The Board Structure and Financial Performance of Selected Listed Consumers' Goods Firms: Evidence from Nigeria.

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Abstract
Despite the available evidence on the nexus between the board structure and financial performance, lacunae still exist on how board structure, operationalised as board gender diversity and executive directors; numerical strength influence financial performance measured using profit after tax margin and profit before tax margin in Nigeria, in the post International Financial Reporting Standards (IFRSs) adoption era. Motivated by these gaps, this paper investigated the influence of the Board Structure on Financial Performance of consumers' goods firms in Nigeria. To achieve the study's objective, two objectives were specified and two hypotheses were formulated. Data of secondary nature, which spanned years 2012 to 2019 were collected from fourteen (14) firms in the consumer goods sector using judgmental sampling technique. The data were collected from the annual reports of these firms. The data were econometrically analysed using ordinary least square, highlighting pooled, fixed and random effects. Results revealed that board gender diversity has no significant influence on profit after tax margin of selected listed manufacturing firms (α=-0.5504; p-value>0.05). It was further revealed that executive directors' numerical strength does not have a significant effect on profit after tax margin of selected listed manufacturing firms (α=-0.3969; p-value>0.05). Based on these findings, the study concluded that board structure has no significant influence of financial performance of listed consumers' goods firms in Nigeria. The study, therefore, recommended that regulatory bodies should evolve practices by designing robust policies that would address acute female under-representation on the boards of listed consumers' goods firms in Nigeria

Keywords: *Board gender diversity; executive directors' numerical strength; board structure; profit after tax margin; Nigeria*

PAPER CLASSIFICATION: Research Paper
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1.1 Introduction

Akinleye, Olarewaju, & Fajuyagbe, (2019) stated that globally, corporate entities required the preservation of good and quality communication, transparency and accountability of the various stakeholders' resources which are entrusted in the hands of top managements. In all

business organizations, the board of director is charged with oversight of management on behalf of shareholders. In order to protect the interests of the shareholders, the board of director must assume an effective oversight function (Uadiale, 2010). It is assumed that monitoring of the board performance is influenced by the effectiveness of the board composition and quality, size, duality of the chief executive officer, board diversity, information asymmetries and board culture (Brennan, 2006). There have been many reforms, legislations and court cases recorded during the last century all in the struggle to safeguard shareholders' rights and properties, and moreover, to encourage the theory of corporate governance (Grant, 2003). But in spite of all these legislations and effort to prevent the shareholders, the world economy suffered some depressions rising from the stock market crisis, the collapse of giant companies and the financial crisis of 1997 and 2008. Moreover, there have been a number of scandals involving executives of different organizations.

The collapse of Enron in 2001 led to the emergence of another legislation passed by the congress in 2002; the Sarbanes Oxley Act 2002 which demands more oversight, enforcement of punishment on immoral behavior, and addressing the issue of conflict of interest, the Act aims to prevent management and accounting scandals (Zhang, 2007). However, despite these legislations, there are a number of scandals that happened after the enactment of the laws. For example, WorldCom, Satyam 2007 and RSB 2009 scandals. It therefore became imperative to introduce policies aimed at mitigating the losses suffered by the investors in the event of such scandals. Corporate governance therefore provides such solutions among which are protection of minority shareholders and creditors from the majority shareholders (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2008). Corporate governance aims to reduce these scandals and propose a better way of managing resources in the organizations. The separation of ownership and control as provided by the agency theory and entrusting the managers as provided by the stewardship theory provides efficient means of corporate performance. Similarly, a number of reforms were suggested on how best a board should be structured and equally the composition to avoid manipulation by one person or group of persons so that decisions can be taken in the best interest of the organization. Even without a complete theory of *why* there are boards, we can still explore *how* boards are structured and *what* they do. Boards generally comprise mixture both insiders and outsiders; how is this mixture determined and what are the incentives of different directors? Conditional on composition, do boards function as they should? That is, is their performance optimal (at least in a second-best sense)?

