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Board Gender Equality in the Context of Corporate Market Value of Listed Firms in Nigeria

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Abstract

The study investigates board gender diversity and firm value by employing samples from listed manufacturing firms in Nigeria between the periods of 2012-2021. This study is based on an ex-post facto research and data was collected from the annual report of 46 listed manufacturing firms on the Nigerian Exchange Group. To enhance the robustness of our results, we measure firm value in terms of share price and Tobin Q. Specifically, to control the model's goodness of fit, the study employed the variable of foreign ownership and firm size. Overall, the empirical findings of this study are mixed in proving the effect of board gender diversity on firm value in Nigeria. Specifically, the study concludes that board gender diversity significantly decreases the firm value of listed manufacturing firms in Nigeria when measured in terms of Tobin Q but insignificantly decrease firm value when measured in terms of share price. We also conclude that foreign ownership insignificantly improves the firm value of listed manufacturing firms in Nigeria when measured in terms of Tobin Q but insignificantly decrease firm value when measured in terms of share price. In terms of gender diversity, our result illustrates that Nigeria's efforts to promote gender equality and empower women are on the right track. Hence, higher proportion of women on board can facilitate communication and hence, improve performance. Finally, we conclude that foreign ownership significantly reduces the relationship between board gender diversity and the value of listed manufacturing firms in Nigeria when measured in terms of Tobin and share price.

Keywords: Board Gender Diversity; Share Price; Tobin's Q; Financial Management

Introduction

Gender diversity on corporate boards has been shown in the literature to influence the supervision and control of the board's activities (Mintah & Schadewitz, 2017; Sen & Mukherjee, 2019; Anh & Khanh, 2017; Mohsni & Shata, 2021). Previous evidence from developed economies such as the United States of America revealed that due to the dominance of a powerful group of male directors, women were rarely given the opportunity to participate in boardroom decisions, let alone become chairpersons (Bohren & Staubo, 2014). This suggests that women are being unfairly restricted to a certain degree of ineptitude despite the lack of scientific proof (Faleye, Hoitash, & Hoitash, 2011; Isaa *et al,* 2019). In contrast, Dezso and Ross (2012) stated that putting women in positions of leadership could promote accountability and openness. It is not surprising that if a company is regarded to be transparent, it would receive more patronage, resulting in better market value. According to Brown and Kamiya (2019), accountability, which includes the ability to own up to one's mistakes, causes people to win the respect of others. This means that a company with highly respected board members is more likely to recruit responsible members of society. As a result, it is theorized that firms with a female director have a greater market value.

In terms of statutory recommendations, unlike many of the European markets, no formal regulations have been put in place in Nigeria either by the government agency or private sector participants to regulate the ratio of female to male directors on the board. But generally, it is suggested by the Nigerian Code of Corporate Governance (NCCG) 2020, here after called "The Code" that the effective discharge of the responsibilities of the Board and its committees is assured by an appropriate balance of skills and diversity (including experience and gender) without compromising competence, independence and integrity. Particularly, on gender diversity of the board, the Code (2020) recommends that the Board should promote at least a female board member in its membership across a variety of attributes relevant for promoting better decision-making and effective governance. Hence, we opined that statutory compliance to recommendations of the NCCG (2020) implies the presence of at least 1 female member on the board of directors of listed firms in Nigeria. In contrast, the Norway government

enacted a law for all listed companies that states that the percentage of each gender on the board of director should be at least 40%, the law also emphasizes the penalty for noncompliance as compulsory dissolution or hostile takeover (Ferrary & Deo, 2022). Also, as of May 2011, several laws have been passed by Spain, Norway, Iceland, and France stating limits regarding gender disparity among the company directors.

In terms of the linkage between board gender diversity, and firm value, Mohsni and Shata (2021) revealed that an average mix of the female gender in the board would correct the problem of gender imbalance, improve the quality of the delivery by the board and the quality of decisions made. Hence, promoting and attracting a wide range of opportunities even when unsolicited, as such, enhancing the degree of responsiveness from the market through improved team performance. Moreso, Faleye, Hoitash, Hoitash (2011) highlighted that women are more risk tolerant and are ever willing to do all it takes to ensure that a project is executed. In contradiction to this, Wachudi and Mboya (2012) argued that the female on the board hold a mere face value representation, hence, very passive in contributing to the overall firm decision. This implies that the appointment of directors and committee members should be based on financial competence so as to limit the risk of making and taking un-calculative investment decision. They further explained that competence depicts the vastness of a directors with regards to their knowledge and application of finance which should be a fair representation of both genders.

