Corporate Boards and Firm Value: Evidence from Nigeria

ABSTRACT

Aim: The basis for the formation of the corporate board is to, among others, give strategic direction to the firm, monitor the activities of the salaried agents and reduce the likelihood of disincentive to investment. The aim of this study is to examine the efficacy of corporate boards in relation to the value of firms listed in Nigeria.

Study Design and Methodology: It is a cross-sectional research design that empirically examined the influence of board mechanisms and Tobin's Q of firms listed on the Nigerian Stock Exchange. The study used annual data of a panel sample of 85 firms from 2004 through 2023, It applied a Generalized Least Squares (GLS) econometric technique.

Place and Duration of Study: This study examined the role of the boards of firms listed on the Nigerian Stock Exchangebetween 2004 and 2023.

Results: The findings argued in favour of smaller boards, increased board independence and higher market capitalisation since they showed significant improvements in value of the firms in the sample. The findings imply that smaller boards that are highly independent tend to have better corporate governance and thus, superior firm value.

Conclusion: In conclusion, the results advocate that the regulatory agencies and boards of the studied firms enact policies that will encourage minimum board sizes that are sufficiently independent.

Key Words: Corporate Boards, Firm Value, Nigeria

1. INTRODUCTION

Corporate governanceencompassesthe systems and processes by which firms are directed and controlled. It ensures responsibility, transparency, accountability and the protection of the interests of shareholdersand other stakeholders. Within the purview of corporate governance, the composition and efficacy of the corporate board are quite germane sincethe latteris entrusted with oversight responsibilities and strategic decision-makingpitched towards influencing the performance of firms and by extension,value creation.

Nigeria has witnessed significant economic growth and increased foreign investment in the last few decades (Tarasa & Ahmad,2023), accentuating the criticality of robust corporate governance practices to sustain this momentum and improve investor confidence. However, corporate governance in Nigeria presents unique challenges including but not limited to substantial cases of exploration of investors, free-riding, moral hazards and consumption of perquisites that impact board effectiveness, firm performanceand consequently collapse of the firm.

While corporate governance mechanisms, particularly, the size, composition, diversity and functioning of corporate boards have been extensively studied in developed economies, a notable gap exists in the extant literature regarding their impacts on firm value in emerging market economies such as Nigeria. Despite the growing importance of corporate governance practices in shaping firm valuation and scholarly efforts linking corporate governance and performance of the firm, empirical evidence on the relationship between corporate boards and the value of the firm in Nigeria remains limited and inconclusive.Despite significant research and scholarly efforts linking corporate governance mechanisms and firm performance, there is no

consensus on how to resolve the owner-manager problem because the findings are mixed and tenuous (see Kyereboah-Coleman, 2007;Sanda et al., 2010, Abubakar, 2014; Shaba & Yaaba, 2023) which usuallystem from the methodologies adopted by researchers which arearguably restricted in scope (Shaba & Yaaba, 2023).In other words, researchers have not reached agreement on the strength of the relationship between various corporate governance mechanisms and firm performance.However, the lack of consensus has produced a variety of possible methods on how to resolve the problem.

To the best of our knowledge, there is hardly any empirical literature that exhaustively considered a combination of the most widely used board mechanisms in Nigeria and covering twenty (20) years. This study is therefore an attempt to cover these gaps. It used a panel data of eighty-five (85) firms listed on the Nigerian Stock Exchange (NSE) from 2004 through 2023 toexamine the influences of board size, board independence, gender and foreign diversities, firm age and market capitalisation on firm valuation metric (Tobin's Q). Moreover, by considering the unique socio-economic and regulatory context of Nigeria, the study alsooffers nuanced insights that can inform corporate governance reforms and strategic initiatives aimed at enhancing shareholder value and sustainable growth in the Nigerian corporate sector.

Hypothesis of the Study

In line with the objective of this study, the following hypothesis is formulated:

i. There is no significant relationship between board size, board independence, gender diversity, foreign diversity, market capitalisation and firm age and Tobin's Q of firms listed in Nigeria.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This section presents the theoretical framework that underpins the relationship between corporate boards and the value of the firm. Empirical relationships between the size and independence of the board and gender and foreign diversities were extensivelyreviewed.

