



## Corporate Governance Mechanisms and Tax Aggressiveness of Listed Firms in Nigeria

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### Abstract

This study examined corporate governance mechanisms and tax aggressiveness of listed firms in Nigeria. Eighty- five (85) quoted non- financial firms were selected and data were collected over the period 2012 to 2016. Inferential statistics consisting of General Method of Moment was used for the data analysis. This was after carrying out unit root test and other diagnostic tests respectively. The results obtained reveal that corporate governance mechanisms exert significant impact on tax aggressiveness in Nigeria. Specifically, ownership concentration and managerial ownership were positive and significantly impacts tax aggressiveness of listed non- financial firms in Nigeria whereas board size negatively and significantly impact tax aggressiveness over the reference period. Board gender diversity and board independence were significant and exert negative influence on tax aggressiveness of firms in Nigeria. The study recommended that there has to be a designed framework to efficiently and effectively monitor the interaction between corporate governance mechanisms and managers' rent extraction due to tax aggressive behaviour. This will drastically minimize the tendency for them to engage in rent seeking behaviour. Firms should create a tax department that should be regarded as profit centers that should be manned by tax experts / auditors who are deemed to be imbued with wide experience on tax strategies to minimize tax expense payment.

**Keywords:** Board size, Board Independence, Board Gender, Managerial Ownership, Ownership concentration, Tax Aggressiveness

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### Introduction

The importance of corporate governance mechanisms in influencing every aspect of corporate management including tax expense reduction cannot be over emphasized. It is the heart of every company and takes a center stage in its affairs. The financial performance of firms and realization of shareholders wealth depends majorly on the quality of corporate governance mechanisms. Effective corporate governance mechanisms are necessary factors to promote efficient management of the affairs of a firm and realization

of its set goals and objectives (Aliani & Zarai, 2012). Efficient management implies reduction of costs of operations like administrative expenses, expansion of the business product lines and customer base as well as the accommodating of tax laws. In doing this, cautions become vital so as to avoid tax evasion with a view to minimize taxable expenses which have the tendency to increase net income of the firm. Tax expenses usually are part of operating cost to a company and its shareholders. The board of director as a corporate governance mechanism is critical in decelerating tax expenses. According to Zemzem and Fluohi (2013), corporate governance mechanism is interrelated with each other such as board size, managerial ownership, board independence, ownership concentration, board diversity, audit committee size, amongst others.

In firms, the board of directors irrespective of the size has the duty to minimize expenses regarding tax and it is always responsible to the resource's owners and other stakeholders. The boards of directors and management employ every known and available strategy to minimize tax expenses in a legal way. What they do is ascertain the kind of tax expenses that are favourable if they minimize it within tax laws and take advantage of them to avoid excess tax payment for a period with the intention to increase net earnings. The reduction of tax expense is commonly referred to as tax aggressiveness (Aliani & Zarai, 2012). Ultimately tax aggressiveness is presumed to increase net income and influences shareholders' wealth maximization (Konstantinos, 2016).

Abraham (2011) posits that corporate governance mechanism is a significant factor that influences tax aggressiveness. The use of corporate governance mechanisms to minimize tax payments no doubt is borne out of tax management proficiency, managerial ingenuity, expertise and sincerity of purpose geared towards the achievement of shareholders' wealth in an organization while being cautious of sliding into the trap of tax evasion. Through aggressive tax practices/behaviour by management, revenue accruable to the government from taxation is reduced. Tax aggressive activities are very germane to achieve optimal firm financial performance, all things being equal. Tax aggressiveness is often carried out through effective strategies. These strategies become effective if they enable firms to reduce tax cost and increase earnings. Strategies employed to carry out tax aggressiveness by quoted firms are in form of allowable items which are deductible according to tax laws. They are deductions permitted in tax laws which managers can take advantage of to reduce tax cost. The lower the cost of tax expense, the higher the investment returns, expressed as profit for a period. Tax aggressiveness has its adverse implications. One of the adverse implications of tax aggressiveness is tax invasion. It does not only affect the image of the company, but it may affect shareholders investment resources. The favourable economic implication of tax aggressiveness is decreasing of tax costs.