An in-depth review of empirical studies reveals that most research on the nexus between board gender diversity and firm value has been concentrated in Asia, Europe, and America (Kevin & Hae, 2019; Ilaboya & Ashafoke, 2017; Josiah, 2020). In Africa, limited studies have been conducted, primarily in Tunisia, Kenya, and Nigeria. However, within Nigeria, existing studies have largely overlooked the manufacturing sector, focusing instead on banks (Buker, Musa & Ahmed, 2020) and non-financial firms (Faleye, Hoitash, & Hoitash, 2011). Moreover, existing evidence on the influence of gender attributes on firm value remains mixed (Kim & Starks, 2016; Mohsni & Shata, 2021; Agye-mang-minta & Schandewitz, 2019; Castrillor, 2021). The variations in these findings could be attributed to differences in geographical focus, industry sectors,

methodologies, sample sizes, and the study periods. Additionally, prior research often presents a generalized view of gender diversity's impact on firm value without distinguishing between firms that comply with statutory gender diversity provisions and those that do not. This gap underscores the need for more targeted research that addresses these distinctions.

Literature Review

Firm Value

The concept of firm value refers to the estimated worth of a company, which is calculated based on various factors such as financial performance, assets, liabilities, and market conditions. Firm value is an important concept in finance and investment decision-making because it represents the potential return on investment that a firm can generate for its investors. According to Brigham and Ehrhardt (2013), firm value refers to the current worth of a company, determined by its financial performance and market conditions. Copeland, Koller, and Murrin (2014) define firm value as the total cash flow a company can generate over time, discounted back to present value using an appropriate discount rate. Koller, Goedhart, and Wessels (2010) state that firm value represents the intrinsic value of a company, reflecting its future cash flows and potential for growth. Brealey, Myers, and Allen (2014) define firm value as the present value of a company's future cash flows, discounted at the appropriate rate. Bhardwaj (2014) describes firm value as the monetary worth of a company, reflecting its earnings potential and ability to generate cash flows. Ozkan (2001) defines firm value as the market's perception of a company's future earnings potential and growth opportunities. Damodaran (1996) defines firm value as the value of a company's expected future cash flows, discounted back to their present value using an appropriate discount rate, taking into account factors such as the risk of the company's operations and market conditions.

Tobin's Q, share price, and market value added (MVA) are widely recognized measures of firm value in conceptual literature, each offering unique insights into a company's financial performance and market perception. Tobin's Q is a ratio comparing the market value of a firm's assets to their replacement cost, serving as an indicator of whether a firm

is overvalued or undervalued. A Tobin's Q greater than 1 suggests that investors believe the firm has growth potential beyond the value of its tangible assets, while a value below 1 may indicate inefficiencies or undervaluation. This measure is commonly used in corporate finance and governance studies to assess investment efficiency and strategic decision-making. Share price, on the other hand, represents the market's valuation of a company's equity and is a direct reflection of investor sentiment, expectations, and financial performance. It fluctuates based on various factors, including earnings reports, macroeconomic conditions, and corporate governance practices. While share price is a widely used measure of firm value, it is subject to market volatility and external shocks that may not always reflect the firm's intrinsic value. Market Value Added (MVA) expands on share price by measuring the difference between a company's total market value (equity and debt) and the capital contributed by investors. A positive MVA indicates that the firm has created wealth for its shareholders, while a negative MVA suggests value destruction. MVA is particularly useful for evaluating long-term performance and the effectiveness of management in generating returns beyond the cost of capital.

Gender Diversity

The concept of gender diversity refers to variety of skills and characteristics in a male and a female that could bring benefits to an organization. Daniela (2009) defined the concept of gender diversity as the nature and degree of heterogeneity that involves a gender-specific majority and minority which characterizes a work team. The concept of gender diversity is mostly considered as a work team where it is characterized by a female minority or a male majority. Gender diversity in the boardroom enables the board to function effectively in the organization which could eventually influence the performance of the organization. Carter, Simkins and Simpson (2003) pointed out that gender diversity in the boardroom tend to increase board independence as female director have more tendencies to ask questions that would not have been asked by the male directors. Herring (2009) defines board gender diversity in the context of the working environment, as the proportion or percentage of women and men in the boardroom that may

influence the way they work and interact with each other in that environment, that would influence the performance of the organization. Dutta and Bose (2006) defined board gender diversity in the context of management, as the presence of women in the boardroom or in a managerial position. There are several arguments for gender diverse board in literature of board composition and attributes. The arguments for gender diverse board revolved around two basic concepts as highlighted by Van der Walt and Ingley (2003), which are ethical argument and business argument.