2.1 Theoretical Framework

The use of the agency theory as a theoretical framework in corporate governance research is widespread (Shaba & Abdulkarim, 2023). The theory, propounded by Ross and Mitnick in 1973 (Mitnick, 2006) posits that in the presence of information asymmetry, the agent (company employees, managers and directors) tends to pursue interests and preferences that may be detrimental to those of the principal – the shareholder (Ross, 1973; Fama, 1980). The theory argues that the major crux of corporate governance is pitched on how to construct mechanisms that effectively and efficiently align these divergent behaviours at the level of the firm (Turnbull, 1997), thus, ensuring that the agents who pursue their interests also pursue the collective interests.

One such mechanism designed to align the conflicting interests of the parties is the monitoring of the activities of corporate agents. Hitherto, the best framework is and has been the formation of an effective and efficient board of directors (Donaldson & Davis, 1991). The efficacy of the corporate board, however, depends on its composition, i.e., an optimal mix of inside and outside directors (Weisbach, 1988; Hermalin&Weisbach, 1991; Mehran, 1995; Yermack, 1996; John &Senbet, 1998; Bhagat & Black, 2002; Booth, Cornett & Tehranian, 2002; Sanda et al., 2011; Wilcox &Osho, 2020;Ogabo, Ogar&Nuipoko, 2021; Shaba and Yaaba, 2023) and diversity in the

board structure (Abubakar, 2014; Shaba & Yaaba, 2023). In addition, board composition and diversity encourage managers and board members to act ethically (Fields & Keys, 2003).

Another board attribute that is capable of mitigating the agency problem is its size. Lipton and Lorsch (1992), Yermack (1996), Huther (1997) and Eisenberg, Sundgrenand Wells (1998) among others argued that board size is a good monitoring mechanism. However, empirical evidence on the optimal size of the board is inconclusive. To some scholars, smaller boards are more effective. For instance, Lipton and Lorsch (1992), Monks and Minow (1995), Sanda et al. (2010)and Shabaand Yaaba (2023) among others suggest an optimal board size of nine or fewer. According to them, an average size of nine or fewer is more capable of monitoring the divergentbehaviours of management than larger boards. Yermack (1996) also proposed a board size of ten or fewer positing that the smaller the size of the board, the higher the performance. Scholars in this category premised their arguments on the grounds that smaller boards make decisions faster, communicate easier, and are less costly as against a large board which constitutes an obstacle to change due to slow decision-making.

On the contrary, however, Kyereboah-Coleman (2007) among others maintain that larger boards reduce the possibility of free-riding and therefore have the tendency to boost firm value. This is based on the ground that a large board enables the firm to draw from a broader range of relevant knowledge, skills, expertise and experiences in appointing directors to the board because of the value the diverse members add as a result of bringing new, cross-fertilized ideas and different perspectives to the table. A large board is also believed to be more effective in monitoring financial reporting and harder for a powerful CEO to dominate.

Abrams (1951) opined that one argument against the strict agency theory is its narrowness, by identifying shareholders as the only interest group of a corporate entity, necessitating further exploration. By expanding the spectrum of interested parties, the stakeholder theory stipulates that a corporate entity invariably seeks to provide a balance between the interests of its diverse stakeholders to ensure that each stakeholder receives some degree of satisfaction. John andSenbet (1998) emphasized the role of non-market mechanisms such as the size of the board and diversity in the board structure as important to firm performance.

Porter (1992) and Blair (1995) also argued that the stakeholder theory seeks to provide the ‘voice’ and ‘ownership-like incentives’ to critical stakeholders by encouraging employee ownership, and board representation by significant customers, financial advisers, employees, suppliers and community representatives to the corporate board. Blair (1995) added that board members must understand that they are the representatives of all the important stakeholders in the firm. Thus, individuals who explicitly represent critical stakeholders should be put on the board to give those stakeholders some assurance that their interests will be considered. Although Blair (1995) acknowledged that conflicts of interest could result butcan be reduced by ensuring that all stakeholders receive an equity stake proportional to their firm-specific investments. Despite its limitations, the stakeholder theory remains a major point of reference in this study and other corporate governance discussions.