Many of the studies on corporate governance mechanism and tax aggressiveness of listed companies have produced divergent results. The empirical results of prior researches remained inconclusive. In Nigeria for instance, there are little empirics as regards the influence of corporate governance mechanism like board size, managerial ownership, board gender diversity, ownership concentration and board independence on tax aggressiveness of listed firms in the non- financial sector. The study of Oyeleke et al. (2016) focused on listed banks in the financial sector in Nigeria. The analytical methodology was panel least squares estimation method only. The result points out that female director does not minimize tax expenses in Nigerian banks. This may not be unconnected with the female director under- representation in the corporate board. Again, study like Desai and Dharmapala (2009) used different estimation methods, sample size, periods and country specific data showed that ownership concentration affect negatively tax aggressiveness of firms; while the study of Boussaidi and Hamed (2015) produced variant results. Moreover, a critical evaluation of some past researches like Oyeleke et al. (2016), Boussaidi and Hamed (2015), Aliani and Zarai (2012) and others showed that female directors have always been empirically measured as the relationship between number of women sitting in corporate board to the aggregate board of directors. There has been less reliance on the use of BLAU (1977) index method in a heterogeneous board by these prior researches particularly in the developing countries like Nigeria to measure diversity of the board. This conventional measurement of gender diversity to be specific is imbued with measurement error and empirical weakness (BLAU, 1977). This constitutes a gap which this study seeks to bridge by applying the index method. Examination of literature in the Nigerian context points out that there is little or no study which has comprehensively examined ownership concentration at decreasing tax aggressiveness particularly of listed companies in the Nigerian non- financial sector, thus providing the justification for this study.

In terms of methodological application, the studies of Oyeleke et al. (2016); Ilaboya, Obasi and Izevbekhai (2016); Boussaidi and Hamed (2015); Aliani and Zarai (2012); Lanis and Richardson (2011) concentrated on the use of panel data regression method alone to examine the subject matter. The use of panel least square in the analysis of data has a drawback in that it fails to account for the implication of endogeneity which this study seeks to address. Most often, endogeneity problem arises when there is measurement error in the independent variable; this causes the error term to be uncorrelated with the independent variable of interest (Antonakis, Bendahan, Jacquart & Lalive, 2014). Against the backdrop of this clarification, this study takes a departure from prior researches' approaches by employing the dynamic panel method incorporating the Generalized Method of Moment alongside with the panel estimation method to undertake this research in the Nigerian context.

## Literature Review

### Empirical Review

Examination of corporate governance mechanisms often begin with board size. In the view of Koanantachai (2013), board of directors directly affect tax aggressiveness. On the empirical front, Minnick and Noga (2010) reported that small boards of directors reduce tax liability while large – boards could prove ineffective due to the difficulties in decision – making about tax aggressiveness policy. Lanis and Richardson (2011) reported no effect of board size on tax aggressiveness. Contrary to expectation, Aliani and Zarai (2012) empirical study revealed non-significance relationship between the size of the board and tax aggressiveness in the American context. Their finding portends that the number of directors do not influence the strategies to minimize tax expenses, thus creating a further gap for empirical investigation. The empirical study of Lanis and Richardson (2011) on the effect of the composition of the board of directors and tax aggressiveness of quoted firms in Greece revealed that the inclusion of a larger number of independent directors' influence tax aggressiveness. The study by Zemzem and Flouhi (2013) using panel regression method for a sample of 73 French companies for the period 2006 to 2010 revealed that the higher proportion of outside members failed to influence tax aggressiveness. The empirical study by Ying (2015) showed that no significant relationship existed between the percentage of independent directors and tax aggressiveness; a pointer that there is ineffectiveness of independent role in China.

The study by Boussaidi and Hamed (2015) clearly confirms the existence of a positive impact of ownership concentration on tax aggressiveness of listed companies in Tunisia. Ying (2015) studied the relationship between ownership structure, board characteristics and tax aggressiveness of firms in China for the period 2003 to 2009 using panel regression method. The result obtained showed that ownership concentration has the incentive to minimize tax and enhance wealth of the shareholders. Desai and Dharmapala (2008) emphasized that companies with concentrated ownership have greater incentives to avoid taxes. A study by Boussaidi and Hamed (2015) on the impact of corporate governance mechanisms on tax aggressiveness of 39 listed firms in Tunisia using data for the period with the aid of panel regression method indicates the existence of a negative relationship between managerial ownership and tax aggressiveness. The study outcome was a confirmation of the finding by Chen, Cheng and Shervlin (2010) which states that high percentage of managerial ownership causes a lower level of tax aggressiveness. Aliani and Zarai (2012) empirically examined demographic diversity in the board and corporate tax planning in American firms for the period 1996 to 2009. A sample of 300 firms (S & P 500) was selected. The data were analyzed with panel least square estimation method. The result revealed that gender diversity on the board is not significant and does not have an effect on tax aggressiveness of the firms in the period considered.