One modeling approach is to see the board as the "principal" to management's "agent" in a classic principal agent framework. Although such principal-agent modeling provides many insights, it is not particularly useful for explaining board-specific phenomena: for example, why the ratio of insiders to outsiders matters or changes, or why management seems to have such influence on the selection of directors. Outside directors are often thought to play the monitoring role inside boards. Yet their incentives are not clear. Fama, (1980) and Fama & Jensen, (1983) emphasize the fact that they have incentives to build reputations as expert monitors. However, a reputation as a director who does not make trouble for CEOs is potentially valuable to the director as well. Moreover, as Holmstrom, (1999) observed, wanting to be *seen* as doing the right thing and *doing* the right thing are not always the same.

1.2 Statement of Problem

Several studies have examined the relationship between corporate governance mechanisms, ownership structure and firm performance across countries with different characteristics, with

the majority emphasis in the developed economies. The studies yielded different results, affected by the nature of the prevailing governance system for the individual country. Due to the number of studies in this field and the contradictory results obtained, there are still not a consensus on whether board structure improves firm performance in emerging sectors. Moreover, most empirical research studying the relationship between board structure and corporate performance used data from developed economies and provides mixed results.

In Nigeria that happened to be one the developing economies, several studies examined in the area of the related study could not convincingly lay emphasis on the Board Structure and its influence on financial performance of Consumers' goods sector and their empirical findings revealed Return on Asset measuring was used in measuring firms' performance. This study now comes up to fill those gaps and comprehensively examine the effect of board structure on firms' financial performance.

1.3 Research Objectives

The main objective of this study was to examine board structure on firms' financial performance in Nigeria. The specific objectives of this study were as follows:

- **i.** To determine the extent to which board gender diversity influence profit after tax margin of selected listed consumers' goods firms in Nigeria;
- **ii.** To examine the effect of executive directors' numerical strength on profit after tax margin of selected listed consumers' goods firms in Nigeria;

1.4 Research Questions

Based on the above research questions, the following answers were sought to the following questions:

- **i.** To what extent is the board gender diversity influence profit after tax margin of selected listed consumers' goods firms in Nigeria?
- **ii.** Does executive directors' numerical strength have significant effect on profit after tax margin of selected listed consumers' goods firms in Nigeria?

1.5 Research Hypotheses

Informed by the research questions, two hypotheses were formulated and tested:

Hypothesis One

H_{01}: Board gender diversity has no significant influence on profit after tax margin of selected listed consumers' goods firms in Nigeria;

Hypothesis Two

H_{02}: Executive directors' numerical strength has no significant effect on profit after tax margin of selected listed consumers' goods firms in Nigeria.

2.0 Literature Review

2.1 Conceptual Review

Board Structure Mechanisms

There are many variables that may constitute yardsticks by which corporate governance in the aspect of Board Structure can be measured in an organization. Some of these mechanisms include board size, board composition, board ownership and CEO-Chairman duality.

Board Size

Board size is said to be a crucial characteristic of board structure. The studies in this respect empirically show mixed results. Large boards could provide the diversity that would help

many companies to secure critical resources and also reduce environmental uncertainties (Pearce & Zahra, 1992); (Goodstein, K, & Boeker, 1994). But, as Yermack, (1996) said, coordination, communication and decision-making problems increasingly impede firm performance when the number of directors increases. Thus, as an extra member is included in the board, a potential trade-off exists between diversity and coordination. It is generally believed that limiting board size to a particular level improves the performance of a firm. Having a big board is likely to be less effective in substantive discussion of major issues among directors in their supervision of management. Lipton & Lorch, (1992) argued that having a large board are less effective and also easier for the CEO to control. Where there is a big board, coordination is usually too difficult which also creates problems in tackling strategic organisational problems.