Gender Diversity and Firm Value

Women remain the largest untapped reservoir of talent in the world (Viet Nam New, 2017). Not-withstanding, Nigeria has one of the lowest percentage of women sitting on Boards of listed firms of the Nigerian Exchange Group (World bank, 2019). A lot of Female graduates are as prosperous as fellow male students at university, yet they seldom make it to top executive board positions (Almac, 2018). However, female underrepresentation especially at senior positions undermines the level of governance, impact, reputation and the overall corporation's performance (Sener & Karaye, 2014). Gender diversity also enhances effective problem-solving, creativity and increases decision capacity (Ye Dai, Gukdo & Ding, 2018). It also affects directors' attendance behavior and the number of scheduled corporate board meetings (Liu, 2018) meanwhile, the dramatic increase in the number of female graduates in business related degrees is not proportionately translated into the increase of female representation on corporate board management (National Centre for Education Statistics, 2019). Gender diversity with value improvement supports the view that investors should focus attention on diversity at investee companies. Luanglath, Ali and Mohannak (2019) found that companies with the most significant level of gender diversity in top management positions scored higher on measures of organizational excellence, showed more distinct returns on equity, more attractive operating results, and stronger stock price appreciation than the average of their respective sectors.

Given the critical role that gender diversity plays in corporate governance and firm performance, it is essential to examine its impact on

firm value, particularly in the Nigerian context where female representation on corporate boards remains significantly low (World Bank, 2019). The underrepresentation of women in senior management positions not only raises concerns about equity but also about missed opportunities for enhanced corporate outcomes. Studies have shown that gender-diverse boards contribute to better decision-making, improved corporate governance, and stronger organizational performance (Ye Dai, Gukdo & Ding, 2018; Luanglath, Ali & Mohannak, 2019). Furthermore, gender diversity has been linked to increased creativity, better problem-solving, and higher returns on equity, indicating that diverse leadership can create a competitive advantage. However, despite the growing number of qualified female graduates, this has not proportionately translated into increased board representation (National Centre for Education Statistics, 2019). This gap raises the question of whether the lack of female representation impacts firm value in Nigeria. While global evidence suggests a positive relationship, limited research has been conducted within the Nigerian context, particularly across diverse sectors. Therefore, it becomes necessary to empirically investigate whether board gender diversity significantly affects the firm value of listed firms in Nigeria. Hence, we state our hypothesis as:

$H0_1$: Board gender diversity has no significant effect on the firm value of listed firms in Nigeria.

Theoretical Foundation

Agency theory provides a useful framework for explaining the connection between board gender diversity and firm value. The theory is based on the principal-agent relationship, where shareholders (principals) delegate decision-making authority to managers or executives (agents). However, this relationship can lead to conflicts of interest, as managers may pursue personal objectives that are misaligned with shareholders' goals, resulting in agency problems such as inefficiencies, poor governance, and reduced firm value. In this context, board gender diversity plays a crucial role in mitigating agency problems and enhancing corporate governance. A diverse board, especially one that includes women, can introduce varied perspectives, skills, and experiences into board discussions and decision-making processes. This

diversity strengthens the board's capacity to effectively monitor management, reducing the risk of opportunistic behavior and ensuring that managerial decisions align with shareholders' interests. Women are often perceived to exhibit higher ethical standards and greater diligence in governance roles, which can further enhance oversight functions and promote transparency (Sener & Karaye, 2014). Moreover, gender-diverse boards may improve firm value by enhancing strategic decision-making, increasing innovation, and fostering better stakeholder relationships.

