensure tax sheltering for tax aggressive companies. The study however suggests that firms' board should consider the percentage and proportion of CEO's share ownership concentration, pay higher remuneration to the board members, increasing the number of independent directors in their board and also consider in composition of the board of directors, their level of expertness, expertise, intelligence and proficiency as these led to tax sheltering among the quoted firms in Nigeria.

Lambe, Orbunde and Akinpelu (2021) assessed the effect of corporate governance mechanisms on tax aggressiveness among manufacturing firms in Nigeria. The ex-post facto research design was employed and secondary data spanning from 2008-2020. The study employed panel data analysis which is a combination of time series and cross sectional data analysis. The multiple regression equation was set up to investigate the hypothesized relationships between the tax aggressiveness and corporate governance mechanism in this study. Based on the analysis of data, it showed that when taken individually, board size and board diversity, both have a positive, but insignificant effect on tax aggressiveness, while return on asset (used as a control variable) has a positive and significant effect on tax aggressiveness. Based on the findings of the study, the study concluded that there exist a significant relationship between corporate governance mechanisms and tax aggressiveness of quoted manufacturing firms in Nigeria.

Racheal and Felicia (2019) determined the effect of board diversity on effective tax rate of quoted foods production firms in Nigeria using tenure diversity and non-executive diversity. The study adopts the *ex-post facto* research design. A sample of six food production firms the Nigerian Stock Exchange. Data obtained from annual reports and the formulated hypotheses tested with regression analysis using e-view 9.0. The results of the empirical analysis revealed that tenure diversity has negative effect on effective tax rate but is not significant while non-executive diversity negative effect on effective tax rate and is statistically significant on effective tax rate of quoted foods production firms in Nigeria. Based on these, the study recommended among others that long-serving directors should be discouraged to avoid familiarity relationships which can impose threat to the independence of individuals.

Temile, Jatmiko and Hidayat (2018) examined the impact of gender diversity, earnings management practices and corporate performance of quoted firms in Nigerian. The study is motivated by the nature of the Nigerian business environment and the need for effective corporate performance by firms in different sectors of the economy; hence providing an empirical argument for future researchers who may want to build on its findings. To achieve the set objective of this study, data was obtained from the annual reports of fifty firms quoted on the Nigerian Stock Exchange (NSE). The study is empirical in nature and adopted the survey research design to implement simple random sampling. Furthermore, the Panel Data Regression estimation technique was employed to estimate the specified model of the study. The results revealed that female chief executive officers have a negative but insignificant impact on the financial performance of firms in Nigeria, while the female chief financial officer has a positive and significant relationship on the financial performance. The result also shows that variables such as female membership and audit committees have negative and insignificant relationship with corporate performance.

Ilaboya and Ashafoke (2017) examined the relationship between board diversity and firm performance in Nigeria. The study adopted the cross-sectional research design using data from all the banks quoted on the Nigerian Stock Exchange from 2010-2015. The multiple regression technique is the basis of the data analysis, specifically the ordinary least square regression (OLS) technique to estimate the coefficients of the variables in the model specified. The study found a negative and significant relationship between ethnic diversity and firm performance; in the same vein, a negative and significant relationship was observed between nationality diversity and firm performance; Gender diversity exhibit a negative and significant relationship with firm performance. the study therefore recommend that since gender diversity is significant but negative, management and regulatory bodies should make policy statements towards the inclusion of more women to attain the optimum number that will enhance the performance of the firm going by the time-tested theory of critical mass.

Oyenike, Olayinka and Francis (2016) examined the relationship between the board of directors' gender diversity and tax aggressiveness of banks listed on the Nigerian Stock Exchange (NSE). Using cross sectional time-series research design as the blue print for data collection in this study, data collected were analysed using SPSS 21. The study provides evidence that a positive and non-significant association exist between female directors and tax aggressiveness after controlling for firm characteristics and governance mechanisms. In addition, the interaction of board size with female directors is significantly associated with the reduced level of tax aggressiveness. The results are consistent with the 'women risk aversion' theory which stipulates that the different attitude of females to excessive risks can project upon corporate policies and decisions. However, the low representation of women in executive positions and on the board limits how their influence is perceived. The study also made some recommendations amongst which include that banks should be encouraged, or otherwise mandated to appoint women as board members to take advantage of their expected benefits.

