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BOARD FEATURES AND EFFECTIVE TAX RATE OF LISTED MANUFACTURING COMPANIES IN NIGERIA

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Abstract
This study investigates the effect of selected board features (board size, board independence, board gender diversity, managerial ownership, and board expertise) on effective corporate tax rate of listed manufacturing companies in the Nigerian stock exchange for the period 2011 to 2020. This study employs descriptive statistics, correlation matrix and panel regression technique as tools of analysis within the framework of the Agency theory as well as other theories such as the Political cost theory and theory of Optimal taxation. Results revealed that board size and board gender diversity were positively and insignificantly related to effective tax rate while board independence, managerial ownership, and board expertise were positively and significantly related to effective tax rate. This study therefore recommends that firms in Nigeria should improve the board of directors' financial expertise as this will influence effective strategies for reducing tax liabilities and invariably result in the best tax management practices. Also, clarifying the duties of directors in the use of appropriate tax management strategies will help corporate managers strengthen internal and external control mechanisms.

Keywords: Board Size, Independence, Gender Diversity, Managerial Ownership, Expertise, Effective Corporate Tax Rate

Introduction

The application of appropriate incentive provisions for corporate taxpayers based on implementation of tax laws like the Company Income Tax Act (CITA), Personal Income Tax Act (PITA), Value Added Tax (VAT) Act and other enactments is basically what tax effectiveness on a global scale entail. Therefore, a thorough understanding of the tax policies and other laws, as clearly indicated in the fiscal policies, is essential for efficient tax planning.

One of the numerous things impacting business decisions is taxes, particularly in terms of investment and finance strategies (Graham, 2003). Given this, shareholders are interested in lowering the tax burden to boost the value of the company (Hanlon & Slemrod, 2007). However, when taxpayers find possibilities in the law to lower businesses' tax burden, corporate effective tax rate through tax management, tax administration, tax planning, and tax avoidance are defined as a legitimate technique of decreasing expenses on taxes (Desai & Dharmapala, 2006; Formigoni et al., 2009; Minnick & Noga, 2010; Goncharov & Zimmermann, 2005; Onodugo et al, 2018). In order to improve a company's performance and, as a result, its market value through legal means and among the opportunities seen in tax legislation, corporate tax effectiveness tends to minimize the present value of the company's taxes (Machado, 2011). Desai and Dharmapala (2006) states that, tax effectiveness is the

lawful transfer of State resources to companies in order to improve their performance by lowering tax expenses. As a result, many researchers have shown that tax effectiveness management is a valuable activity for shareholders (Bankman, 1999; Graham & Tucker, 2006; Desai & Dharmapala, 2007; Wilson, 2009).

In every nation on the planet that prioritizes development, taxes serve as an anchor for generating revenue. Taxation is regarded by governments of nations at various stages of development as a reliable source of revenue, which is used to expand the economy by regulating the flow of money, providing modern amenities, discouraging and encouraging the production and consumption of particular goods and services, and so forth. Similar to other nations, Nigeria's tax system is primarily intended to raise money to support the operation of all tiers of government as well as to fund public infrastructure. An efficient tax administration and changes to the tax code are necessary for an effective tax drive. Along with reducing instances of corruption and tax evasion, these factors also foster a tax culture (Anowor & Agbarakwe, 2015). Statutory rates do not accurately reflect the tax burden on businesses, so economists had to develop metrics for measuring the effectiveness of corporate taxation (Nicodeme, 2001). According to International Accounting Standards (IAS) 12, the effective tax rate (ETR) is calculated as income tax expense or benefit for accounting purposes divided by accounting profit. It is significant for several reasons: (I) comparing statutory and effective tax rates provides insight into the tax incentives provided by the government; and (II) comparing effective tax rates across nations reveals whether businesses with similar characteristics but based in different nations receive significantly different tax treatment.

Companies in Nigeria are required by law to pay Company Income Tax (CIT), which is a tax levied on them based on their corporate income tax rate. An important source of income for the Nigerian government is the corporate tax rate. Companies that are residents must pay corporate income tax (CIT) on their worldwide income, while non-residents must pay CIT on their income that comes from Nigeria. For major businesses (i.e., those with a gross revenue of more than NGN 100 million), calculated on the basis of the preceding year, the CIT rate is 30%. (i.e. tax is charged on profits for the accounting year ending in the year preceding assessment). A non-resident corporation that has a fixed base or a permanent establishment (PE) in Nigeria and is not tax resident in a treaty country is subject to tax on the business profits attributable to such PE. Small businesses with a gross turnover of up to NGN 25 million are subject to a CIT rate of 0%, while medium-sized businesses with a gross turnover of between NGN 25 million and NGN 100 million are subject to a CIT rate that is reduced to 20%. Only the federal government is responsible for collecting corporate income tax (CIT), whereas state governments are responsible for collecting income taxes from people and unincorporated businesses. Local governments are only permitted to collect levies and rates, not income tax.