The presence of women on boards has been linked to improved attendance rates, more rigorous discussions, and a stronger focus on long-term sustainability (Liu, 2018). From an agency perspective, these attributes help reduce information asymmetry and enhance the board's monitoring role, leading to better decision outcomes and, ultimately, improved firm value. However, in the Nigerian context, where female representation on boards remains low (World Bank, 2019), agency problems may persist due to the lack of diverse perspectives and reduced oversight capacity. This underrepresentation could limit the board's effectiveness in curbing managerial opportunism and enhancing performance, thereby affecting firm value. Therefore, agency theory suggests that increasing gender diversity on corporate boards can mitigate agency conflicts, enhance governance mechanisms, and improve firm value by ensuring that management acts in the best interests of shareholders. This theoretical lens provides a strong basis for investigating the impact of board gender diversity on the firm value of listed firms in Nigeria. (Jensen & Meckling, 1976).

Research Methods

This study adopts an ex-post facto research design, which is appropriate for panel data studies. The population for this study comprises 59 manufacturing firms listed on the Nigerian Exchange Group. The Nigerian manufacturing sector is diverse, encompassing firms engaged in industries such as Basic Iron, Metal, and Steel; Electrical and Electronic Products; Paper and Pulp Products; Plastic and Rubber Products; Food, Beverages, and Tobacco Products; Cement; Oil Refining; Wood Products; Textile, Apparel, and Footwear; Chemical and Pharmaceutical Products; and Motor Vehicles and Assembly (Proshare,

2020). These firms are categorized across key sectors such as Agriculture, Consumer Goods, Industrial Goods, and Healthcare on the floor of the Nigerian Exchange Group. From this population, a sample size of 45 manufacturing firms was selected using a purposive sampling technique. This sampling method is appropriate for selecting firms that meet specific inclusion criteria relevant to the study's objectives, particularly firms with available and consistent data covering the study period. The period of study spans 2012 to 2021, ensuring adequate temporal coverage for analyzing trends and relationships within the manufacturing sector. Data for the study were obtained from secondary sources, including firms' annual reports, financial statements, and relevant publications from regulatory bodies. For the method of data analysis, the study employed panel data analysis techniques, specifically the fixed effects and random effects models. These models are suitable for addressing issues related to heterogeneity and unobserved firm-specific effects over time. The fixed effects model accounts for time-invariant characteristics within firms, while the random effects model assumes that these characteristics are uncorrelated with the explanatory variables. The Hausman specification test was employed to determine the most appropriate model for the analysis. This methodological approach ensures robust and reliable results, providing deeper insights into the relationship between board gender diversity and firm value among listed manufacturing firms in Nigeria. Based on theoretical literature, we estimate our econometric model as:

$$TOBQ_{it} = \beta_0 + \beta_1 BOGD_{it} + \beta_2 FOWN_{it} + \beta_3 FSIZ_{it} + \mu_{it} \ldots\ldots (1)$$

$$SHPR_{it} = \beta_0 + \beta_1 BOGD_{it} + \beta_2 FOWN_{it} + \beta_3 FSIZ_{it} + \mu_{it} \ldots\ldots (2)$$

Where:

TOBQ	= Tobin Q
SHPR	= Share Price
BOGD	= Board Gender Diversity
FOWN	= Foreign Ownership
FSIZ	= Firm Size
β_0	= Constant
β_1- β_3	= Slope Coefficient
μ	= Stochastic disturbance

i = i^{th} firm
t = time-period

Variable and Measurement

Dependent Variable

In this study, we express firm value in terms of Tobin Q and Share Price following the studies of Zetun and Tian, 2007. Tobin Q is used to proxy market performance since it considers the replacement value of the firm's net worth.

Independent Variable

The independent variable of this study is board gender diversity following the studies of Khandelwal, Kumar, Madhavan, & Pandey, 2020; Pandey *et al.,* 2019; Sila, Gonzalez, & Hagendorff, 2016. We opined that if the presence of women on corporate boards is effective and behavioral differences between women and men truly exist, then these factors should influence financial decisions and ultimately firm value.

Control Variables

Based on earlier literature on board gender and firm value nexus, we employed various firm-level attributes as control variables (Khandelwal, Kumar, Madhavan, & Pandey, 2020; Pandey et al., 2019; Sila, Gonzalez, & Hagendorff, 2016; Thams, Bendell, & Terjesen, 2018). Specifically, to stabilize the goodness of fit of our regression estimates, we control our model with firm size and foreign ownership.