3. Methodology

An ex post facto design was used in the study. This was based on the fact that secondary data was used which already exist and cannot be controlled. The population of the study comprises of firms listed underoil & gas sector and industrial goods sector of Nigerian Exchange Group for the year ended 2015-2022.

A sample of 8 firms was selected out of the population of the study, after determination of effective tax rate for all firms. Hence, those firms with ETR < 30% are considered as financially troubled firms and was used in the study. See appendix 1. On this basis, a total of 8 firms formed our sample size with 64observations. The data was collected from the annual reports and annual accounts of the sampled firms. Panel least squares regression model was used to study the relationship between board diversity and tax savings of financially troubled firms in Nigeria.

3.1 Operationalization and Measurement of Variables

Table 1: Measurement for Variables

Variable	Measurement	A Priori Expectations
Dependent		
Tax Savings	Tax Sheltering: Effective Tax Rate (ETR)	Lambe, Arumona, and Okoli (2021), Peter, Hamid and Ibrahim (2020)
Independent		
Board Gender Diversity	Proportion of women in management to total number of board	Chinedu, Akwuobi and Onyeogubalu (2021)
Board Nationality Diversity	Ratio of foreign directors to board size	Daniel, Aza and Pam (2020), Ilaboya and Ashafoke (2017)
Board Ethnicity Diversity	Measured as number of minority directors divided by the total number of board of directors	Emmanuel, Willy and Robert (2017), Ilaboya and Ashafoke (2017)

Source: Empirical Survey (2023)

3.2 Model Specification and Justification

In line with the previous researches, the researcher designed a model to examine the relationship between board diversity and tax savings of financially troubled firms in Nigeria. The functional model for the study is shown below as thus:

ETR = F(BGD, BND, BED)

The explicit form of the regression designed for the study is expressed as thus:

Model: $ETR_{it} = \beta_0 + \beta_1 BGD_{it} + \beta_2 BND_{it} + \beta_3 BED_{it} + \mu$

Where:

ETR= Tobin's Q
BFD = Firm Assets Tangibility
BND = Firm Foreign Listing
BED = Board Size
μ = error term
'*a priori*' is given as: $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4 > 0$
Decision Rule: accept Ho if P-value > 1% or 5% significant level otherwise reject Ho

4. Data Analysis and Results

Table 2: Descriptive Statistics

	ETR	BGD	BND	BED
Mean	33.38	2.65	2.12	1.95
Median	33.50	2.90	2.30	1.95
Maximum	55.00	0.42	0.25	0.08
Minimum	8.00	0.10	0.00	0.00
Std. Dev.	11.5	0.65	0.56	0.46
Skewness	0.12	0.62	0.41	0.07
Kurtosis	2.36	2.94	2.17	3.15
Jarque-Bera	1.23	2.17	3.57	0.11
Probability	0.54	0.90	0.17	0.95
Sum	2136.2	169.5	135.8	124.8
Sum Sq. Dev.	8364.9	26.9	20.1	13.2
Observations	**64**	**64**	**64**	**64**

Source: E-View 12 Computational Results (2023)

Table 2 above shows that the effective tax rate (ETR) value for the sampled firms was 33.38. This implies that corporate tax savings is determined by board diversity. The maximum and minimum points for the study were 55.0 and 8.00 respectively. The variation in the minimum and maximum ETR points for the sampled firms justify the need for the study as we assume that corporate tax savings is a determinant of board diversity. The distribution is platykurtic because the kurtosis is less than 3, which means the outliers are few. The Jarque-Bera probability of 0.54 is more than

0.05, which means that the distribution of effective tax rate does not deviates significantly from a normal distribution.