The board of directors plays a significant role in determining how the company's management and shareholders interact. Their main goal is to make sure the business is run appropriately. The directors of the companies are agents working on behalf of the shareholders (Adams et al, 2010). The board has a legal obligation to act in the company's best interest at all times in order to protect its assets, advance its operations, and advance the goals for which the firm was founded. Therefore, it must be assessed whether board features have a relationship with effective tax rate in raising shareholders' value.

In light of the aforementioned, this study broadly makes an effort to examine board features and effective tax rate of listed manufacturing companies in Nigeria. Specifically, the study seeks to investigate the effect of board features (board size, board independence, managerial ownership, board gender diversity and board expertise) on effective corporate tax rate of listed manufacturing companies in Nigeria. The primary addition of this study to the literature is to demonstrate the significance of the board in making strategic tax decisions related to reducing the tax liabilities of their company and to determine whether the board's characteristics affect the choice to engage in tax planning.

The study is focused on Board features and corporate effective tax rate in Nigeria for the period of 10 years dated 2011 to 2020 which cut across twenty-eight (28) quoted manufacturing firms on the Nigerian stock exchange market on a longitudinal and cross-sectional basis. We depend on the study of Richardson et al (2013) and the works of Armstrong et al (2015) in the use of board features as determinants of effective tax rate (ETR) among listed manufacturing companies in Nigeria.

Literature Review

Effective Tax Rate

The tax rate in a tax system is the proportion at which a person's or business's income is taxed. It is one of many variables that affect business decisions, particularly those involving funding and investment strategies. Given this reality, Hanlon and Slemrod (2007) report that shareholders are motivated to lower taxation in order to raise the value of their company. However, when taxpayers find opportunities in the law to lower businesses' tax burdens, corporate effective tax rate through tax management, tax administration, tax planning, and tax avoidance are defined as legal ways of reducing expenses on taxes (Desai & Dharmapala, 2006; Minnick & Noga, 2010; Goncharov & Zimmermann, 2005). Effective tax rates can affect corporate decision making and other related aspects such as capital structure, payout policy and risk management (Graham, 2003; Ochinanwata et al, 2020). Taxes are seen as enhancing components of bottom-line firms' performance. Robinson et al. (2010) demonstrates that classifying a company's tax division as a "profit center" is related with lower effective tax rates than classifying it as a "cost center." Any reduction in taxes paid consequently leads to an increase in the earnings reflected in the financial statements.

According to agency theory, the inclusion of outside directors on corporate boards and their independent status as supervisors reduces conflicts of interest between shareholders and managers; hence, the more independent the board members, the fewer agency issues there will be (Hermalin & Weisbach, 1991). Therefore, it can be argued that outside directors, in contrast to inside directors, are independent of the company's management. As a result, it is expected that they will perform their supervisory duties more effectively, and it is also anticipated that independent boards will be better able to direct the resources of businesses toward tax management. Independent boards are projected to lower tax rates because of more effective management while also helping to supervise managers. Actions to reduce the tax burden are consistent with the main goal of businesses, which should be to maximize shareholder value.

Board Size

Having an appropriate board size is one element that affects firms since the board has the power to decide on planning and strategy, as well as provide the firm with the leadership needed to achieve its goals. One of the most researched aspects of corporate governance is

board size. Board size can have a positive or negative impact on effectiveness, (Wahab & Holland, 2012). Studies like those by Eisenburg and Sundgren (1998) brought attention to the issues raised by huge boards. The study identified issues with coordination and communication as the number of board members increased. This may be due to larger boards' diminished ability to oversee management and their inability to achieve agreements on matters that will have a significant influence on the company, like investment opportunities. Beasley (1996) shows that organizations that have engaged in accounting fraud have larger boards, supporting Jensen (1993) assertion that a large board is less effective due to bureaucratic issues. The earliest literature on board size argues that smaller board sizes are more effective monitors (Jensen & Meckling, 1976; Lipton & Lorsch, 1992). In fact, a smaller board might lead to more meaningful discussions because talking openly and communicating in a small group is typically simple and quick. Similar to this, Vafeas (2000) came to the conclusion that companies with smaller boards are better at monitoring. Minnick and Noga (2010) demonstrate that small boards of directors support effective tax management, whereas large boards are ineffective due to the challenges associated with making decisions about tax policy. Uchendu et al. (2016) found no connection between board size and corporate tax reductions in Nigeria.