2.2 Board of Directors and Firm Value

A large strand of empirical literature abounds providing evidence in support of the critical role and/or otherwise of the corporate board in determining firm value. This section provides

elaborate insights into the literature that studied the role of board attributes in relation to Tobin's Q.

2.2.1 Board Size and Firm Valuation

Debates on the size of the board as a determinant of firmperformance abound in the extant literature. Many studies using different estimation techniques and sample sizes in different sectors and climes support the view that large boards improve Tobin's Q. For instance, Belkhir (2009) found a significant positive impact of board size on a sample of 260 US banks and Savings-and-Loan Holding Companies (SLHCs) between 1995 and 2002.More recent corporate governance studies have also provided empirical reasons to prove that larger boards are better for firm performance, Tobin's Q. For instance, AdewuyiandOlowookere (2008) examined a sample of 64 nonfinancial firms listed on the Nigerian Stock Exchange and found Tobin's Q to increase as board size increases.Similarly, Shaba and Yaaba (2023) found an increase in board size to be associated with improvements in Q of 93 Nigerian listed firms between 2004 and 2021. Other scholars who also argued in favour of large board size include Kyereboah-Coleman andBiekpe (2006d), Kyereboah-Coleman (2007) and Abubakar (2014)among several others.

Contrary to the above are corporate finance scholars who argued based on empirical shreds of evidence that smaller boards are more effective in discharging their oversight responsibilities. For instance, Lipton and Lorsch (1992), Jensen (1993), Yermack (1996), Musa (2006), Sanda et al. (2010), VintilaandGherghina (2012), Thompson, Dogarawaand Fodio (2016)and more recently, ShabaandMaishanu (2023)prefacing their arguments on the grounds that smaller boards make decisions easier and fasteras well as less expensive, hence, are better for the performance of the firm.

However, Obembe, Adebisi andAdeleye (2010), Hassan (2010), Awunyo-Vitorand Badu (2012), and Garba andAbubakar (2014) could not find any evidence to prove that the size of the boardinfluencesTobin's Q of their respective samples.

2.2.2 Board Independence and Tobin's Q

The current national corporate governance code - theNigerian Code of Corporate Governance 2018- issued by the Financial Reporting Council of Nigeria, stipulateshigher number of outside (non-executive and independent non-executive) directors relative to their executive counterparts (FRCN, 2018). Similarly, sector-specific codes which complement the national code including those issued by the Pension Commission (PENCOM) in 2021, the National Insurance Commission (NAICOM) in 2021, the Nigerian Communications Commission (NCC) in 2023 and the Central Bank of Nigeria (CBN) in 2023 also stipulatethat the board be composed ofa higher proportion of non-executive directors. The objective is to ensure independence, guarantee effective monitoring and other board oversight responsibilities.

Hitherto, many studies have provided empirical pieces of evidence in support of the influential role of independent boards in boosting thevalue of the firm. Bhagat and Black (2002), for instance, examined a sample of 957 large American public corporations and concluded that low profitability of firms increases the independence of their boards of directors, corroborating an earlier view that directors are more effective during periods of low performance and vice-versa.

Further, Javed and Iqbal (2007) and Abubakar (2014) contended that the higher the proportion of outside directors, the better theperformance of the firm. Similarly, the position of Shaba

andMaishanu (2023) is that the more outsiders on a bank's board, the higher the performance in terms of Tobin's Q.

Against the necessitation of the NCCG 2018, other codes and the position of some scholars, higher board independence is akin to stiffer monitoring which reduces the managers' discretion to act and thus culminates inlower firm performance. It is in line with this view thatKyereboah-Coleman (2007),AdewuyiandOlowookere (2008),Tukur and Abubakar (2014), Thompson et al. (2016),Ogabo et al. (2021) and Shaba and Yaaba (2023) argued that board independence reduces the Tobin's Q., On the other hand, Vintila and Gherghina (2012), Hassan (2010), Sanda et al. (2010) and Shaba, Ahmad and Abubakar (2018) could not find any econometric evidence to prove that board independence exerts any influence on performance as measured by Tobin Q.