The average value of board gender diversity (BGD) for the sample firms was 2.65. This means that firms with BGD value of 2.65 and above composed of female directorship in the board at a risk level of 0.65%. The maximum and minimum points for the study were 0.42 and 0.10 respectively. The variation in minimum and maximum BGD points for the sampled firms justifies the need for the study as we assume that firms with such variability demonstrate female directorship presence in the board. The distribution is platykurtic since the kurtosis is less than 3, which means there are few outliers. The Jarque-Bera probability of 0.90 is more than 0.05 which means that the distribution of board gender diversity does not deviate significantly from a normal distribution.

The average board nationality diversity (BND) for the sampled firms was 2.12. This means that firms with BND value of 2.12 and above comprises of a foreign directorship in the board. The maximum and minimum points for the study were 0.25 and 0.00 respectively. The variation in minimum and maximum BND points for the sampled firms justifies the need for the study as we assume that firms with such variability demonstrate foreign directorship presence in the board. The distribution is platykurtic since the kurtosis is less than 3, which means there are few outliers. The Jarque-Bera probability of 0.17 is greater than 0.05, which means that the distribution of board nationality diversity comes from a normal distribution.

The mean value of board ethnicity diversity (BED) for the sampled firms was 1.95. This means that firms with BED of 1.95 and above composed of minority directorship in the board with a risk level of 0.46%. The maximum and minimum points for the study were 0.08 and 0.00 respectively. The variation in the minimum and maximum BED values for the sampled firms justify the need for the study as we assume that firms with such variability demonstrate the presence of minority directorship in the corporate board. The distribution is leptokurtic since the kurtosis is more than 3 which means there are more outliers. The Jarque-Bera probability of 0.95 is greater than 0.05, which means that the distribution of board ethnicity diversity does not deviate from a normal distribution.

Table 3: Correlation Matrix

Variables	ETR	BGD	BND	BED
ETR	1.000000			
BGD	0.043152	1.000000		
BND	0.050576	0.558124	1.000000	
BED	0.617334	0.234601	0.601920	1.000

Source: Result Output from E-Views 12 (2023).

Table 3 above shows the relationship between the independent variables and dependent variable used in the model. It shows that all independent variables have a positive relationship with the dependent variable (ETR) and with each other. The values on the diagonal are all 1, indicating that each variable perfectly correlated with itself. When testing for multi-collinearity, we found that no two exogenous variables were perfectly correlated. Thus implies that there is no multi-collinearity in our model.

4.1. Test of Hypothesis

Table 4: Panel Least Square Result on the Relationship between Board Diversity and Tax Saving Strategies of Financially Trouble Firms in Nigeria.

Dependent Variable: ETR
Method: Panel Least Squares
Date: 06/24/23 Time: 20:58
Sample: 2015 2022
Periods included: 8
Cross-sections included: 8
Total panel (balanced) observations: 64

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BGD	1.730341	0.558208	3.099814	0.0290
BND	1.695958	0.287704	5.894802	0.0000
BED	0.931493	0.200082	4.655556	0.0004
C	32.54469	7.976567	4.080037	0.0035

R-squared	0.658726	Mean dependent var	33.37813
Adjusted R-squared	0.629433	S.D. dependent var	11.52290
S.E. of regression	11.74347	Akaike info criterion	7.824934
Sum squared resid	8274.551	Schwarz criterion	7.959864
Log likelihood	-246.3979	Hannan-Quinn criter.	7.878090
F-statistic	4.218545	Durbin-Watson stat	1.908763
Prob(F-statistic)	0.000000		

Source: Result Output from E-Views 12 (2023).

The R-squared for the model, as shown in Table 4 above, was 0.66%, indicating that the variables considered in the model accounted for 66% of the change in the dependent variable of tax savings (ETR), while 34% was not explained in the model. The F-statistic value of 4.22 and its P-value of 0.0000 indicate that the panel least-squares model is statistically significant at 1% level. This shows that the regression model is valid and fitted for the study.

Autocorrelation test: The DW statistic is 1.91, which is approximately 2, which agrees with Durbin Watson's rule of thumb. This means that our data is free from autocorrelation and suitable for the interpretation of the panel least-squares model result. The Schwarz criterion and Akika info criterion of 7.96 and 7.82 respectively further strengthen the reliability of our result as it confirms the goodness of fit of the model.