### Methodology

This study uses the longitudinal research and causal effect research designs. The study concentrates on the entire listed companies in the Nigeria as the financial sector. As at 31st December 2016, a total number of one hundred and sixteen (116) non- financial companies were in the Nigerian Stock Exchange (NSE fact book, 2016). Breakdowns of the constituents of these companies are as follows: Agricultural Sector (5); Conglomerate (6); Construction and Real Estate (9); Consumer Goods Sector (22); Health Care Sector (11);

ICT Sector (7); Industrial Goods Sector (16); Natural Resources Sector (4); Oil and Gas Sector (12) and Services Sector (24). The sample size of this study is determined using the Taro Yamani (1967) sample selection technique. The formula for the Taro Yamani (1967) sample selection technique is:  $n = N/(1+N(e)^2)$ . N represents total elements in the population, one (1) is a constant, n is the sample size; e is margin of error denoted at 5.6%. The Yamani formula for sample selection is used when the number of elements in a study population is finite. Based on the number of the listed firms in this sector under this period, a sample of eighty-five (85) companies out of the aggregate (116) is selected for the period 2012 to 2016. This represents about four hundred and twenty-five (425) annual observations. Thus, the Taro Yamani formula was used to derive sample size from each sector as follows: Agricultural Sector (3); Conglomerate (4); Construction and Real Estate (6); Consumer Goods Sector (17); Health Care Sector (8); ICT Sector (5); Industrial goods sector (12); Natural Resources Sector (3); Oil and Gas Sector (9) and Services Sector (18).

## Model Specification

Model used is a modification of Boussaidi and Hamed (2015); Aliani and Zarai (2012) models. The mathematical and stochastic form of the models is stated as follows:

$$\text{Tax aggressiveness} = f(\text{Corporate governance mechanisms}) \dots \dots \dots 3.1$$

This is stated in econometric form as:

$$ETR_{it} = \alpha_i + ETR_{it-1} + \beta_1 BSIZE_{it} + \beta_2 BIND_{it} + \beta_3 Owncont_{it} + \beta_4 Mgo_{it} + \varepsilon_{it} \dots \dots \dots 3.2$$

$\beta_1$ - $\beta_5$  are parameters of estimation. The subscripts i and t refer to individual firms and time period (2012-2016) respectively. Apriori expectation of the study using the parameters of estimation is The apriori expectations of the study are of the form:  $\beta_1$ - $\beta_5 > 0$ . This apriori signs imply that the explanatory variables in the models are expected to impact on tax aggressiveness in line with the theoretical framework of the study as well as in affirmation of extant literature.

## Variables Description

ETR= Effective tax rate

BSIZE= Board size

BIND= Board Independence

OWNCONT= Ownership Concentration

MGO= Managerial Ownership Concentration

BGEN= Board Gender Diversity

$\varepsilon$  = error term

## Methods of Data Analysis

This study used the descriptive and inferential statistics methods to carry out the data analysis. The descriptive statistics encompass the descriptive analysis and correlation analysis. The inferential statistic used is basically the multivariate panel estimation and the dynamic panel data regression method.

## Measurement of Variables

**Table 1: Procedures used to measure the variables in the construct**

S/N	Variables	Type of variable	Measurement	Sources
1.	Tax aggressiveness	Dependent variable	Effective tax rate	Boussaidi & Hamed (2015)
2.	Effective tax rate (ETR)	Dependent variable	Total cash tax expenses divided by pre-tax income, expressed in percentage	Boussaidi & Hamed, 2015, Oyeleke et al (2016)
3.	Board size	Independent variable	Total number of directors on the corporate board	Oyeleke et al. 2016, Boussaidi & Hamed (2015)
5.	Managerial ownership	Independent variable	Percentage of capital held by the managers divided by the total share outstanding in the company	Boussaidi & Hamed (2015)
6.	Director Ownership Concentration	Independent	The cumulative percentage of share held by the directors divided by the total outstanding shares in the company	Boussaidi & Hamed (2015); Osamwonyi & Ogbeide, (2015)
7	Board independence	Independent	Proportion of non-executive directors divided by the total board of directors	Hairul, Ibrahim & Siti (2014)

Source: Researcher's Compilation, 2018

## Empirical Analysis

**Table 2: Correlation Matrix**

Variables	1	2	3	4	5	6
ETR	1					
BSIZE	-0.005	1				
BIND	0.011	-0.117	1			
MGO	-0.027	0.098	-0.090	1		
OWNCONT	0.068	0.005	-0.072	-0.076	1	
BLAU	0.091	0.473	0.027	0.025	0.113	1