Table 1: Variable Measurement

Variables	Measurements	Source	Literature
Tobin Q	Tobin Q in numbers is computed as Market Capitalization + Total Liabilities - Cash flow divided by Total asset	Annual Report	Tobin, 1969; Lindenberg and Ross, 1981; Chung and Pruitt, 1994
Board Gender Diversity	Board Diversity in percentage is computed as the female directors to total Board Size.	Annual Report	Thams, Bendell, & Terjesen, 2018
Firm Size	Firm size is measured as the natural logarithm of total asset	Annual Report	Lee, 2009; Amato and Burson, 2007

Foreign Ownership	Foreign institutional ownership in dummy is measured as "1" when the shares ownership concentration of all the block foreign institutional shareholders is 5% and above controlling interest and "0" otherwise	Annual Report	Shleifer and Vishny, 1986; Desender, 2009; La Porta et al., 2000; Fama and Jensen, 1983; Wahla, Shah and Hussain, 2012

Source: Authors (2025)

Result and Discuccion

The study investigates board gender diversity and firm value by employing samples from listed manufacturing firms in Nigeria between the periods of 2012-2021. To enhance the robustness of our results, we measure firm value in terms of share price and Tobin Q. Specifically, to control the model's goodness of fit, the study employed the variable of foreign ownership and firm size. This section of the study presents the pre-regression analysis which includes descriptive statistics. This section of the study also shows the association or level of relationship between the variables through the correlation analysis. The multiple regression estimation techniques are also discussed in this section.

Descriptive Statistics Analysis

In this section, the study examines the descriptive statistics for both the explanatory and dependent variables of interest. Basically, each variable is examined in terms of the mean, standard deviation, maximum and minimum. Table 1 displays the descriptive statistics for the study.

Table 2: Descriptive Statistics

VARIABLES	MEAN	SD	MIN	MAX	NO OBS
TOBQ	1.64	1.63	-0.31	12.69	440
SHPR	49.89	189.16	2	1556.5	440
BOGD	12.76	12.50	0	66.67	440
FOWN	0.51	0.50	0	1	440
FSIZ	6.95	1.09	4.91	9.64	440

Source: Authors (2025)

The result above shows the estimates from the descriptive statistics. The result indicates that the mean of the firm value when measured in terms of Tobin Q (TOBQ) was 1.64 with a standard deviation of 1.63. However, the mean of firm value when measured in terms of share price (SHPR) was 49.89 and a standard deviation of 189.16. The result implies that on average, the share price of the firms under study was N49.89K during the period under study. In the case of the independent variables, our result shows that the mean of board gender diversity (BOGD) was 12.76 with a standard deviation of 12.50 indicating that on average, about 12% of the board of directors of the firms under study were females. We also find that the mean of foreign ownership (FOWN) was 0.51 with a standard deviation of 0.50 indicating that on average, about 51% of the firm's shareholding were controlled by foreign investors during the period under study. In the case of the control variable, we find that the mean of firm size (FSIZ) was 6.94 with a standard deviation of 1.09.

Correlation Analyses

In examining the association among the variables, we employed the Spearman Rank Correlation Coefficient (correlation matrix), and the results are presented in the table below.

Table 3: Correlation Analysis

	TOBQ	SHPR	BOGD	FOWN	FSIZ
TOBQ	1.0000				
SHPR	0.4903	1.0000			
BOGD	0.1148	0.1225	1.0000		
FOWN	0.0936	0.4232	-0.0543	1.0000	
FSIZ	0.4220	0.7750	0.3309	0.2640	1.0000

Source: Authors (2025)

In the case of the correlation between board gender diversity and firm value, the above results show that there exists a positive and weak association between board gender diversity (0.1148) and the dependent variable of firm value when measured in terms of Tobin Q during the period under study. We also find that foreign ownership (0936) also has a positive association with the dependent variable of firm value when

measured in terms of Tobin Q during the period under study. Furthermore, we find that the control variable of firm size (0.4220) has a positive and moderate association with the dependent variable of firm value when measured in terms of Tobin Q during the period under study.

In the same vein, we find that there exists a positive and weak association between board gender diversity (0.1225) and the dependent variable of firm value when measured in terms of share price during the period under study. We also find that foreign ownership (0.4232) also has a positive association with the dependent variable of firm value when measured in terms of share price during the period under study. Furthermore, we find that the control variable of firm size (0.7750) has a positive and moderate association with the dependent variable of firm value when measured in terms of share price during the period under study. However, to test the hypotheses a regression results will be needed since correlation test does not capture cause-effect relationship.