4.2. Discussion of Findings

In addition to the above, the specific results for each explanatory variable from the panel least square regression model as shown in Table 4 are provided below as follows:

Board gender diversity has no significant relationship with tax saving strategies of financially trouble firms in Nigeria. This hypothesis was tested and the result of the panel's least squares model, as shown in Table 4, shows that the relationship between board gender diversity (BGD) and corporate tax savings (ETR) is positive and significant, with a P-value of 0.0290 for the model, which is below the 5% level of significance adopted. The result of the positive coefficient of 1.73 for the model also implies that increase in firm's female directorship increases firm tax savings by 1.73%. We therefore accepted the alternate hypothesis, which states that board gender diversity has significant relationship with tax saving strategies of financially trouble firms in Nigeria. By implication, corporate organizations with high proportion of women in the board have tax sheltering (tax savings). Onyekwere and Babangida (2022), Lambe, Orbunde and Akinpelu (2021) who found positive and significant relationship between firm corporate governance mechanisms and tax aggressiveness. This goes further to confirm that firms' board gender diversity ensures corporate tax savings.

There is no significant relationship between board nationality diversity and tax saving strategies of financially trouble firms in Nigeria. This was tested and the result of the panel's least squares model, as shown in Table 4, shows that the relationship between board nationality diversity (BND) and corporate tax savings (ETR) is positive and significant, with a P-value of 0.0000 for the model which is less than 1% significant level. In addition, the positive coefficient of 1.69 for the model shows that the firm foreign directorship ensures tax savings by 1.69%. We therefore accepted the alternate hypothesis, which states that there is significant relationship between board nationality diversity and tax saving strategies of financially trouble firms in Nigeria. The implication of this is that corporate organizations with high proportion of foreigners in the board enjoy tax sheltering (tax savings).This finding is in consonance with the a priori expectations of Ilaboya and Ashafoke (2017)who found that board nationality ensures corporate performance. This goes further to confirm that firm board nationality diversity ensures corporate tax savings.

Board ethnicity diversity has no significant relationship with tax saving strategies of financially trouble firms in Nigeria. This hypothesis was tested and the result of the panel's least squares model, as shown in Table 4, shows that the relationship between board ethnicity diversity (BED) and corporate tax savings is positive and significant, with a P- value of 0.0004 for the model, which is below the 1% level of significance adopted. In addition, the positive coefficient of 0.93 for the model indicates that minority directorship presence ensures corporate tax savings by 0.93%. We therefore rejected the null hypothesis and accepted the alternate hypothesis, which states that board ethnicity diversity has significant relationship with tax saving strategies of financially trouble firms in Nigeria. The implication of this is that minority directorship presence in the board ensures corporate tax savings. This finding is in consonance with the a priori expectations of Ilaboya and Ashafoke (2017), Racheal and Felicia (2019) who found that board diversity has significant effect on corporate performance and effective tax rate respectively. This goes further to confirm that firm board ethnicity diversity ensures corporate tax savings.

5. Conclusion

The study concludes that board diversity ensures tax savings of financially troubled listed firms in Nigeria. Hence, there is a positive relationship between board diversity and tax sheltering (tax savings) of financially troubled listed firms in Nigeria.

5.1 Recommendation

1. Firms should increase the number of female directors in the board as high proportion of female directorship presence ensures corporate tax savings. Thus ensures ease resuscitation of financially troubled listed firms in Nigeria.

2. Since the study found significant and positive relationship between board nationality diversity and corporate tax sheltering (tax savings), a balanced approach towards the hiring of foreign directors was recommended for listed firms in Nigeria. With this development, corporate tax savings would constantly be maintained.

3. Also, firms should increase the number of minority ethnic group in the board as high proportion of minority ethnic group in the board ensures corporate tax savings which is healthy for financially troubled listed firms in Nigeria.

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Conflict of Interest:

Authors have declared that no competing interests exist.