Source: Researcher's Computation from 2018 from E-Views 8.0 Version

The Pearson correlation coefficient indicates the link between effective tax rate (ETR) corporate governance mechanisms. Table 2 result shows that board size and managerial ownership are negatively associated with effective rate (tax aggressiveness) ( $r = -0.005$ ,  $r = -0.027$ ). This suggests that the size of the board and managers ownership in firm contribute to the reduction of tax expense. This finding is contrary to the agency theory. This is so because managers sometimes may not be having the interest to reduce tax expenses so as to enhance shareholders wealth since that does not affect them directly by way of wealth transfer. The study finding agrees with the political cost theory. Board of directors, especially a relatively large sized type and managers' interest may not with those of the shareholders except they are adequately incentivized with a view to reduce the possibility of agency problem. The finding is consistent with Florackis (2008). Although there are assertions in literature (e.g Fraile & Fradejas, 2014) posit that despite incentives given to managers, they still do seek to pursue their own interest which is contrary to the resource's owners' interest. However, this study takes a position that if board of directors and managers are sufficiently incentivized and remunerated, they may pursue the interest of the shareholders better; and by implication reduce tax expense (effective tax rate). Board Independence (BIND), Ownership Concentration (OWNCONT) and Gender Diversity (BLAU) are positively associated towards influencing effective tax rate ( $r = 0.011$ ,  $r = 0.068$ ), ( $r = 0.091$ ).

The non-executive directors do play oversight function at monitoring the activities of the executive directors and managers. Some of these activities include payment of tax expense, among others. The aim is to increase the wealth of the shareholders. Board size (Bsize) is negatively related with BIND ( $r = -0.117$ ); meaning the board does not have enough independent members. This apparently shows that corporate board is concentrated by way of ownership and managers tend to reduce tax expense. BSIZE is positively associated with MGO; BSIZE is positively correlated with OWNCONT ( $r = 0.005$ ), while BSIZE is positive with gender diversity ( $r = 0.473$ ). BIND is weak and negatively associated with MGO ( $r = -0.090$ ); BIND is weak and negatively correlated with OWNCONT ( $r = -0.072$ ); while BIND is positively related with BLAU, i.e gender diversity ( $r = 0.027$ ); MGO is negatively associated with OWNCONT ( $r = -0.076$ ); MGO is weak and positively related with BLAU ( $r = 0.025$ ); while OWNCONT is weak but positively related with BLAU ( $r = 0.113$ ). These suggest that ownership by managers and structure do not have more female in the sampled firms. The Associations do not in any way show signs of multicollinearity among the variables in the model. It is a pointer that the corporate governance mechanisms are mutually reinforcing at influencing the minimization of tax expense. The weakness associated with the mechanisms may be connected to the smallness of the sampled period.

**Table 3: Descriptive Statistics**

Variables	Observation	Mean	STD	Skewness	Kurtosis	Jarque-Bera
ETR	390	24.37	90.33	7.83	94.59	140331.3 (0.00)
BSize	390	98	2.82	1.15	5.80	215.10 (0.00)
BIND	390	62.24	14.47	-0.52	2.81	18.50 (0.00)
MGO	390	19.07	24.51	1.15	3.14	87.70 (0.00)
OWNCONT	390	58.86	20.59	-0.63	3.25	27.64 (0.00)

Source: Researcher's Computation from 2018 from E-Views 8.0 Version

Note: ( ) represents J-B probability value. Presentation of descriptive statistics results of models 1 and on corporate governance mechanisms and tax aggressiveness. Variables definitions are detailed under the methodology of this study.

The descriptive statistics in Table 3 above shows that ETR is 24.37%. This figure is far below company income tax rate of 30%. The result is an indication that the sampled firms were very tax aggressive in the period under reference. Intuitively, it can be said that the firms have tax management experts and tax consultants who do employ every legal strategies to minimize tax liability, increase net income and maximize the wealth of the shareholders. The result is consistent with Koanantachai (2013) study which reported 13.98% for ETR in Thailand between 2007 – 2011; Ying (2011) recorded 22.7% ETR in China for the period 2003 to 2009; Aliani and Zarai (2012) reported 17.4% ETR in Tunisia for the period 2000 to 2007. Ribeiro (2015) in a study reported 24.5% for ETR, Boussaid and Hamed (2015) found 12.37% in Tunisia for the period 2006 to 2012. In Nigeria, Oyeleke et al. (2016) reported 12.10% for the period 2012 to 2014 in the financial sector contrary to expectation; Ilaboya et al (2016) reported 29.88% in Nigeria in the period 2008 to 2014. Sar and Martani (2010) reported 29% for ETR in Indonesia for the period 2005 to 2008. Konstantinos (2016) reported 7.5% ETR in Greece. However, it suffices to point out here that the variations in tax aggressiveness of the firms across the different countries reported may be due to sample size, period, number of observations, variables and sectors specific differentials.