On the other hand, it was discovered in some other studies that a bigger board of directors has a favorable impact on a firm's effectiveness. For instance, Imuetinyan et al. (2019) study indicates that a larger board size and a diverse membership might have a favorable effect on effectiveness. The study shows that boards benefit from member diversity in terms of knowledge, experience, and abilities, which lowers the effective tax rate. In the same vein, Pearce and Zahra (1991) research revealed that large, effective boards are linked to better company financial performance because they make use of the knowledge, experience, and abilities at their disposal.

Board Independence

The impact of the board's composition cannot be overstated, as the independents number of members on the board is crucial. Any board member(s) who are not in the employment of the company as well as any individuals who operate independently are considered independent directors (example, consultants, lawyers, accountants). Similar to this, a director is independent if he has no connections to the company or his group of employees (Beasley & Petroni 2001; Fernandez & Arrondo 2005). The external directors can make impartial decisions because of their independence and experience. According to some academics, the performance of the company is improved when the board has more independent directors. In terms of management, the Florakics (2008) study demonstrates that boards of directors with a higher percentage of non-executive directors are more effective than those with executive directors. According to Richardson and Roman (2011), businesses with a high proportion of independent directors may see a large reduction in tax planning. The independent non-executive directors are consistently viewed as the board's balance factor. According to agency theory, the inclusion of outside directors on corporate boards and their independent status as supervisors reduces conflicts of interest between shareholders and managers; hence, the more independent the board members, the fewer agency issues there will be (Hermalin & Weisbach, 1991). Therefore, it can be argued that outside directors, in contrast to inside directors, are independent of the company's management. As a result, it is expected that they will perform their supervisory duties more effectively, and it is also anticipated that

independent boards will be better able to direct the resources of businesses toward tax management. On the other hand, there are allegations that non-executive directors are passive observers of management and are ill-informed about the operations of the company (Florackis, 2008). According to the aforementioned argument and counter-argument, it is possible that those non-executive directors will be more successful in controlling agency issues and the effective tax rate because of their expertise, independence, and experience.

Managerial Ownership

When managers and shareholders of listed companies have varying opinions on how the company should be managed and how well the firm is performing, this can create an agency problem (Anowor et al, 2022). By offering incentives, such as stock to the managers, managerial ownership can lessen the issue. Increasing managerial ownership encourages managers to concentrate on enhancing the performance of the company rather than just looking out for their own interests. Bathala et al, (1994) and Fosberg (2004) used empirical studies to find that there is a negative significant relationship between managerial ownership and capital structure, with firms using managerial ownership to reduce the agency cost of debt rather than debt financing. There is a connection between managerial ownership and capital structure, according to Sheikh and Wang (2012), who investigated how corporate governance influences the capital structure decisions made by Pakistan firms. The role of debt as a tool to mitigate Agency issues is said to be diminished because they suggested that greater managerial ownership aligns with the interests of managers and external shareholders. On the other hand, according to Berger et al. (1997), there is a significantly positive relationship between the two of them. They claimed that managers who receive compensation are more closely aligned with external shareholders and will pursue a more leveraged capital structure to boost the firm's value.

Board Gender Diversity

The firm may be impacted by the gender diversity of the board of directors. The ratio of women to the total number of board members is used to measure the board's gender diversity. There is a ton of empirical data that demonstrates the differences between men and women. The financial performance of the company according to Onodugo, Kalu and Anowor (2013), Krishnan and Parsons, (2008), improved as a result of the better performance of male directors. According to Campbell and Mnguez-Vera (2008), gender diversity in the boardroom enhances firm value. However, Abobakr and Elgiziry (2016) found a significant inverse relationship between short-term debt and the percentage of female directors on the board.

In contrast, Simon and Corbett (1996) assert that women typically have a stronger attitude toward compliance than men do when comparing the attitudes of men and women towards following rules and regulations. Female directors, according to Adams and Ferreira (2009), are more dedicated to attending board meetings, have a better track record than male directors, and spend more time observing executive directors. According to Stinerock et al. (1991), women prefer lower levels of risk than men do because they are less confident in their ability to take calculated risks. In a similar vein, Hillesland (2019) opined that men are superior to women when it comes to taking financial risks.

Board Expertise

This represents the percentage of qualified, educated, experienced, and veteran board members to the total number of board

members. A director needs to have sufficient academic and professional expertise in finance, accounting, forensics, and auditing to be considered an expert on a board. Similar to this, Kang et al. (2007) argued that the more experienced and knowledgeable a director is, the better. In other words, better financial reporting will come about as a result of having older directors on the board.