Board Composition

Board composition refers to the number of independent non-executive directors on the board relative to the total number of directors. An independent non-executive director is defined as an independent director who has no affiliation with the firm except in the area of the directorship Clifford & Evans, (1997). Board composition consists of board demographics, board structure, board recruitment, board member motivation and criteria, board education and evaluation, and board leadership. Board composition is one of the important factors affecting firm financial performance. There is an apparent presumption that boards with significant outside directors will make different and perhaps better decisions than boards dominated by insiders. Fama & Jensen, (1983) suggest that non-executive directors can play an important role in the effective resolution of agency problems and their presence on the board can lead to more effective decision-making. Enhanced director independence, according to Young, (2003) is intuitively appealing because a director with ties to a firm or its CEO would find it more difficult to turn down an excessive pay packet, challenge the rationale behind a proposed merger or bring to bear the skepticism necessary for effective monitoring. The proponents of agency theory say that corporate governance should lead to higher stock prices or better long-term performance, because managers are better supervised and agency costs are decreased.

Board Ownership

Board Ownership is an important characteristic of board structure which shows the extent that executive board members own part of the firm, develop shareholder-like interests and are less likely to engage in behaviour that is detrimental to shareholders. Therefore, managerial ownership is inversely related to agency conflicts between managers and shareholders. In contrast to this notion, (Demsetz & Lehn, 1985) found no link between ownership structure and firm performance, and assert that there is little support for the divergence of interests between managers and shareholders.

CEO Duality

CEO duality, is a situation where the same person holds both the CEO and board chairperson positions in a corporation (Rechner & Dalton, 1991), has been the subject of academic interest for more than 20 years (Krause, Semadeni, & Cannella, 2014). Finkelstein & D'Aveni, (1994) foundational article on the topic discussed the “double-edged sword” the practice introduces due to the contradictory objectives and tradeoffs associated with duality. CEO duality, the practice of one person serving as both the CEO and chairperson of the board of directors, has always been at the center of great interest to both academic researchers and practitioners for the last two decades. There are two schools of thought on CEO-chairman duality. Several researchers argue that CEO-chairman duality is detrimental to companies as

the same person will be marking his "own examination scripts". Separation of duties will lead to: (i) Avoidance of CEO entrenchment; (ii) Increase in the board monitoring effectiveness; (iii) Availability of the board chairman to advise the CEO, and (iv) Establishment of independence between board of directors and corporate management (Rechner & Dalton, 1991).

On the other hand, other researchers believe that since the CEO and chairman is the same person, the company will: (i) achieve strong, unambiguous leadership; (ii) achieve internal efficiencies through unity of command; (iii) eliminate potential for conflict between CEO and board chair, and (iv) Avoid confusion of having two public spokespersons addressing firm stakeholders (Davis, Schoormann, & onaldson, 1997). Consistent with these arguments, Cannella & Lubatkin, (1993) report a positive link between a dual leadership structure and financial performance, (Dedman & Lin, 2002) find no evidence of significant abnormal returns upon the announcement of splitting roles in the post-Cadbury period. A closer look at the empirical evidence reveals that the relationship between CEO-chairman duality and company performance is mixed and inconclusive.

2.2 Theoretical Review

The literature on the determinants of the board structure is generally framed by three basic theories, namely the resource dependent theory, agency theory, power circulation theory and stewardship theory. The resource dependent theory argues that the main function of the corporate board is to give advice and information needed to facilitate the firm's decision-making and strategic choice (Hillman & Dalziel, 2003); (Pugliese, Minichilli, & Zattoni, 2014). From the agency theory's perspective, however, the corporate board functions to monitor the interaction between managers as the agent and shareholders as the principal, and on behalf of the latter ((Fama & Jensen, 1983); (Shleifer & Vishny, 1997); (Hillman & Dalziel, 2003). The power circulation theory applied to corporate governance suggests that CEOs can gain power from a coalition dominated by themselves, however, their power is constrained by a coalition formed by rival directors and executives (Shen & Cannella, 2002); (Ocasio, 1994); (Henderson & Fredrickson, 2001). Stewardship theory is a new perspective developed by Donaldson & H, (1991) and made to understand the existing relationships between ownership and management of the company.