2.2.3 Gender Composition and Firm Valuation

Empirical arguments on whether women play important roles in influencing firm valuation are extensive in the corporate governance literature. Whilst some scholars posit that their presence on the board improves performance, some opine that it is detrimental. Yet, others are of the view that variations in gender board composition are not a basis for determining performance. Adamsand Ferreira (2009) argued that female directors on the board have a significant impact on board inputs and firm performance. The authors examined 1,939 Standard and Poor's 500, Standard and Poor's MidCap and Standard and Poor's SmallCap US firms positing that gender diversity increases and decreases Tobin's Q of firms with weak and strong corporate governance arrangements, respectively.

Furthermore, Tukur and Abubakar (2014), Thompson et al. (2016), Shaba and Yaaba (2023) and Shaba andMaishanu (2023) argued in favour of gender-diverse boards. According to these scholars, gender-friendly boards are associated with superior valuation of the firm.Ogabo et al. (2021) argued against the view that a higher number of women on the board improves performance when the authors examined a sample of 48UK firms.On the contrary, Garba and Abubakar (2014) could not find proof that variations in the proportion of women on the board are associated with variations in Q.

2.2.4 The Role of Foreign Directors

Unlike other board attributes, studies connecting foreign directors and Tobin's Q are limited in the literature. Whilst some scholars are of the view that the presence of foreign directors is associated with foreign expertise, finance and technical know-how and thus boosts performance, others are of the opinion that their presence does not help improve performance in their host countries.

In their separate studies, Tukur and Abubakar (2014) and Shaba and Yaaba (2023) revealed significant positive effects of foreign director composition on performance as measured by Tobin's Q positing on the need to increase the presence of foreigners on the boards of Nigerian listed firms to maximise performance.

3. METHODOLOGY

This section covers the techniques used in data collection and analysis. It comprises of methods of data collection and analysis, sample size, sampling procedure and model specification.

3.1 Data

The study covers only firms that were present on the NSE throughout the study period to ensure a balanced panel data set. Firms that were listed before 2004 and those delisted from the market or crumbled in between the study period were not included in the sample. Thus, a sample of 85 out of 151firms listed on the Nigerian Stock Exchange as of December 31, 2023, were covered.

The data covered twenty years (2004-2023) and were obtained from the annual reports and accounts of the individual firms. It is a panel research design that seeks to examine the influence of corporate boards onTobin's Q of the sample firms. The base year – 2004 – was selected because the first corporate governance code was issued by the Securities and Exchange Commission (SEC) in November 2003 and became effective the following year, 2004. The end year2023, was chosen because of dataavailability, as annual reports and accounts were not available for 2024.

3.2 Estimation Technique and Procedure

The study utilised a Generalized Least Square (GLS) which takes the form of Pooled Ordinarily Least Squares (POLS) Model, Fixed Effects Model (FEM) and Random Effects Model (REM) to establish the most appropriate regression that is most suitable for the data set employed in the study - a balanced panel (Salawu, 2007; Greene, 2008). Given the weaknesses associated the POLS Model, the study applies the FEM and REMand conducts a Hausman test to determine the best which is used for analysis.

The generalised form of the GLS equation is stated thus:

$$Y_{it} = \alpha + X'_{it}\beta + \varepsilon_{it} \qquad (1)$$

β is a (K × 1) vector, the slopes, independent of *i*and*t*, and μ_{it}, the error which varies over *i* and *t*.

Where:
Y is the dependent variable (Tobin's Q);
αis theintercept;
$X'_{it}$is a K-dimensional vector of explanatory variables, without a constant term;
β is a (K × 1) vector, the slopes, independent of *i*and*t*, and μ_{it}, the error which varies over *i* and *t*.
ε is the error term (assumed to have zero mean and independent across time) which incorporates the cumulative effects on *Y* of factors not included in the model;
Subscripts *i* and *t* are firms and time dimensions, respectively.

The FEM equation is given as:

$$Y_{it} = \alpha_i + X'_{it}\beta + \mu_{it} \qquad (2)$$

Where α_i are individual intercepts and fixed for each N. All other variables are as defined under equation (1).