Board experience is an important variable that influences the likelihood of financial statement fraud because it enhances the firm's performance and effectiveness and enables it to address issues it has previously encountered (Onodugo et al, 2014). A board made up of experts has a high level of confidence in the financial statements, which significantly lowers the risk of financial statement fraud in an organization (Onourah & Imene, 2016). As a result, the board members' expertise (including their training and experience in the fields of finance, accounting, and auditing) will have a positive impact on the accuracy of the financial reports (Aifuwa & Embele, 2019).

In their investigation into the connection between board expertise and financial statements fraud, Anichebe et al. (2019) discovered a positive and significant relation between the variables. The conclusion suggests that having a financial expert on the board will increase a company's risk of financial statement fraud. Similarly, Abbott et al. (2004), Carcello et al. (2006), and Klein (2002) examined the relationship between the observed variables and financial statements fraud and discovered a negative and significant relationship between board expertise and financial statements fraud, suggesting that having a financial expert on the board reduces the likelihood of financial statements fraud in a company.

Theoretical Framework

The agency theory, the theory of optimal taxation, and the political cost theory serve as the foundations for this kind of study. However, the study is anchored on the mainly on the agency theory.

Methodology

The research design selected for this study is a fusion of the longitudinal and cross-sectional research designs. This selection is established to ascertain the variables of interest in this study over an extensive period of time using data from listed manufacturing companies in the Nigeria Stock Exchange (NSE).

The population of the study covered the sixty-six (66) listed companies contained in the Nigerian Stock Exchange (NSE Fact book, 2019/2020). The study used a sample size of twenty-eight (28) listed manufacturing companies in the consumer goods sector was randomly and conveniently selected.

The study used secondary data sourced from the annual reports of the listed manufacturing companies in the Nigerian Stock Exchange (NSE) will be used within the period of ten (10) years dated 2011 to 2020. The financial data on the explanatory and the dependent variable of individual companies of interest have been collated from the annual reports and accounts of the corresponding companies.

The study adapts the model of Inua (2018) that used panel data regression model to specifically examine the determinants of effective tax rate of listed manufacturing companies in Nigeria which is modified below:

$$CETRit = \beta0 + \beta1FSIZEit + \beta2LEVit + \beta3BSIZEit + \beta4BINDbit + \epsilon it \ldots\ldots\ldots\ldots \quad (i)$$

$$CETRit = \beta0 + \beta1BSIZEit + \beta2BINDit + \beta3MOWNit + \beta4BGENDbit + \beta5BEXPit + \epsilon it \ldots\ldots \quad (ii)$$

Where, CETR = Cash Effective Tax Rate (it is the cash taxes paid divided by the pre-tax accounting income);

β0 = Parameters to be estimated (is the average amount the dependent variable increases when the independent increases by one-unit, other independents variables held constant);

βBSIZE = Board size; βBIND = Board independence; βMOWN = Managerial ownership; βBGEND = Board gender diversity; βBEXP = Board expertise; LEV= firm leverage

β1- β5 = partial derivatives or the gradient of the independent variable or various regression co-efficient; ϵ = an error term assumed to be White Noise (Stochastic error term); i is the ith firm; and t is the firm years. The a ppriori expectation of the model is β0 >0; β1 >0, β2> 0; β3> 0; β4 > 0; β5

Table 1: ***Measurement of Variables***

S/N	Variables	Acronym	Type	Measurement	Source
1	**Tax planning (cash effective tax rate)**	CETR	Dependent	Corporate tax expenses to pre-tax income.	(Aliani and Zarai, 2012).
2	**Board Size**	BSIZE	Independent	Logarithm of the total number of directors that compose the board.	(Richardson and Roman, 2011).
3	**Board Independence**	BIND	Independent	Percentage of independent directors sitting on the board.	(Ahmed and Khaoula, 2013).
4	**Managerial Ownership**	MOWN	Independent	A percentage of controlling shareholders owned by CEO.	(Beryl, 2014).
5	**Board Diversity**	BGEND	Independent	Ratio of female directors to total board size.	Aliani and Zarai, 2012), Oyelek e et al (2016).
6	**Board Expertise**	BEXP	Independent	Use of dummy variable 1 for expert, otherwise 0. An expert in the board must have both educational and professional qualifications with 5 years' experience in financial matters.	(Arifuwa & Embele, 2019).