The primary theoretical framework that relates the monitoring function to firm performance is derived from agency theory, which states that conflicts of interest can arise from the separation of ownership and control in organizations ((Berle & Means, 1932); (Fama & Jensen, 1983). From this perspective, one of the primary function of boards is to monitor the actions of managers (agents) in order to protect the interests of shareholders (principals) (Mizruchi, 1983); (Eisenhardt, 1989); (Andreasson, 2011). Asked to confirm if management pursue their own interests at the expense of the shareholders' interests (Nicholson & Kiel, 2007), 'agency' costs typically arise (Berle & Means, 1932). The board of directors may therefore reduce the agency costs inherent in the separation of ownership and control and, in this way, improve firm performance (Fama, 1980; (Zahra & Pearce, 1989). The Agency theory also predicts that the incentives available to directors and boards vary and therefore important to effective monitoring (Kyereboah-Coleman & Biekpe, 2005), also, firm performance will therefore improve if these are aligned with the interests of shareholders (Jensen & Meckling, 1976); (Fama, 1980).

Contrary to the agency theory the *stewardship theory* Davis, Schoormann, & onaldson, (1997); Donaldson & H, (1991) neglects the assumption that board members act

opportunistically. Therefore, the board members are supposed to operate in terms of shareholders and the capital market, whereas a trade-off between personal needs and corporate objectives takes place. In order to ensure the stewards' self-motivation, specific monitoring activities are counterproductive. This is based on the assumption that the board activities correspond with the interests of the shareholder's meeting. Furthermore, the management is aiming to reduce possible information asymmetries. They supervise board rather functions as a supporting and consulting instance, which creates and expands the optimal framework for the management (Donaldson & H, 1991), pp. 51-52; (Muth & Donaldson, 1998), p. 6; (Ong & Lee, 2000), p. 9).

2.3 Empirical Review

Akinleye, Olarewaju, & Fajuyagbe, (2019) in their study focused on corporate governance and performance of sampled Nigerian Multinational Corporation which covered from 2012 to 2016with respect to the effect of board size, activism and committee activism on return on asset and firm growth rate. Data were collected from four multinational entities, analyzed through static panel estimation techniques. It was discovered that while the size of board and their activism showed significant negative impact on asset return, the counterpart which is committee activism revealed insignificant impact. The outcome of the empirical work also revealed that board size and their activism was insignificant negative impact on firm's growth rate, while committee activism insignificantly formed firm's growth rate. Inferenced from the findings, it was recommended that corporate governance mechanisms in corporation globally should be reconsidered so as to give more than just numbers of persons or meetings held, but the main reasons and deliberations in such meetings.

Olayiwola, (2018) examined the influence of corporate governance on the performance of companies. The research employed exploratory research design with ten (10) quoted companies which were selected through purposive sampling technique. Data were extracted from the annual financial reports of the selected entities which cover from year 2010 to 2016. The research tool used in analysing the data regression. From the analysis, it was found out that board size had a significant negative correlation with net profit margin, while the composition of board of directors had a significant positive correlation with net profit margin, the number of audit committee members had an insignificant correlation with net profit margin and jointly the size of board, their composition and the number audit committee numbers had a significant effect on net profit margin. It was on this premise that the study concluded that smaller board size will increase performance and the board composition should consist more of the non-executive directors while the audit committee also should be reviewed from time to time.

Azutoru, Obinne, & Chinelo, (2017) found out that non - executive directors' remuneration board size and foreign ownership has a negative impact on asset returns but executives directors' remuneration with directors' independence, ownership and institutional ownership of corporations has a positive impact on returns on assets when the authors assessed corporate governance mechanisms and financial performance of 20 Nigerian insurance companies. The study used regression analysis, which cover a period 2011–2015win which pooled regression, fixed and random effect model was adopted. Though, the impact of the executive directors' remuneration was found to be insignificant.

Faizul & Thankom, (2016) investigated the influence of firm-level corporate governance on financial performance of Bangladesh quoted companies in which a questionnaire survey-based on corporate governance index (CGI), of (3) three dimensions which are shareholder

rights, independence and responsibilities of the board and management, and financial reporting and disclosures. The finding suggested that partly confirm the prediction of the theory of agency, with a significant positive relationship between a firm's corporate governance quality and corporate valuation, as the connection amongst entities level of corporate governance and operating performance appears inconclusive.