The standard deviation for ETR reads 90.33. This spell out the risk implication particularly the reputation cost to managers and organization arising from litigation / penalty due to engagement in tax aggressiveness practices. The values of the risk (standard deviation) is higher than 3.28 recorded by Konstantinos (2016); 0.92 by Ilaboya et al. (2016) in Nigeria; 0.08 in Nigeria by Oyeleke et al. (2016); 0.26 and 0.239 by Ribeiro (2015); 0.1865 by Aliani and Zarai (2012); 0.136 reported by Ying (2011). There is positive kurtosis of 94.59 and 365.39. It is an indication that they are very leptokurtic. The Jarque-Bera values of 14033.13 shows that ETR is statistically significant at 1%. It can be said that the variable was normally distributed. The average board size in the sampled firms is 8. It does not exceed the stipulated 20 board members. The average figure of 8 comprising persons clearly shows that conflict of interest in decision making is minimized to enhance the operational performance of the firm, including tax expense minimization (tax aggressiveness). Jensen (1993) opined that the impact of the board depends on its size. Minnick and Noga (2010) supported this

view. The average number of 8 persons obtained in the sampled firm in this study is quite lower compared to that of previous studies. Oyeleke et al. (2016) obtained 10 members as board size; Ribeiro (2015) reported 11 members; Boussaidi and Hamed (2015) recorded 12 members on the average. This board size differential however varies from sector to sector as observed in existing literature. However, the value of 62.24% BIND appears lower than the 75% found by Ying (2015) for China; 89.47% reported by Aliani and Zarai (2012). The high representation of board independence on the corporate board of the sampled firms is an indication there is effective monitoring of the actions and practices of the executive board/managers which includes among others the tendency to engage in rent extraction occasioned by agency problem. In consonance with this, the finding is in tandem with Ying (2011), Aliani and Zarai (2012), Lanis and Richardson (2011), Boussaidi and Hamed (2015), and Ribeiro (2015). The standard deviation value of 14.47 pointed out the extent of variability of board independence for the cross – section of companies from the mean. It is negatively skewed (- 0.52). The J-B statistic (18.50) of BIND indicates it satisfies normality.

MGO has a mean value of 19.07% in the sampled firms. It suggests that about 19.07, which is approximately 20% of the total shareholding is owned by the management. This ownership stake by the management intuitively implies a minimization of the tendency to engage in managerial opportunism. This could make them carry out strategies to reduce operational expenses, including tax expenses, thus generally promoting the wealth of shareholders and other stakeholders. The value obtained in this study is higher than the reported figures of MGO by Boussaidi and Hamed (2015) of 17.03%, but lower than that of Ribeiro (2015) of 28.7% in U.S; Desender, Miguel and Rafel (2008) of 22.5% in Spanish companies, 59% by Gabrielson et al. (2002) in Demark. The Jarque – Bera value of 87.70 with p – value less than 5% is statistically significant at 1%, meaning the variable is normally distributed. OWNCONT has a mean value of 58.86%. This is an indication that most corporate boards of listed firms in the Nigerian non – financial sector has director ownership concentration (block – holders). Ilaboya et al. (2016) reported a value of 41.6% in Nigeria, Boussaidi and Hamed (2015) reported 58.8% in Tunisia, Ribeiro (2015) recorded 67.4%, all on the average. There is likelihood of aggressive behaviour exhibition in order to maximize returns. However, if caution is not alluded, agency – problem could affect desired results. The standard deviation of 20.59 reveals the tendency of OWNCONT to nose – dive from the mean in the cross – section of the sampled firm. While the skewness is negative ( - 0.63), the kurtosis is positive (3.25). The Jarque – Bera value of 27.64 compared with the p – value (p < 5%). The mean proportion of female on firm corporate boards as measured with BLAU (1977) index method is 10%. This of course affirms the hue and cry of the general public on the marginalization of women on corporate boards of quoted firms in Nigeria. This suggests tendency of female board members to contribute optimally to the operational performance of firms, including tax liability minimization is unlikely/ though gender diversity measure varies in one prior study to the others, Oyeleke et al. (2016) recorded 18.7% in the Nigerian banking sector. The standard deviation is (1.11), the skewness is positive (1.70). The Jarque – Bera value is 533.76 (p < 5%).