The REM is given as:

$$Y_{it} = \beta_0 + X'_{it}\beta + \alpha_i + \mu_{it} \qquad (3)$$

From equation (3), the error is decomposed into two components: α_i which is an individual-specific component that does not vary over time and is homoscedastic across firms, and μ_{it} which is uncorrelated with both *i* and *t*. Both errors areμ_{it} and *iid*σ_α^2.

The estimated version of the equations takes the form:

$$Q_{it} = \alpha + \delta BSize_{it} + \omega BInd_{it} + \pi ForDiv_{it} + \lambda GenDiv_{it} + \vartheta FAge_{it} + \xi MC_{it} + \mu_{it} \quad (2)$$

Where *Q* stands for Tobin's Q, *BSize*presages board size, *BInd* signifies board independence, *GenDiv* means gender diversity,*ForDiv* implies foreign diversity,*FAge* is taken as firm age and *LMC*connoteslogarithm of market capitalisation. The notations δ, ω, π, λ,ϑandξ are the coefficients of the estimated parameters and α and μ are as defined under (1).

3.4 Variable Description and Estimation

While the study utilised board size and firm age as reported by the firms in the sample, the rest variables were further processed using various equations.

Table 1: Variable Description and Measurement

Variable	Description	Estimation
Q	Tobin's Q	$= \frac{Market\ Capitalization}{Total\ Assets}$
BSize	Board Size	$= Total\ number\ of\ board\ members\ in\ a\ year$
BInd	Board Independence	$= \frac{Total\ Number\ of\ Nonexecutive\ Directors}{Board\ Size}$
GenDiv	Gender Diversity	$= \frac{Total\ Number\ of\ Female\ Directors}{Board\ Size}$
ForDiv	Foreign Diversity	$= \frac{Total\ Number\ of\ Foreign\ Directors}{Board\ Size}$
MC	Market Capitalization	= NOSO*MPS
Fage	Firm Age	= Number of years of listing at the NSE

Note: NOSO is the number of ordinary shares outstanding and MPS is the market price per share.

4. RESULTS AND DISCUSSION

This section presents, interprets and discusses both the pre-estimation diagnostics (i.e., summary statistics and correlation),estimated results and post diagnostic test.

4.1 Descriptive Statistics

In a multivariate analysis such as this, the need to examine the features of the data used in the estimation and the distribution of the response and explanatory variables is imperative. Equally important is a descriptive statistic that enables a preliminary insight into the association between the regressors and each of the response variables.

Table 2 presents the summary statistics of the data used in this study. A mean Tobin's Q of ₦1.36 indicates efficiency in investment decisions on the part of the management since ₦1 investment in total assets earned ₦1.36 year-end market capitalisation implying that, on average, Nigerian listed companies are worth 36% more than the cost of their assets.

Table 2: Summary Statistics

Variables	Mean	Median	Max.	Min.	Obs
Q	1.36	0.49	64.18	0.00	1,700
Bsize	9	9	20	3	1,700
BInd	0.7419	0.7500	1.0000	0.0909	1,700
GenDiv	0.1330	0.1111	0.6667	0.0000	1,700
ForDiv	0.1826	0.1000	1.0000	0.0000	1,700
MC (NBillion)	74.60	6.06	4,850.00	0.41	1,700
FAge	28	28	59	1	1,700

Table 2: Summary statistics

The average board size is 9 with the maximum and minimum standing at 20 and 3 respectively. The firms in the sample have, on average, moderate board sizes, which is consistent with average board sizes reported by Thompson and Chu (2002) and Mak and Kusnadi (2005) for Singaporean firms; Elmghaamez and Xin Yao (2023) for listed firms in Singapore, Thailand and Malaysia; Bonn, Yoshikawa and Phan (2004) for Australian firms, Sanda et al. (2010), Abubakar (2014), Shaba (2016), and Shaba and Yaaba (2023) for firms listed in Nigeria.