Source: Researchers' compilation, 2022

Presentation and Analysis of Data

Table 2: ***Descriptive Statistics***

	CETR	BSIZE	BIND	BMOWN	BGEND	BEXP
Mean	0.304391	9.646429	0.356408	15.35707	0.310714	0.232857 1
Median	0.280030	9.000000	0.333333	0.985140	0.100000	0.2
Maximum	12.41576	19.00000	0.750000	88.44323	0.600000	0.6
Minimum	1.283526	4.000000	0.100000	0.000974	0.000000	0.000000
Std. Dev.	0.909911	3.178104	0.119148	23.19432	1.238521	1.160539
Skewness	10.65908	0.591783	0.392658	1.553711	0.846104	0.412720
Kurtosis	131.8575	2.726029	2.972739	4.234287	2.681363	2.036281
Jarque-Bera	199.0184	17.21868	7.203733	130.1182	38.82460	7.964458

Probability	0.000000	0.000182	0.027273	0.000000	0.000000	0.018644
Sum	85.22948	2701.000	99.79436	4299.981	367.0000	652.0000
Sum Sq. Dev.	230.9949	2817.996	3.960776	150095.4	427.9679	375.7714
Observations	120	120	120	120	120	120

Source: Researchers Compilation (2022)

Table 2: presents the results for the descriptive statistics for the variables. It was observed that CETR has a mean value of 0.30 while it has maximum and minimum values of 12.41576 and 1.283526. The standard deviation reported relatively small value of 0.909911 which shows that there is clustering around the mean. The jarque –Bera value of 199.04 and p- values (0.000) implies that the variable is normally distributed.

Board Expertise (BEXP) has a mean value of 0.2328571 with maximum and minimum values of 0.600 and 0.00 respectively. The standard deviation reported relatively small values of 1.160539 implies that there is clustering around the mean. The coefficient value of kurtosis of 2.036281 < 3 implies a platykurtic distribution with flat slope. The Jacque-Bera value of 7.964458 and the associated p-value of 0.018644 indicate that the data is normal (p>0) and that outliers or selection bias for generalization from the study are unlikely.

Board Independence (BIND) has a mean value of 0.356408 while it has maximum and minimum values of 0.75 and 0.100. The standard deviation reported small value of 0.1191 shows cluster around the mean. Kurtosis value (2.972739) is less than 3 implies a platykurtic distribution with flat slope. The jarque –Bera value of 7.203733 and p- values (0.272) implies that is the variable is normally distributed.

Board gender (BGEND) has a mean value of 0.310714 while it has maximum and minimum values of 0.60 and 0.00. The standard deviation reported small value of 1.238521 shows cluster around the mean. Kurtosis value (2.681363) is greater than 3 implies a leptokurtic distribution. The jarque –Bera value of 38.82460 and p-values (0.000) implies that is the variable is normally distributed.

Board Size (BSIZE) has a mean value of 9.646429 while it has maximum and minimum values of 19.00 and 4.00. The standard deviation reported small value of 463240 shows cluster around the mean. Kurtosis value (2.72) is less than 3. The jarque –Bera value of 17.21868 and p- values (0.0001) implies that is the variable is normally distributed.

Table3: ***Correlation Result***

Correlation						
t-Statistic						
Probability	CETR	BSIZE	BIND	MOWN	BGEND	BEXP
CETR	1					

BSIZE	0.041462	1	-0.091428	-0.167458	0.385873	0.524303
	0.691906	-----	-1.530823	-2.832073	6.973914	10.26606
	0.4896	-----	0.127	0.005	0	0
BIND	-0.070502		1		-0.098641	-0.025499
	-1.178429		-----		-1.652732	-0.425294

	0.2396		-----		0.0995	0.671
MOWN	-0.052177		-0.067572	1	-0.123926	-0.066809
	-0.871145		-1.129226	-----	-2.082305	-1.11643
	0.3844		0.2598	-----	0.0382	0.2652
BGEND	0.098521				1	0.058387
	1.650702				-----	0.975163
	0.0999				-----	0.3303
BEXP	0.04728					1
	0.789194					-----
	0.4307					-----

Source: E-views 10 Output (2022)

Table 3 presents the Pearson correlation coefficient results for the variables. It is observed that CETR appears to be positively correlated with BEXP as depicted by the correlation coefficient (0.047280).It implies that having more board members with financial expertise in management will lead to increase in tax avoidance (CETR) in the firm. CEO gender also exhibits a positive association with is depicted by correlation coefficient (0.098521). It implies that CEO gender and CETR move in same direction as depicted by the correlation coefficient.

In addition, the result shows that BIND has negative association with CETR and just as MOWN has a negative correlation with CETR as depicted by correlation coefficients of -0.070502 and -0.05217 respectively but exhibit positive relationship BSIZE as depicted by correlation coefficient of 0.041462.

The correlation coefficient results show that none of the variables is strongly correlated and this indicates that the problem of multicollinearity is unlikely and hence the variables are suitable for conducting regression analysis.