**Table 4: Histogram Distribution of the Variables**

Variables	Mean Report
ETR	23.71
BSIZE	8
MGO	19.29
OWNCONT	58.83
BIND	62.35
BLAU	0.10

*Source: Researcher's Computation from 2018*

The Table 4 indicates histogram mean distribution of variables of interest in this study. The table shows that the sampled firms had 23.71% ETR under the reference period. ETR result is a pointer that less than the statutory rates cash tax expenses were paid out of the earnings before tax by the firms in the period observed. By rule of thumb, it suggests that the firms employed good tax strategies through tax experts and consultants to minimize tax liability. Therefore, the firms can therefore be said to be highly tax aggressive. The sampled firms had average board size of 8 members. This represents small board size, and this may positively engender smooth and effective decision making as regard policy on tax aggressiveness. Ownership

by management (MGO) accounts for about 19.29% on the average in the companies examined. This proportion of managers' ownership has the potential to mitigate agency problem and engagement in rent extraction which is often detrimental to firm earnings and shareholders' wealth. The average of the directors' ownership concentration in the firm is about 58.83%. This high proportion of the director ownership in the firm elicit their commitment towards ensuring the optimal performance, reduction of rent seeking behaviour and consequently the employment of strategies to minimize tax expense payment. Board independence had a mean value of 62.35% in the firms. This implies that the corporate boards have high percentage of non-executive members overseeing the affairs of the firm on behalf of the resource's owners; monitoring the actions of the insider directors, conflict of interest, and their opportunistic behaviour, which can contribute less to tax aggressiveness. The average value of BLAU is 10%.

This portends that about 10% of women are on the corporate board of the sampled firms in the non – financial sector. This is an obvious indication of under – representation of women on the corporate board of firms in Nigeria in the period under reference. The mean value of firm size is N48374767 billion. It shows that the firm invest sizeable amount of cash on assets particularly fixed assets to be able to take advantage of financing source and capital allowance with a view to minimizing tax liability. Leverage mean value is N28426439 billion. These loan facilities assist the firm to take advantage of tax shield arising from interest deductions, thereby reducing tax expenses. The mean value for audit quality is N25434.13 million while the interest charge is N1537594 million in the period under reference. This value of interest expense contributes to tax aggressiveness in the firms.

**Table 5: Correlated Random Effects – Hausman Test**

Test Summary	Chi-square statistic	Chi-square prob
Cross section random	0.977	0.96

Source: Researcher's Computation 2018 from E-view 8.0 version

The Hausman test chi-square statistics result does indicate the random effect is preferable in this study.

**Table 6: Presentation of Regression Results**

Dependent variables ETR

Variables	Panel OLS (A)	Random effect (B)	Pooled Regression (C)	GMM (D)
BLAU	9.326 [0.047]**	4.013 [0.626]*	9.326 [0.000]*	-19.996 [0.006]**
BSIZE	-1.958 [0.295]***	-0.885 [0.801] ***	-1.958 [0.005]**	-47.505 [0.05]**
BIND	0.173 [0.589]***	0.104 [0.798]***	0.173 [0.150]***	-27.169 [0.002]**
MGO	0.082 [0.660]***	0.414 [0.455]***	0.082 [0.241]***	5.37 [0.024]**
OWNCONT	-0.243 [0.279]***	-0.031 [0.973]***	-0.243 [0.003]**	-21.572 [0.002]**
	(1)	(3)	(4)	(5)
ETR1 (-1)	-	-	-	0.069 [0.946]
R-squared	0.725	0.805	0.715	-
Adjusted R-squared	0.68	0.683	0.673	-
F-statistics	1.224	0.895	8.682	-
Prob (f-statistic)	0.001	0.000	0.000	0.000
Durbin-watson stat	1.654	1.628	2.046	2.090
J- Statistics	-	-	-	8.640

Source: Researcher's Computation 2018 from E-view 8.0 version

Table 6 is concerned with the regression estimations methods of model I. significance levels are reported in three forms. \*  $p < 0.000$  is statistically significant at 1% level. \*\*  $p < 0.05$  is statistically significant at 5% level. \*\*  $p > 0.05$  is statistically not significant at 1% or 5% level. The [ ] represents the probability value (p – value)