Considering board independence, the statistics show that, of the total board size, 74.19% are outside (non-executive) directors inferring that 25.81% act in the executive capacity. The implication is that boards of Nigerian listed firms are, on average, independent. This complies with the provision of the NCCG 2018 and sectoral codes which necessitate a higher proportion of non-executive directors to effectively monitor their executive counterparts and improve performance. This result also supports the works of Fama (1983), Bhagat and Black (2000), Sanda et al. (2010), Abubakar (2014), Shaba et al. (2018), and Shaba and Yaaba (2023) which reported a higher proportion of non-executive directors.

Of the members sitting on the boards of the sample firms for the study period, only a paltry 13.3% are women despite increasing gender activism in the corporate world. However, this result indicates an improvement in the number of female participations on Nigerian corporate boards as earlier studies by Sanda, MikailuandGarba (2005)and Abubakar (2014) reported only 4.9% and 7.5% of all directorships.

The summary statistics also showed that foreign directors constitute an average of 18.26% of the total board size of the firms studied. The maximum and minimum of 100.00 and 0.00 per cents imply that there exist firms with the entire board members as foreigners and without a foreigner on the board, respectively.

For firm age, the study found that the oldest firm was 59 years old as at end of 2023while the youngest was a year old as of the end of 2004 with the average age standing at 28. This finding implies that most of the studied firms are experienced and should be at an advantage or disadvantage depending on whether or not they effectively utilised their experiences.

Finally, the data reported a mean, median, maximum and minimum of ₦74.6 billion, ₦6.06 billion,₦4.85 trillion and ₦4.07 million market capitalizations, respectively.

4.2 Correlation Analysis

Table 3 shows that there are significant negative correlations between board size, gender diversityand firm age on one hand and the objective function, Q on the other. On the contrary, board independence, foreign diversity and market capitalisation arepositively and significantly associated with Q. The implications are that a 100% increase in board size, gender diversity and firm ageis associated with12.68,16.64 and 4.44per centdecreasesin Q, respectively.

Table 3: Correlation Analysis

Variables	LQ	Bsize	BInd	GenDiv	ForDiv	LMC	FAge
LQ	1.0000						
BSize	-0.1268*	1.0000					
BInd	0.1159*	-0.2322*	1.0000				
GenDiv	-0.1664*	0.0702*	-0.0988*	1.0000			
ForDiv	0.1798*	-0.0290*	0.1060*	-0.2261*	1.0000		
LMC	0.2189*	0.5760*	-0.3189*	0.1320*	0.2147*	1.0000	
FAge	-0.0444***	-0.1062*	-0.0038	0.1553*	0.2276*	0.0656*	1.0000

Note: *, **, *** represent 1.0, 5.0 & 10.0 per cents respectively

Table 3: correlation Analysis

Dissimilar to the above are positive correlations signifying thata 100% increase in board independence, foreign diversity and LMCcorrelate with11.59, 17.98 and 21.89 per cents increase in Q, respectively.

4.3 Inferential Results and Discussion

The Hausman (1978) test shows a Chi-Square (χ^2) value of 303.18 with an associated p-value of 0.0000. This is an indication that the fixed effects model is more preferred for the equation. Thus, the FEM result which forms the basis for the analysis is presented in Table 4.

From Table 4, the Adjusted R^2 is 0.3301 implying that 33.01% of Tobin's Q is aggregately determined by the size of the board, its independence, the proportion of women and foreign directors, the age of the firm and logarithm of market capitalization. The F-statistic of 34.4745 is significant at 1.0% suggesting that variations in Q are adequately explained by the regressors in the model.

In line with the findings of earlier scholars and corporate governance codes of all times and across different sectors in Nigeria, the result suggests that higher board independence leads to superior firm value. The significant positive relationship between Q and the proportion of outside directors proves the critical role they play in monitoring the activities of their executive counterparts. Moreover, the finding corroborates the works of Javed and Iqbal (2007), Abubakar (2014), Sanda et al. (2011), Bebeji, Mohammed and Tanko (2015), Wilcox and Osho (2020) and Ogabo et al. (2021). However, the result contradicts the works of Kyereboah-Coleman (2007), Thompson et al. (2016), Garba and Abubakar (2014) and Shaba and Yaaba (2023) who found board composition and Q to be significant but negatively related.