Table 4: ***Panel Least Square Regression***

Dependent Variable: CETR Method: Panel Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
BSIZE	0.006297	0.022936	0.274524	0.0739
BIND	0.569081	0.467123	1.218266	0.0242
MOWN	0.001244	0.002415	0.514892	0.0367
BGEND	0.07808	0.049208	1.586722	0.1137
BEXP	0.042169	0.05625	0.749668	0.0441
C	0.012532	0.263496	-0.047559	0.9621
R-squared	0.620053	Mean dependent var		0.30439
Adjusted R-squared	0.591485	S.D. dependent var		0.90991
S.E. of regression	0.910587	Akaike info criterion		2.67523
Sum squared resid	226.3629	Schwarz criterion		2.7661
Log likelihood	-367.5318	Hannan-Quinn criter.		2.71168
F-statistic	3.421059	Durbin-Watson stat		1.9088
Prob(F-statistic)	0.001999			

Source: E-views 10 Output (2022)

Table 4 above shows the Panel least squares regression result conducted using Eviews 10. The white heteroskedasticity-consistent standard error is used to control for possible heteroskedasticity in the model while the auto-regressive scheme AR (1) term was included in the model for autocorrelation. As observed, the

R2 and coefficient of determination is 0.62 which indicates that the model explains about 62% of the systematic variations in the dependent variable. The F-stat value of 3.42 and the associated p-value of 0.001999 do not provide a basis for rejecting the hypothesis of a joint statistical significance of the model. The Durbin-Watson value of 1.90 indicates that stochastic dependence between successive units of the error term is unlikely in the model.

Discussion of Findings

The positive coefficient of board size in the present study suggests that board size has a positive relationship with tax avoidance. This suggest that an increase in board size by one unit will bring about 0.0063 rise in tax avoidance. The P value is significant at 0.074 at 10% level of significance. This finding is consistent with studies by Hoseini et al. (2018) in Iran; which reported that firms with larger board independence were associated with more tax avoidance. Also, in Indonesia, Mappadang et al. (2018) using smart PLS showed that board of commissioners had a positive significant effect on tax avoidance. Board independence had a positive coefficient. The sign of the coefficient of board size is in line with the study by Onyali and Okafor (2018) using panel data methods (fixed and random effects); and it was in contrast with the study of Oyeleke et al. (2016) using a sample of listed banks in Nigeria also reported a negative effect of board size. In Tunisia, the study by Boussaidi and Hamed (2015) showed that board size had negative but non-significant effect on tax aggressiveness. The sign of the coefficient of board financial expertise is consistent with the study by Pilos (2017) on firms drawn from S & P 500 which documented a negative insignificant effect of board financial expertise on tax avoidance. However, board gender diversity in this study shows a positive relationship on corporate effective tax rate which simply depict that diversity of the board is significant in tax planning and tax avoidance mechanism. This finding is in line with the study by Jalali et al. (2013) in Iran using binary logistic regression showed that board gender diversity had a significant effect on tax aggressiveness.

In summary, this study reveals that;

Board Size has an insignificant positive impact on effective tax rate (tax savings) in Nigerian quoted firms.

Board Independence has a significant positive impact on effective tax rate (tax savings) in Nigerian quoted firms.

Managerial ownership has a significant positive impact on effective tax rate (tax savings) in Nigerian quoted firms.

Board gender diversity has an insignificant positive impact on effective tax rate (tax savings) in Nigerian quoted firms.

Board expertise has a significant positive impact on effective tax rate (tax savings) in Nigerian quoted firms

Conclusion and recommendations

The board of directors is an important mechanism that influences the relationship between the firm's management and shareholders. Their principal objective is to ensure that the company is properly managed. The board has a legal duty to act at all times what they believe to be in the best interest of the company to uphold its assets and promote the purposes for which the company was formed. Examining board size, board gender diversity, board financial expertise, board independence for the study period, the study established the connections and role of board attributes on effective tax rate and tax planning in Nigerian manufacturing firms.

It was therefore recommended, that the managers of corporations should improve on

the internal and external control mechanisms by clarifying the responsibilities of directors in the use of appropriate tax management strategies. Also, companies should improve on the financial expertise of the board of directors, as this will affect good strategies aimed at decreasing tax liabilities and invariably bring about the best tax management practices.

References

Abobakr, M. G., & Elgiziry, K. (2016). The effect of board characteristics and ownership structure on the corporate financial leverage. *Accounting and Finance Research, 5*(1), 1-14.

Abbott, L.J., Parker, S. & Peters, G. 2004. Audit committee characteristics and restatements. *Auditing Journal of Practice & Theory*, *23*(1), 69-87.