Abbasi, Kalantari, & Abbasi, (2012), has proved the hypothesis that," relationship between corporate governance mechanisms and CEO Duality". The results reveal a not meaningful relationship between Board's size and CEO duality, and a significant positive relationship between the Board's Independence and CEO duality.

Kholief, (2008) conducted a study on 50 most active Egyptian listed firms, by using the financial statements for the year 2006. It is revealed that the companies with large boards and low top management ownership corporate performance is negatively affected by CEO duality and positively affected by institutional ownership.

Petra & Dorata, (2008) confirmed the link between the level of performance-based incentives and corporate governance structures and the authors concluded that the presence of CEO duality reduces the risk of giving managers incentives. The lower outstanding performance record and the number of incentives been given will influence by the size of the board.

Arlman, (2004) showed the results empirical research into the practice of CEO duality in S&P 500 and FTSE 100 firms. Arlman show that 76% S&P 500 companies have the same chairman as chief executive, while for FTSE 100 companies, it is only 4%. The author tested succession theory by comparing the average tenure for CEO s in different situations. The average tenure for all companies in the S&P 500 was 6.3 years. In companies with a dual CEO and chairman, the tenure was higher at 7.2 years, while companies with a different person as CEO the average were 3.4 years.

Yermack, (1996), using data from Finland discoverd negative correlation between board size and profitability. Eisenberg, Sundgren, & Wells, (1998) also reports that small size boards are positively related to high firm performance. Mak & Kusnadi, (2005) using sample of firms in Malaysia and Singapore, find that firm valuation is highest when board has 5 directors, a number considered relatively small in those markets. In a Nigerian study, Sanda, Mikailu, & Garba, (2003) report that firm performance is positively correlated with small, as opposed to large boards.

In empirical contrast to the Demsetz & Lehn, (1985) findings, in line with the beneficial effects of ownership, Morck, Shleifer, & Vishny, (1988) found that firm performance first rises as ownership increases up to 5%, then falls as ownership increases up to 25% and then rises slightly at higher ownership levels. They support the theory that managers tend to allocate the firm's resources in their own best interests, which may conflict with those of shareholders.

McConnell & Servaes, (1990) provide further evidence on the relationship between the distribution of equity ownership and firm value and find a significant curvilinear relation between *Q* and the fraction of shares owned by corporate insiders. Specifically, they find that *Q* first increases, then decreases as share ownership is concentrated in the hands of managers and board members. Based on the data of Iranian Banking Sector and using panel data methodology over a four-year period from years 2008 to 2011,

3.0 Research Methodology

This study adopted ex-post facto research design, which justified the ground that it is suitable for quantitative analyses of data gleaned from historical events, phenomena and occurrences (Osuagwu, 2006) (Kothari & G., 2016). Secondary data, obtained from annual reports of the selected listed firms, were collected. These data spanned from years 2012 to 2019. Year 2012 was selected as the start year because it was the year listed firms in Nigeria published IFRS-complaint financial statements for the first time, and more importantly, to allow for the uniformity of data collected, in terms of the financial reporting framework with which they were prepared. Data for year 2020 data would have been collected but for the fact many of these firms are yet to publish their audited financial statements while year 2019 served as the cut off year for this study. Fourteen (14) listed consumer goods firms were selected as samples from the population, after applying filter, defined by complete dataset.

The study examined the effect of the board structure on financial performance of selected consumer goods firms in Nigeria. The dependent variable is financial performance, proxied by profit after tax margin. However, the independent variable is board structure, operationalised as board gender diversity and executive directors' numerical strength. In line with extant studies, size was adopted as control variable, based on the fact that it was regarded as one of the determinants of firm's financial performance. Operationally, these variables are defined below:

Variables	Operational Definitions
PBTM	Ratio of Profit Before Tax to Revenue
PATM	Ratio of Profit After Tax to Revenue
BGD	Ratio of Male Directors to Total Number of Directors
EDNS	Ratio of Executive Director to Total Number of Directors
SZ	Natural Logarithm of Total Assets