References

Abdullahi, S. (2021).board diversity and financial performance of the Nigerian listed firms: A dynamic panel analysis. *Journal of Accounting and Business Education*, *6*(1), 1-13. *http://dx.doi.org/10.26675/jabe.v6i1.18817*

Campbell, K., Minguez-Vera, A. (2018).Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, *83*(3), 435-451. http://dx.doi.org/10.1007/s10551-007-9630-y

Chen, S., Chen, X., Cheng, Q. &Shevlin, T. (2020). Are family firms more tax aggressive than nonfamily firms? *Journal of Financial Economics, 91*(1), 1-56

Chinedu, J., Akwuobi, B., & Onyeogubalu, O. (2021).Board gender heterogeneity, corporate diversification and cash flow performance of deposit money banks in Nigeria: An independent and joint effect analysis. *Asian Journal of Economics, Business and Accounting, 21*(15), 47-57

Daniel, E., Aza, S., & Pam, B. (2020). Effect of board of directors heterogeneity on the financial performance of listed deposit money banks in Nigeria. *Bingham University Journal of Accounting and Business*, 45-57.

Desai, M. A., & Dharmapala, D. (2008).Corporate tax avoidance and firm value. *The Review of Economics and Statistics, 91*(3), 537-546.

Emmanuel, L., Willy, M., & Robert, W. (2017).Effect of board diversity on capital structure among listed firms in Nairobi stock exchange, Kenya. *International Journal of Management and Commerce Innovation, 4*(2), 141-150. www.researchpublish.com

Erhardt, N., Werbel, J., &Shrader, C. (2013).Board of director diversity and firm financial performance. *Corporate Governance*, *11*(2), 102-111.

Hoffman, W. H. (1961). The theory of tax planning. *The Accounting Review, 36*(2), 274-281.

Ibrahim, H., Ouma, C., & Koshal, J. (2019).Effect of gender diversity on the financial performance of insurance firms in Kenya. *International Journal of Research in Business and Social Science*, *8*(5), 274-285.

Ilaboya, J., &Ashafoke, T. (2017).Board diversity and firm performance in Nigeria. *International Journal of Management, Accounting and Economics, 4*(10), 1002–1019.

Jensen, M., & Meckling, W. (1976).Theory of the firm: managerial behavior, agency costs and ownership structure', *Journal of Financial Economics, 3*, 305-360.

Kweh, Q., Ahmad, N., Kiong Ting, I., Zhang, C., &Bin Hassan, H. (2019).Board gender diversity, board independence and firm performance in Malaysia. *Institutions and Economies, 11*(1), 1-20.

Lambe, I., Orbunde, B., & Akinpelu, F. (2021). Effect of corporate governance mechanisms on tax aggressiveness among quoted manufacturing firms in Nigeria. *Bingham International Journal of Accounting and Finance (BIJAF), 2*(2), 1-12

Mallin, C.A. (2007). *Corporate governance*. (2nd ed.). University of Oxford Press, Oxford

Ngo, M., Pham, T. & Luu, T. (2019). Effect of board diversity on financial performance of the Vietnamese listed firms. *Asian Economic and Financial Review*, *9*(7), 743-751.

Okpala, N., & Omaliko, E. (2022). Corporate governance mechanisms and tax sheltering; Evidence from *Journal of Social Sciences and Management Studies* quoted tax aggressive firms in Nigeria. *Asian Journal of Economics, Business and Accounting, 22*(19), 149-158. https://doi.org/10.9734/AJEBA/2022/v22i1930666

Omaliko, E., & Okpala, N. (2023). Moderating effect of corporate governance mechanism on the relationship between firm attributes and corporate performance in emerging economy. *Journal of Social Sciences and Management Studies*, *2*(2), 23–33. https://doi.org/10.56556/jssms.v2i2.500

Onyali, C.I., & Okafor, T.G. (2018).Empirical assessment of tax aggressiveness of listed firms in Nigeria. *Accounting and Taxation Review*, *2*(3), 13 – 29.

Onyekwere, S., & Babangida, N. (2022). Board diversity and firm performance: Panel data evidence from 12 selected commercial banks in Nigeria. *Journal of Humanities and Social Sciences Innovation*, *2*(1), 28-53. https://doi.org/10.35877/454RI.daengku587

Oyenike, O., Olayinka, E., & Francis, E. (2016).Female directors and tax aggressiveness of listed banks in Nigeria. 3rd International Conference on African development Issues, 293-299

Oyesola, S., & Adelabu, A. (2017).Corporate governance and tax planning among the non financial quoted companies in Nigeria. *African Research Review*, *11*(3), 42-59

Peter, Z., Hamid, T., & Ibrahim, M. (2020). Board attributes and tax planning of listed non-financial companies in Nigeria. *International Journal of Accounting & Finance (IJAF)*, *9*(1), 130-146.