Multivariate Regression Analyses

Specifically, to examine the cause-effect relationships between the dependent variables and independent variables as well as to test the formulated hypotheses, we used a panel regression analysis since there are variances in the error term. The OLS pooled results and panel regression results obtained is presented and discussed below.

Table 4: Regression Result

	TOBQ (Pool OLS)	TOBQ (Fixed Effect)	TOBQ (Random Effect)	SHPR (Pool OLS)	SHPR (Fixed Effect)	SHPR (Random Effect)
CONS.	-2.715 {0.000}**	-12.999 {0.000}**	-7.403 {0.000}**	-447.389 {0.000}**	-337.669 {0.000}**	-359.305 {0.000}**
BOGD	-0.005 {0.370}	-0.026 {0.000}**	-0.026 {0.000} **	-0.434 {0.531}	-0.308 {0.349}	-0.306 {0.346}
FOWN	-0.103 {0.488}	0.093 {0.777}	-0.154 {0.554}	29.725 {0.083}	-4.641 {0.815}	0.353 {0.985}
FSIZ	0.644 {0.000}**	2.147 {0.000}**	1.360 {0.000}**	70.186 {0.000}**	56.690 {0.000}**	59.434 {0.000}**
F-Stat/W-Stat	29.65 {0.0000}	56.26 (0.0000)	126.54 (0.0000)	31.62 {0.0000}	9.41 (0.0000)	36.92 (0.0000)
R-Squared	0.1694	0.3004	0.2887	0.1787	0.0670	0.0669
VIF Test	1.13			1.13		

Hettero. Test	101.87 {0.0000}		711.19 {0.0000}	
Hausman		22.78 {0.8688}		80.80 {0.0000}

*Note: (1) bracket {} are p-values; (2) *, **, implies statistical significance at 5% and 1% levels respectively*

Table 4 represents the results obtained from regression estimates for this study. The result indicates that the pool OLS regression had an R-squared value of 0.1694 when the dependent variable of firm value is measured in terms of Tobin Q and 0.1787 when measured in terms of share price. This implies that the independent and control variables of the study could explain 17% and 18% of the systematic changes in the dependent variable of firm value when measured in terms of Tobin Q and share price respectively. However, the unexplained part of firm value has been captured by the error term. The result of the F-statistics {(29.65 for the Tobin Q model and 31.62 for the share price model)} of the pool OLS regression for the sample manufacturing firms in Nigeria with their associated p-value of 0.0000 indicates that the pool OLS regression models on the overall are statistically fit at 1% level of significance and can be employed for statistical inferences. However, to further validate the estimates of the pool OLS results for both models, this study also tests multicollinearity and heteroscedasticity.

Multicollinearity and Heteroscedasticity

We present the results of multicollinearity and heteroscedasticity in Table 4. Multicollinearity can mainly be detected with the help of tolerance and its reciprocal, called variance inflation factor (VIF). The result from the VIF test shows a mean value of 1.13 when the dependent variable of firm value is measured in terms of Tobin Q and share price. Specifically, the result shows that the mean VIF is within the benchmark of 10 in line with the position of (Gujurati, 2004) indicating the absence of multicollinearity and further show that none of the independent variables should be dropped from the models respectively. Also, the test of the assumption of homoscedasticity of the pool OLS is conducted using the Breusch Pagan module in Stata 14. In particular, the assumption of homoscedasticity states that if the errors are heteroscedastic then it will

be difficult to trust the standard errors of the least square estimates. Hence, the confidence intervals will be either too narrow or too wide. The result shows a chi2 value of 101.87 with a p-value of 0.0000 for the Tobin Q model and a chi2 value of 711.19 with a p-value of 0.0000 for the share price model. The result shows a significant p-values across both models indicating that the assumption of homoscedasticity of the pool OLS regression results has been violated.