Adams, R. B., Hermanlin, B. E., & Weisbach, M. S. (2010). The role of boards of directors in corporate governance: A conceptual framework and survey. *Journal of Economic Literature*, *48* (1), 58-107.

Adams, R. B. & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, *94*(2), 291-309.

Ahmed, Z., & Khaoula, F. (2013). Moderating effects of board of directors on the relationship between tax planning and bank performance: Evidence from Tunisia. *European Journal of Business and Management*, *5*(2), 148-154.

Aifuwa, H. O., & Embele, K. (2019). Board Characteristics and financial reporting. *Journal of Accounting and Financial Management, 5*(1), 30-44. Retrieved from https://ssrn.com/abstract=3394421.

Aliani, S. P., & Zarai, S. O. (2012). The separation of ownership and control and corporate tax avoidance. *Journal of Accounting and Economics*, *5*(6), 228-250.

Anichebe A, S., Agbomah D., J & Agbagbara E. O. (2019). Determinants of financial statement fraud likelihood in listed firms. *Journal of Accounting and Financial Management, 5*(2), 2504-2556.

Anowor, O. F. & Agbarakwe, H. U. (2015). Foreign Trade and Nigerian Economy. *Developing Country Studies.* 5 (6), 77-82.

Anowor, O. F.; Anigbo, G. C., Chibuzo, A. C., Ogwuru, H. O. R. (2022) Information and Communication Technology and Quality of Products of Food Manufacturing Firms: Case of South-South Nigeria. *Discovery*, 58(317), 453-459.

Armstrong, C., Blouin, J., & Larcker. D. (2015). The incentives for tax planning. *Journal of Accounting and Economics*, 5(3), 391- 411.

Bankman, J. (1999). The new market in corporate tax shelters. Tax Notes, 83, 1775-1794.

Bathala, C. T., Moon, K. P., Rao, R. P. (1994). Managerial ownership, debt policy, and the impact of institutional holding: An Agency perspective. *Financial Management Association, 23*(3), 1-23.

Beasley, M. S. (1996). An empirical analysis of the relationship between the board of director composition and

financial statement fraud. Accounting Review, 71(4), 56-77.

Beasley, M. S., & Petroni, K. R. (2001). Board independence and audit-firm type. *Auditing Journal of Practice and Theory*, *20*(2), 97-114.

Berger, P. G., Ofek, E., & Yermack, D. L. (1997). Managerial entrenchment and capital structure decisions. *The Journal of Finance*, 52(4), 1411–1438.

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics*, *83*(3), 435–451.

Carcello, J. V., Hollingsworth, C. W., Klein, A., & Neal, T. L. (2006). Audit committee financial expertise, competing corporate governance mechanisms, and earnings management. Retrieved from https://ssrn.com/abstract=887512 .

Florackis, C. (2008). Agency costs and corporate governance mechanisms: evidence for UK firm. *International Journal of Managerial finance*, *4*(1), 37-59. http://dx.doi.org/10./1108/174391308107375. Retrieved on April 29, 2018.

Fosberg, R. H. (2004). Agency problems and debt financing: Leadership structure effects of corporate governance. *The International Journal of Business in Society*, *4*(1), 33-48.

Formigoni, H., Antunes, M. T. P., & Paulo, E. (2009). Difference between accounting profit and taxable profit: An analysis of management of accounting result and tax management at Brazillian public companies. *Brazilian Business Review*, 6(1), 44-61.

Goncharov, I., & Zimmermann, J. (2005). Earnings management when incentives compete: The role of tax accounting in Russia. Retrieved from http://ssrn.com/abstract=622640.

Graham, J. R. (2003). Taxes and corporate finance: A review. *Review of financial studies.* http://dx.doi.org/10.2139/ssrn.358580.

Graham, J., & Tucker, A. (2006). Tax shelters and corporate debt policy. *Journal of Financial Economics, 81*(3), 563-594.

Hanlon, M., & Slemrod, J. (2007). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax aggressiveness. Working paper, University of Michigan. Retrieved from https://dx.doi.org/10.2139/ssrn.975252.

Hermalin, B.E., & Weisbach, M. S, (1991). The effects of board composition and direct incentives on firm performance. *Financial Management Association*, *20*(1), 101–112.

Hillesland, M. (2019). Gender differences in risk behavior: An analysis of asset allocation decisions in Ghana. *World Development*, 117, 127–137.

Imuetinyan, I. B., Solomon, E. A. C., & Jonathan, A. (2019). Effect of board characteristics, firm's performance and effective tax planning in Nigeria food manufacturing sector. *Journal of Contemporary Research, 7*(3), 47- 68.