Against the resource dependence hypothesis and in congruence with the views that smaller boards improve the value of the firm, the results show evidence of a significant negative relationship between the size of the board and Q. The finding corroborates the works of Lipton

and Lorsch (1992), Jensen (1993), Yermack (1996), Musa (2006), Sanda et al. (2010), Vintila and Gherghina (2012), Thompson et al. (2016) and Shaba and Maishanu (2023). These authors found that smaller boards are easier to manage, less costly and make decisions faster. On the other hand, the finding disagrees with the scholars who argued that larger boards enable more representation, experiences, cross-fertilization of ideas and harder for powerful chief executive officers to dominate.

Table 4: Estimated results

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Variables	**Q**		
	Coeff.	**t-Stats**	**Prob.**
C	-8.2494	-19.7806	0.0000
Bsize	-0.1941	-15.6582	0.0000
BInd	2.3298	9.4207	0.0000
GenDiv	-0.6781	-2.8089	0.0050
ForDiv	-0.1790	-1.1791	0.2385
LMC	0.3253	20.1259	0.0000
FAge	0.0127	4.1743	0.0000
R^2	0.3400	**Adj. R^2**	0.3301
AIC	3.1562	**SBC**	3.2394
HQC	3.1870	**DW Stats**	0.3074
F-Stats	34.4745		0.0000
X^2	303.1804		0.0000

Note: BSize = Board Size, BInd = Board Independence, GenDiv = Gender Diversity, ForDiv = Foreign Diversity, Fage = Firm Age, LMC = Log of Market Capitalization, AIC = Akaike Information Criterion, SBC = Schwarz Criterion, HQC = Hannan-Quinn Criterion, DW = Durbin Watson & X2 = Hausman Chi-Square.

Similar to the negative and significant relationship between board size and Q, our findings show that the more the number of women on boards of Nigerian listed firms, the worse the value.The findingsubstantiates that of Ogabo et al. (2021) and contradicts those of Adams and Ferreira (2009), Abubakar (2014), and Thompson et al. (2016) who argued that the higher the proportion of women on corporate boards, the greater the value thereof.

Against the views of scholars who found the proportion of foreign directors to boost the value of firms owing to their technical knowhow and managerial acumen, our results posit that their presence on the boards of Nigerian listed firms is negative and insignificant in explaining variations in Q.This is inconsistent with the positions of Tukur and Abubakar (2014) and Shaba and Yaaba (2023).

In congruence with the view that older firms are more experienced, our findings show that firm age is a good determinant of firm value. Put slightly differently, the results imply that an increase in age is associated with higher firm valuation. This is premised on the ground that older firms receive the benefits of learning and are associated with first-mover advantages. The positive significant relationship between Q and firm age is akin to the empirical work ofAwunyo-Vitorand Badu (2012) but disagrees with that of earlier scholars, Douma, et al. (2003).

Finally, market capitalization is positive and significantly related to Q suggesting that a higher market price per share of the common stock relates to higher firm valuation, a finding that is in congruence with the shareholder wealth maximisation objective.

For endogeneity concern arising from the fact that board characteristics are highly likely to be correlated, the study conducted an endogeneity test, and the result is reported in Table 5. The probability of the F-statistics for the Wald-Coefficient Restrictions in the model is 0.1669 signifying that there is no endogeneity problem. The endogeneity problem is suspected more from board size to other board characteristics (i.e., board independence, gender diversity and foreign director diversity) because they are derived from it, hence the test is conducted on the residuals of the board size equation using Wald test which equate the coefficient of the parameter to zero.

Table 5: Endogeneity test -ward test

Table 5: Endogeneity Test - Wald Test:

Test Statistic	**Value**	**df**	**Probability**
t-statistic	1.382935	1586	0.1669
F-statistic	1.912509	(1, 1586)	0.1669
Chi-square	1.912509	1	0.1667
	Null Hypothesis: C(2)=0		
Normalized Restriction (=0)		Value	Std. Err.
C(2)		0.048484	0.035058

Note: *Restrictions are linear in coefficients.*

5. CONCLUSIONS AND POLICY RECOMMENDATIONS

The basis for the formation of the corporate board is to, among others, give strategic direction to the company, monitor the activities of employees, managers and directors and reduce the likelihood ofdisincentive to investment arising largely from managerial opportunism, either in the form ofexpropriation of investors, misallocation of funds, excessive consumption of perquisites, moralhazards, free riding or other principal-agent problems.