*(**EDNS** stands for Executive Director Numerical Strength; **BGD** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

The following models were estimated:

$$PATM_{it} = \alpha_1 + \alpha_2 BGDV_{it} + \alpha_3 EDNS_{it} + \alpha_3 SZE_{it} + \mu_{it} \ldots\ldots\ldots(1)$$

To determine the sensitivity of the above model to alternative measures, model (2) was estimated:

$$PBTM_{it} = \beta_1 + \beta_2 BGDV_{it} + \beta_3 EDNS_{it} + \beta_3 SZE_{it} + \upsilon_{it} \ldots\ldots\ldots(2)$$

The data gathered were paneled, using Ordinary Least Square method of regression (pooled, fixed and random effects), based on the stationarity properties of the variables. This was needful to avoid spurious results. Post-estimation test of multicollinearity was carried using correlation matrix.

4.0 Data Presentation, Analyses and Results

Results in table 4.1 showed the descriptive statistics on the variables employed in this study, revealed that the executive directors' numerical strength is average of 23.9% of the board size, this suggest that non-executive directors or independent directors are in the majority of the boards of the fourteen selected listed consumers goods firms during the years under

review. The mean of board gender diversity of about 84.5% clearly showed the dominance of male directors relative to their female counterparts. Average profit after tax margin and profit before tax margin were 4% and 7.6% respectively, while the average size of these firms hovers around N75.5 billion. The skewness, kurtosis and Jarque-Bera statistics revealed the asymmetric distribution of the data for the variables, except that of executive directors' numerical strength and board gender diversity.

Table 4.1:
Group Descriptive Statistics on Variables

	EDNS	BGDV	PATM	PBTM	SZE
Mean	0.239243	0.845075	0.040075	0.076799	75541716
Median	0.200000	0.839744	0.045504	0.062150	44745235
Maximum	0.500000	1.000000	0.848143	1.240047	3.44E+08
Minimum	0.000000	0.700000	-1.41207	-1.08039	261735.0
Std. Dev.	0.126836	0.097540	0.207464	0.204126	80675899
Skewness	0.524491	0.248612	-3.89625	-0.68441	1.345744
Kurtosis	2.396345	1.865226	30.51975	22.14307	4.316307
Jarque-Bera	6.835565	7.163069	3817.612	1718.878	41.89161
Probability	0.032785	0.027833	0.000000	0.000000	0.000000
Sum	26.79519	94.64843	4.488378	8.601531	8.46E+09
Sum Sq. Dev.	1.785690	1.056062	4.777604	4.625073	7.22E+17
Observations	112	112	112	112	112

(Source: Authors' Computation aided by EViews, version 10.0 (2021))

*(**EDNS** stands for Executive Director Numerical Strength; **BGDV** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

4.2 Stationarity Properties of Data

Results in table 4.2 revealed the stationarity properties of the data. From the table, it can be deduced that the variables were stationary at levels, indicating that their means, variances and autocorrelations were constant over time. This has positive implication for their long run properties. With these results, employing ordinary least square in estimating the models was econometrically appropriate.

Table 4.2:

Results of Unit Root Test using Levin, Lin & Chu t* Model

Variables	Levin, Lin & Chu t*		Order of Stationarity
	Statistic	p-value	
EDNS)	-7.10949	0.0000***	I(0)
BGDV)	-10.2953	0.0000***	I(0)
PATM)	-8.01702	0.0000***	I(0)
PBTM)	-3.21728	0.0006***	I(0)
SZE)	-6.62911	0.0000***	I(0)

(Source: Authors' Computation aided by EViews, version 10.0 (2021))

***p<0.01; **p<0.05; *p<0.10

*(**EDNS** stands for Executive Director Numerical Strength; **BGDV** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

4.3 Test of Hypotheses

Two pertinent hypotheses were formulated and tested, with results shown in table 4.3.