Inua, O. I. (2018). Determinants of corporate effective tax rate: Empirical evidence from listed manufacturing companies in Nigeria, *2*(3), 2635-2966.

Jensen, M. C. (1993). The Modern Industrial Evolution Exit and the Failure of Internal Control Systems. Journal of Finance 48(3), 17-26

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3 (4), 305–360.

Kang, H., Cheng, M. M., & Gray, S. J. (2007). Corporate governance and board composition: diversity and independence of Australian boards. *Journal of Accounting, 15*(2), 194-207. doi:10.1111/j.1467-8683.2007.00554.x.

Klein, A. (2002) Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33, 375-400. http://dx.doi.org/10.1016/S0165-4101(02)00059-9.

Krishnan, G. V., & Parsons, L. M. (2008). Getting to the bottom line: An exploration of gender and earnings quality. *Journal of Business Ethics*, 78(1-2), 65–76.

Lipton, M., & Lorsch, J. W. (1992). A Modest Proposal for Improved Corporate Governance. Business Lawyer, 48.

Nicodeme, G. (2001). Computing effective tax rates: comparisons and result. Retrieved from https://www.researchgate.net/publication/46447618_Computing_effective_corporate_tax_rates_comparisons_and_results.

Nigeria Corporate Tax Rate (n.d.). Retrieved from https://tradingeconomics.com/nigeria/corporate-tax-rate.

Ochinanwata, C., Uzomba, P. C., Onodugo, V. A., Anowor, O. F. (2020), Does External Trade Improve Life Expectancy? A Long Run Equilibrium Analysis on English Speaking West African Countries, *Solid State Technology*, 63(5): 778–796

Onodugo, V. A., Anowor, O. F., & Ofoegbu, G. N. (2018). The effectiveness of monetary policy in tackling inflation in emerging economy. *Opción (Universidad del Zulia, Venezuela)*, 34(14), 314 – 355.

Onodugo, V. A., Kalu, I. E., Anowor, O. F. & Ukwueni, N. O. (*2014*). Is Capital Flight Healthy for Nigerian Economic Growth? *An Econometric Investigation. Journal of Empirical Economics.* 3(1),10-24.

Onodugo, V. A., Kalu, I. E., & Anowor, O. F. (2013). An Empirical Analysis of the Impact of Investment in Human Capital on Nigerian Economy. *PARIPEX– Indian Journal of Research.* 2 (4), 336 -339.

Oyeleke, O., Erin, O., & Emeni, F. (2016). Female Directors and Tax Aggressiveness of Listed Banks in Nigeria. 3rd International Conference on African Development Issues (CU ICADI).

Pearce, J. A., & Zahra, S.A. (1991). The Relative Power of CEOs and Boards of Directors: Associations with Corporate Performance. *Strategic Management Journal*, 1(2), 135-153.

Richardson, G., & Roman, L. (2011). The effect of board of director's composition to on corporate tax

aggressiveness. *Journal of Accounting and Public Policy*, 30(1), 50-70.

Richardson, G., Taylor, G., & Lanis, R. (2013). The impact of board of director oversight characteristics on corporate tax aggressiveness: An empirical Analysis. *Journal of Accounting and Public Policy*. *3*(2), 68-88.

Robinson, J. R., Sikes, S.A., & Weaver, C.D. (2010). The impact of evaluating the tax function as a profit center on effective tax rates. *The Accounting Review*, *85*(3), 1035-1064.

Sheikh, N. A. & Wang, Z. (2012). Effects of corporate governance on capital structure: Empirical evidence from Pakistan. *Journal of Business In society, 12*(5), 33-50 doi: 10.1108/14720701211275569.

Simon, F., & Corbett, C. (1996). Road traffic offending, stress, age and accident history among male and female drivers. Ergonomics, *39*(5), 757-780.

Stinerock, R. N., Stern, B. B., & Solomon, M. R. (1991). Gender differences in the use: of surrogate consumers for financial decision-making. *Journal of Professional Services Marketing*, *7*(2), 19-41

Uchendu, O., Ironkwe, U. I., & Nwaiwu, J.N. (2016). Corporate governance mechanism and tax planning in Nigeria. *International Journal of Advanced Academic Research, 2*(9), 45-59.

Vafeas, N. (2000). Board Structure and the Informativeness of Earnings. *Journal of Accounting and Public Policy*, *19*(2): 139-160.

Wahab, N. S. A., & Holland, K. (2012). Tax planning, corporate governance and equity value. *British Accounting Review*, *4*(4), 111-124. doi: 10.1016/j.bar.2012.03.005.

Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review*, 84(3), 969–999.