This study is an attempt at joining the league of corporate governance scholars that study the efficacy of corporate boards in relation to the value of firms listed in Nigeria. Using annual datacovering 2004 through 2023, the study applied a Generalized Least Squares (GLS) econometric technique akin to Shaba (2016) and Shaba, Abubakar and Yaaba (2015).

Hence, the study concludes as follows:

i. In line with the views of some scholars, this study found a negative and significant influence of board size on Q positing on the need to minimize the size of the boards of the firms in the sample in order to maximise shareholders' value.

ii. Consistent with the Nigerian codes of corporate best practice, the results suggest that board independence boosts the value of Nigerian listed firms when Q is used as a proxy.
iii. In linewith prior studies, the study found a significant negative effect of gender diversity on Tobin's Q suggesting the need to minimise the appointments of female directors where necessary to enable the sample firmsto improve Q.
iv. An increase in age culminates in higher Tobin's Q. This finding implies that older firms are more experienced which translates to higher valuation.
v. Higher market capitalization improves the value of firms in the sample and, thus, should be maximised.

Consequently, the study advocatesthat:

i. Regulatory authorities and boards of the sample firms should enact policies that will encourage minimum board sizes within the limits of the various sectoral codes of corporate governance since the current national code of corporate governance - NCCG 2018 - does not specify a maximum and minimum number of board sizes but leaves it to the discretion of the sectors.
ii. The study also recommends policies that will usher in the appointment of more outside (independent non-executive and non-executive) directors since board independence boosts firm value.
iii. Firms in the sample should leverage experience as firm age is found to enhance firm value as measured by Tobin's Q.
iv. The boards should enact policies that will maximise the prices of the firms' existing shares since higher market capitalization implies higher value of the firms in the sample.

5.1 Limitations and Suggestions for Further Studies

The limitations of this study are noted below:

First, the study sample was determined by data availability and not a probability criterion, as companies that were listed before 2004 and those that were delisted before 2023 were not captured. Further, since the samples used are typically only based on quoted firms for which it is possible to get reliable data, the findings of this study may thus not be representative for all firms in Nigeria.This study did not tackle the instantaneous effect on corporate performance of any changes in corporate governance structure, but rather concentrates on the relation between four corporate governance mechanisms, two institutional factors and a corporate performance surrogate.The study is within the agency and stakeholder frameworks given the increased support for these theories in the literature. Hence, no other perspectives of interpreting the interrelationships among corporate variables are considered.The effects of the geographical location of the firms and changes in the global economy on corporate performance of Nigerian firms are not studied as these on their own deserve separate studies.The study adopts a panel regression approach to examine the impact of corporate governance mechanisms on Tobin's Q. This is because regression techniques are better measures of relationships. There is also the need to examine qualitative as well as psychological features of board characteristics on corporate performance of Nigerian firms. Therefore, failure to do this is an important weakness.The study also used a panel sample of 85 firms from an average of 151firms listed on

the floor of the NSE between 2004 and 2023. Besides, the analysis did not touch on other governance mechanisms (e.g. shareholder activism, frequency of board meetings, ownership structure, risk management, executive remuneration/compensation contracts, chief executive officer status, the role of debt, the role of transparency, corporate social responsibility, audit committee, dividend policy and legal protections) and performance indicators such as return on assets, return on sales, return on equity, price earnings ratio, earnings per share, return on capital employed, return on investment, residual income, dividend yield, growth in sales, growth opportunities and so on. The need for further studies that will use the entire population of firms and more corporate governance mechanisms and performance indicators is suggested.This study examined the impact of corporate governance mechanisms on performance of firms listed in Nigeria. The need for further studies that will examine the influence of firm performance on corporate governance mechanisms in Nigeria is recommended.

COMPETING INTERESTS

There were no competing interests of any sort.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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Author(s) hereby declare that generative AI technologies such as Large Language Models, etc. have been used during the writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

Details of the AI usage are given below:

1.

2.

3.

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