Rachael, J., & Felicia, I. (2019). Board diversity and effective tax rate of foods production firms quoted in Nigeria. *Journal of Global Accounting*, *1*(2), 1-11

Raheja, C. G. (2020). Determinants of board size and composition: A theory of corporate boards. *Journal of Financial and Quantitative Analysis. 40***,** 283-306

Shehata, N., Salhin, A., & El-Helaly, M. (2017). Board diversity and firm performance: Evidence from the UK SMEs. Applied Economics, *49*,4817-4832. https://doi.org/10.1080/00036846.2017.1293796

Temile, S., Jatmiko, D., & Hidayat, S. (2018). Gender diversity, earnings management practices and corporate performance in Nigerian quoted firms. *International Journal of Economics, Commerce and Management*, *6*(1), 1-14. *http://ijecm.co.uk/*

Terjesen, S., Couto, E., & Francisco, P.(2015). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance*, *20*(3), 447-483.

Ujunwa, A., Okoyeuzu, C. & Nwakoby, I. (2012). Corporate board diversity and firm performance: Evidence from Nigeria. *Review of International Comparative Management* *13*(9) 605-620.

Appendix 1

The List of Companies Quoted under Oil and Gas and Industrial Goods Sectors of Nigerian Exchange Group (NGX)

S/N	SECTOR	QUOTED FIRMS IN NIGERIA	TOTAL COYS USED	% SAMPLE OF THE POPULATION USED	TOTAL COYS EXCLUDED	% SAMPLE OF POPULATION EXCLUDED	EFFECTIVE TAX RATE	REMARK
	OIL & GAS							
1		Rak Unity	1				26	**ETR ≤ 30%**
2		Capital Oil	1				15	**ETR ≤ 30%**
3		Japaul Gold	1				8	**ETR ≤ 30%**
4		Seplat Oil	1				29	**ETR ≤ 30%**
5		Eterna Oil			1		35	**ETR > 30%**
6		Total			1		45	**ETR > 30%**
7		Ardova			1		36	**ETR > 30%**
8		Conoil			1		34	**ETR > 30%**
9		Oando			1		37	**ETR > 30%**
10		Mrs Oil			1		56	**ETR > 30%**
		TOTAL NO COYS UNDER OIL & GAS	**4**	**17.4%**	**6**	**26.1%**		
	INDUSTRIAL GOODS							
1		Grief	1				27	**ETR ≤ 30%**
2		Austin Laz	1				21	**ETR ≤ 30%**
3		Triple Gee & Co	1				15	**ETR ≤ 30%**
4		Premier Paints	1				14.6	**ETR ≤ 30%**

5		Cutix			1		31	**ETR > 30%**
6		Dangote Cement			1		42	**ETR > 30%**
7		Bergers Paints			1		36	**ETR > 30%**
8		CAP			1		41	**ETR > 30%**
9		Meyers Paints			1		36	**ETR > 30%**
10		Lafarage Africa			1		32	**ETR > 30%**
11		Beta Glass			1		31	**ETR > 30%**
12		BUA Cement			1		26	**Listed 2020**
13		Notore Chemicals			1		23.2	**Listed 2018**
		TOTAL NO COYS INDUSTRIAL GOODS	**4**	**17.4%**	**9**	**39.1%**		
		GRAND TOTAL	**8**	**34.8%**	**15**	**65.2%**		

Source: Extract from the Annual Reports and Accounts of the Selected Listed firms in Nigeria (2015-2022).

Note:
*Firms with **ETR > 30%** are considered as Tax Conservative Firms while firms with **ETR ≤ 30%** are considered as Tax Aggressive Firms (financially troubled firms) which the present study concentrated on. Hence Tax Conservative Firms were excluded from the study.*