Hypothesis One

H₀: Board gender diversity does not have a significant influence on profit after tax margin of selected listed consumers' goods firms in Nigeria;

Hypothesis Two

H₀: Executive directors' numerical strength does not have a significant effect on profit after tax margin of selected listed consumers' goods firms in Nigeria.

From the results in table 4.3, fixed effect model appears to be the fittest, based on the magnitude of its R2. For the fixed effect model, the partial coefficient of Profit after tax margin with respect to board gender diversity, executive directors' numerical strength and size are -0.55, -0.40 and -0.00 respectively, presupposing that there is a negative relationship between the following pair of variables: profit after tax margin and board gender diversity; profit after tax margin and executive directors' numerical strength and profit after tax margin and size. These coefficients are not statistically significant at 1%, 5% and 10% on the individual basis. However, they tend to have a joint significant influence on profit after tax margin, when combined, as shown with a F-statistic of 2.518.

Reinforcing these results, the R2 suggests that about 39.69% of the variations in profit after tax margin are attributable to board gender diversity, executive directors' numerical strength and size, while the balance of 60.31% are accounted for by other variables, not explicitly captured in the model. Based on these results, the null hypotheses that board gender diversity does not have a significant influence on profit after tax margin of selected listed consumer goods firms stand accepted. Similar decision is also made for hypothesis two.

Table 4.3:

Results of Test of Hypotheses One and Two

Variables	Pooled Effect	Fixed Effect	Random Effect
Constant	2.564198***	1.773868*	2.246306**
	(0.205401)	(0.346901)	(0.0267)
BGDV	-2.866909***	-1.515406	-2.351737**
	(0.213968)	(0.363195)	(0.26079)
EDNS	0.076723	-0.660306	-0.425672
	(0.169733)	(0.473173)	(0.238928)
SZE	1.911266*	-0.838898	0.523755
	(2.42E-10)	(5.59E-10)	(3.19E-10)
R^2	10.99%	39.69%	5.64%
F-Statistic	4.444576***	2.518064***	2.153996*

(Source: Authors' Computation aided by EViews, version 10.0 (2021))

Standard Errors in parenthesis

***p<0.01; **p<0.05; *p<0.10

*(**EDNS** stands for Executive Director Numerical Strength; **BGDV** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

4.4 Multicollinearity

Results in table 4.4 revealed correlation matrix for all the variables. From the table, it can be deduced that none of the regressors have very correlation coefficient, except between profit after tax margin and profit before tax margin, which reported a correlation coefficient of 0.9565; a coefficient that is expected between such variables. The study is therefore persuaded to draw the inference that the models have no serious problem of multicollinearity, thereby avoiding the problem of spurious regression and wrong signs of regression coefficients.

Table 4.4:

Results of Correlation Matrix

	EDNS	BGDV	PATM	PBTM	SIZE
EDNS	1.0000				
BGDV	-0.4257	1.0000			
PATM	0.0702	-0.2774	1.0000		
PBTM	-0.0033	-0.2498	0.9565	1.0000	
SIZE	-0.2487	0.0421	0.1694	0.1476	1.0000

(Source: Authors' Computation aided by EViews, version 10.0 (2021))

*(**EDNS** stands for Executive Director Numerical Strength; **BGDV** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

4.5 Sensitivity Test

From the results in table 4.5, fixed effect model seems to be the fittest, judging by the size of its R2 of 42.20%. For the fixed effect model, the partial coefficient of Profit before tax margin with respect to board gender diversity, executive directors' numerical strength and size are -0.34, -0.33 and -0.00 respectively, also indicating that there is negative relationship between the following pair of variables: profit before tax margin and board gender diversity; profit before tax margin and executive directors' numerical strength and profit before tax margin and size. These coefficients are also individually not statistically significant at 1%, 5% and 10%. However, they tend to have a joint significant influence or effect on profit after tax margin, when combined, as shown with a F-statistic of 2.95.

In support of these results, the R2 suggests that about 42.2% of the variations in profit before tax margin are attributable to board gender diversity, executive directors' numerical strength and size, while the balance of 57.8% are accounted for by other variables, not clearly captured in the model. On the bases of these results, the null hypotheses that board gender diversity does not have a significant influence on profit after tax margin of selected listed manufacturing firms stand accepted. Similar decision is also made for hypothesis two. These results showed that results in model (1) in respect of hypotheses (1) and (2) are not sensitive to how the dependent variable is measured.