From the Table 6, it is observed that using the panel OLS estimation (panel A) which is the baseline, the  $R^2$  is 0.725 which suggests a 72.5% explanatory ability of the model for the systematic variations in the dependent variable (ETR) with an adjusted  $R^2$  value of 0.68 (68%). The F-statistics is 1.224 and p-value is (0.001). The Durbin- Watson statistic is 1.654. In random effect panel regression estimation (panel B), the  $R^2$  is 0.805, an indication that the model explained about 80.5% systematic variation in tax aggressiveness (ETR), leaving less than 20%. The adjusted  $R^2$  value is 0.711 (71.1%). The F – statistic is 1.513 with p – value of 0.000. The D.W statistic is 1.628. This shows the removal of serial correlation problem in the regression result. The result of the pooled data regression result (panel C) shows that the  $R^2$  is 0.715 which implies that the corporate governance mechanisms explained about 71.5% systematic variation in tax aggressiveness of the companies. The adjusted  $R^2$ , being the coefficient of determination stood at 0.673 (67.3%). The F – statistic is 8.682 with p – value of 0.000. The Durbin-Watson statistic is 2.090, meaning the presence of serial correlation in the regression result is unlikely. Using the GMM to estimate the baseline (panel D), for the effect of endogeneity, it can be observed that the Hansen J – statistic test is 8.640. Judging by the results of the  $R^2$ , J – statistic, the F–statistic and Durbin-Watson statistic, it can be deduced that the corporate governance mechanisms contribute significantly to the minimization of tax liability of listed firms in the Nigerian non – financial sector. Thus, the result is acceptable for policy prescription.

Commenting on the effects of each of the corporate governance mechanisms on tax aggressiveness, it can be observed that BSIZE has a negative sign (- 1.958) in panel A, (- 0.885) in panel B, (- 1.958) in panel C and (- 47.505) in panel D on tax aggressiveness. It was statistically significant in panel C and D only. The result is an indication that a small board size contributes to the reduction of tax liability for firms. BLAU (female gender) is observed to have a positive effect (9.326) in panel A, (4.013) in panel B, (9.326) in panel C and a negative (-19.996) in panel D on tax aggressiveness of listed firms in the non – financial sector. It was statistically significant at 5% only in panels C and D. Female board members contribute to effective tax liability reduction if they are in high proportion on the firm’s board. Otherwise they contribute very low to tax aggressiveness they are a token on the corporate board. Managerial ownership (MGO) appears to have positive effect (0.082) in panel A, (0.414) in panel B, (0.082) in panel C and (5.437) in panel D on tax aggressiveness. It was statistically significant only in panel D ( $p = 0.02$ ) at 5% level. It points to the fact that a specific proportion of ownership by managers contributes positively and higher to tax aggressiveness and planning in listed firms. This finding aligns with Florackis (2008). The value of 19.29% of managerial ownership under the descriptive statistics in the sampled firm is an evidence of the positive and significant effect it has on tax aggressiveness. Director ownership concentration (OWNCONT) is observed to have negative effect (-0.243) in panel A, (-0.031) in panel B, (-0.243) in panel C and (-21.572) in panel D on tax expense reduction in the period under reference.

The proportion of director ownership concentration as revealed in the descriptive statistic is 58.83%. This translates to the evidential effect that of OWNCONT at reducing tax liability. A high percentage of director ownership is presumed to reduce agency problem, information asymmetry and promote effective operation of the firm, including employment of aggressive strategies to minimize tax expense. The finding is consistent with the stewardship and stakeholders’ theories as suggested in the literature review. Board independence (BIND) has a positive effect (0.173) in panel A, (0.104) in panel B, (0.173) in panel C and a negative sign (-27.169) on tax aggressiveness of firms in Nigeria. These effects of board independence on tax aggressiveness may be interpreted in two forms. First, the percentage of 62.35% of the non-executive directors in the firm is sufficient to engender positive effect on tax expense reduction premised on the fact that they are actively participating in the monitoring of the actions, practices or behaviours of the insider (executive) directors. Second, if they do not get involved in effective playing of oversight function in the firm including checkmating the tendency of insider directors and managers to be rent seeking in the firm, this could result to a negative effect on tax aggressiveness. One lagged period of 1 effective tax rate (ETR-1) is observed to be positive (0.069) on tax aggressiveness. The positive effect of ETR clearly indicates the transcendental effect of tax expense payment where deferred tax is payable in current tax year under a self – assessment scheme.

Overall, the result reveals that corporate governance mechanisms contribute significantly to the minimization of tax liability. The finding is consistent with the assertion of Abraham (2011) who posits that corporate governance mechanism in the firm is the assurance investors have that return on their investment is guaranteed. That corporate governance mechanisms determine tax aggressiveness as found in the empirical estimation points to the fact that the board of directors / managers of the firm have tax