Table 4.5:
Results of Sensitivity Test for Hypotheses One and Two

Variables	Pooled Effect	Fixed Effect	Random Effect
Constant	2.999609***	1.590493	2.197996**
	(0.203841)	0.334109	0.25267
BGDV	-2.919601***	-0.981843	-1.920901*
	(0.212343)	0.349802	0.25922
EDNS	-0.912997	-1.234167	-0.986724
	(0.168444)	(0.455724)	(0.242265)
SZE	1.438281	-0.732872	-0.024443
	(2.40E-10)	(5.38E-10)	(3.20E-10)
R2	9.44%	42.20%	3.58%
F-Statistic	3.754819***	2.794822***	1.336937

(Source: Authors' Computation aided by EViews, version 10.0 (2021))
Standard Errors in parenthesis
***p<0.01; **p<0.05; *p<0.10

*(**EDNS** stands for Executive Director Numerical Strength; **BGDV** represents Board Gender Diversity; **PATM** is defined as Profit After Tax Margin; **PBTM** Stands for Profit Before Tax Margin; while **SZ** is defined as Size of firm)*

4.6 Discussion of Findings

Results from the above analyses showed that the executive directors' numerical strength averaged 23.9% of the board size. This presupposes that that non-executive directors or independent directors were in the majority on the boards of these fourteen (14) selected listed

consumers' goods firms during the eight (8) years period. The mean of board gender diversity of about 84.5% clearly showed the dominance of male directors relative to their female counterparts. Average profit after tax margin and profit before tax margin were 4% and 7.6% respectively, while the average size of these firms hovers around N75.5 billion.
Additional analyses revealed from hypothesis one that board gender diversity does not have a significant influence on profit after tax margin of selected listed consumers' goods firms. This result is in line with the study of (Eulerich, Velte, & Van Uum, 2014), where it was shown that board diversity characteristics have negative effects on corporate performance. It also supports that of (Badayi, 2015).

Further results from hypothesis two showed that executive directors' numerical strength does not have a significant effect on profit after tax margin of selected consumers' goods firms. This finding, however, is in agreement with the studies of (Ponnu & Karthigeyan, 2010) and (Rashid, 2017). The study of Ponnu & Karthigeyan, (2010) revealed that there is no convincing evidence that the provisions as outlined in Malaysian Code of Corporate Governance as regards outside directors have any positive effect on corporate performance.

5.0 Conclusion and Recommendations

Despite the available evidence on the nexus between board structure and financial performance, lacunae still exist on how board structure, operationalised as board gender diversity and executive directors; numerical strength influence financial performance measured using profit after tax margin and profit before tax margin in Nigeria, in the post International Financial Reporting Standards (IFRSs) adoption era. Motivated by these gaps, this paper investigated the effects of Board Structure on Financial Performance of consumers' goods firms in Nigeria. To achieve the study's objective, two objectives were specified and two hypotheses were formulated. Data of secondary nature, which spanned years 2012 to 2019 were collected from fourteen (14) firms in the consumer goods sector using judgmental sampling technique. The data were collected from the annual reports of these firms. The data were econometrically analysed using ordinary least square, highlighting pooled, fixed and random effects. Results revealed that board gender diversity does not have a significant influence on profit after tax margin of selected listed consumer goods firms. It was further revealed that Executive directors' numerical strength does not have a significant effect on profit after tax margin of selected listed consumer goods firms. Based on these findings, the study concluded that board structure does not have significant influence of financial performance of listed consumers' goods firms in Nigeria.

The study, therefore, recommended that regulatory bodies should evolve practices by designing robust policies that would address acute female under-representation on the boards of listed consumers' goods firms in Nigeria. It was also recommended that a good balance should be sought and obtained, through policies and proactive, practical measures, between the numerical strength of executive directors and that of their non-executive counterparts.

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