management proficiency through the instrumentality of professional, accountants and tax practitioners on the corporate board. Similarly, it could also be said that since corporate governance mechanisms contributed significantly to the minimization of effective tax rate; it is an indication there is minimal agency problems/ conflicts in the firm to a large extent. Chen et al. (2010); Aliani and Zarai (2012) established a contrary result. Estimations of the individual corporate governance mechanisms revealed that board size is negative and exerts significant impact on tax aggressiveness. Literarily, the finding is somewhat with the postulation of Jensen (1993). The result obtained in this regard is not surprising! For instance, the average board size of the sampled firms in this study is 8. Generally, small board size smoothens decision making unlike large board size which promotes managerial opportunisms and squabbles. The finding is in line with Minnick and Noga (2010); Lanis and Richardson (2007); Mahenthiran and Kasipilai (2012) who found that small board size is significant and negatively impacts tax aggressiveness. The study finding did not agree with the findings of prior researchers like Aliani and Zarai (2012); Koanantachai (2013); Zemzam and Flouhi (2013). This affirms the women risk aversion theory. The finding agrees with that of Adams and Funk (2012); Boussaidi and Hamed (2015), Chen et al. (2010). The finding is however contrary to other studies like Aliani and Zarai (2012); Oyeleke et al. (2016).

The non-significant may not be unconnected with the marginalization of women on the corporate board in Nigeria. In Nigeria for example, there appears to be high level of politics and biasness on the corporate board. The selection and composition of board members is conspicuously skewed in favour of the male folks. Yes, there are women who have the requisite experience, managerial prowess, emotional strength and political clout to turn the wheel of progress in the right direction in quoted firms. Yet they are not considered for appointment into the corporate board, let alone putting them on significant position in the company board. Most unfortunate enough is the fact that they are even seen as a set of human creatures, whose duties should be to attend to the domestic needs of the family. This is never the less of the fact that women are more diligent in the attendance of board meeting than the male counter parts and more likely to join committee that monitor performance, inclusive of the level of tax aggressiveness.

Board independence is significant and exerts a negative influence on tax aggressiveness of firms in Nigeria. Board independence does play oversight and monitoring function towards enhancing the performance of firms. The finding of this study agrees with Yeung (2010) position that increase in board independence decreases tax expenses. The finding is also in consonance with Lanis and Richardson (2007) and Aliani (2013). This study finding fails to agree with other studies like Zemzem and Flouhi (2013) and Ying (2011). Additionally, in firms, ownership concentration has a way of making resource owners to effectively monitor the action of managers in order to make them engage in tax aggressiveness. The intention of this is to minimize agency problem and maximize the wealth of the shareholders. In nut shell, the finding is consistent with Chen et al. (2010), Ying (2011), Christensen and Murphy (2004) and Koanantachai (2013). It fails to agree with the finding of Boussaidi and Hamed (2015); and Grubert et al. (1993). The result differential may be due to country specific data, sample size / period and method of data estimation differentials. Managerial ownership exerts positive and significant impact on tax aggressiveness in firms in the Nigerian non – financial sector. The finding is in tandem with Ying (2011). It is however not in consonance with Chen et al. (2010 and Florackis (2008). Firm size was found to exert positive and significant effects on tax aggressiveness.

## Conclusion and Recommendations

The mechanisms of corporate governance are naturally expected to reduce tax liability. Mechanisms of corporate governance in attempt to maximize the value of the firm spend huge amount of time, energy and financial resources by employing consultants to minimize income tax expenses. Thus, each component of the corporate governance does play interactive role, towards influencing the management of firm, including tax aggressiveness policy. No doubt the characteristics of a company contribute to the reduction of tax liability, increase in net income and enhancement of shareholders, wealth maximization.

Based on the robust empirical findings obtained, the study that quoted firms should constantly ensure there is strict internal control to help reduce losses arising from the manager's tendency to act selfishly in pursuant of tax aggressiveness behaviour / practice. The managers should do as much as they can to

avoid those activities that are mostly illegal though not enforceable in low count in attempt to be more tax aggressive so as to overcome tax evasion trap. Since tax evasion causes reputation costs to managers and firms as well as thereafter the survival due to litigation effect. This may even cause adverse implication on the stock price of firm, thus destroy its market value. This happening will negate the legitimacy of the firm often examined under the legitimacy. Quoted firms in Nigeria should ensure the composition of corporate board contains optimal mix of executive and non – executive directors who are professional accountants, tax experts, business strategists and legal experts. These set of caliber of persons should be able to bring their wealth of experience and training to positively influence key decision making regarding tax expenses minimization and the strategies.

The remuneration committee of firms should strategically restructure the remuneration of the directors/ managers to adequately compensate them in their effort to radically minimize tax liability and also reduce agency costs to the barest. Reduction of agency costs causes managers and board of directors to avoid rent extraction or seeking which could jeopardize the wealth of the shareholders. The board of directors of corporate organizations in Nigeria should restructure the board in terms of diversity. This will ensure there is adequate mix of directors consisting of female and male, appropriate ownership structure, nationality mix, size, educational qualification professional training to possibly influence the operation performance, including tax expense reduction.

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