Dealing with Heteroscedasticity Issues in the Models

The result from the panel fixed effect as presented in table 4 shows an F-statistics value of 56.26 when the dependent variable of firm value is measured using Tobin Q and 9.41 when the dependent variable of firm value is measured using share price. The probability value of 0.0000 for both models indicates that on the overall, the fixed effect regression models are fits for statistical inference. The result indicates that the fixed effect regression had an R-squared value of 0.3004 when the dependent variable of firm value is proxied in terms of Tobin Q and 0.0670 when the independent variable of firm value is proxied in terms of share price. This implies that the independent and control variables of the study could explain 30% and 7% of the systematic changes in the dependent variable of firm value when measured in terms of Tobin Q and share price respectively. However, the unexplained part of firm value has been captured by the error term.

Similarly, the results from the panel random effect shows a Wald statistics value of 126.54 when the dependent variable of firm value is measured using Tobin Q and 36.92 when the dependent variable of firm value is measured using share price. The probability value of 0.0000 for both models of Tobin Q and Share price indicates that on the overall, the random effect regression models are fits for statistical inference. The result indicates that the random effect regression had an R-squared value of 0.2887 when the dependent variable of firm value is proxied in terms of Tobin Q and 0.0669 when the dependent variable of firm value is proxied in terms of share price. This implies that the independent and control variables of the study could explain 29% and 7% of the systematic changes in the dependent variable of firm value when measured in terms of Tobin Q and share price respectively. However, the unexplained part of

firm value has been captured by the error term. However, to decide on which regression technique to rely on for interpretation and policy recommendation between the fixed and the random effect regression for the respective models, the Hausman Specification test is employed.

Hausman Specification Test

The Hausman is based on the null hypothesis that the random effect model is preferred to the fixed effect model. Specifically, a look at the p-value of the Hausman test for Tobin Q model {[22.78.0000]} and share price {80.80 [0.0000] implies a 1% level of significance. This implies that the study should adopt the fixed effect panel regression results in drawing the conclusion and recommendations. This also implies that the fixed effect results tend to be more appealing statistically when compared to the random effect. Following the above, the discussion of the fixed effect results became imperative in testing the hypotheses.

Results Discussion

The findings reveal that board gender diversity has a negative and significant effect on firm value when measured using Tobin's Q (coef. = -0.026, p = 0.000) but has an insignificant negative effect on firm value when measured using share price (coef. = -0.308, p = 0.349). This suggests that increasing female representation on the boards of listed manufacturing firms in Nigeria is not associated with higher firm value and, in fact, may contribute to a decline in firm performance as measured by Tobin's Q. The significant negative relationship with Tobin's Q indicates that firms with higher board gender diversity tend to have lower market-based valuations. However, the insignificant effect on share price implies that investors do not perceive gender diversity on corporate boards as a critical determinant of stock prices in the Nigerian manufacturing sector.

These findings align with the perspectives of Cho and Kim (2007), who argued that the contribution of female directors to firm performance may be limited, particularly in contexts where corporate governance structures do not fully integrate diverse perspectives into decision-making. The results also resonate with Bhagat and Black (2001), who posited that the mere presence of female directors does not necessarily

enhance firm performance in the long run. Rather, gender diversity on boards may serve as a compliance mechanism or a response to external pressures rather than a strategic initiative to improve governance and financial outcomes. The negative effect on Tobin's Q suggests that investors may perceive gender diversity policies as symbolic rather than substantive, potentially leading to skepticism about their impact on firm value.

From a management perspective, these findings imply that while gender diversity on boards is often encouraged as a means of enhancing governance quality, its direct impact on firm value remains ambiguous. Corporate leaders may need to reconsider how they integrate gender diversity into strategic decision-making processes to ensure that the presence of female directors translates into meaningful contributions. This means developing policies that go beyond meeting diversity quotas and instead focus on fostering inclusive boardroom dynamics where diverse perspectives can influence key corporate decisions. Management must also assess whether existing governance structures allow female directors to participate actively in decision-making rather than merely serving as symbolic appointments to satisfy diversity requirements. These findings contradict the conclusions of Mishra (2020), who found that the proportion of female directors had a positive effect on business performance in Indian firms, suggesting that cultural and institutional differences may shape the impact of board diversity on firm outcomes.

For regulators, the findings pose a critical question regarding the effectiveness of gender diversity mandates in improving firm performance. While policies advocating for gender-diverse boards are often framed as mechanisms to enhance governance, the negative relationship observed in this study suggests that simply increasing female representation may not automatically translate into better firm outcomes. Regulatory bodies such as the Financial Reporting Council of Nigeria (FRCN) and the Securities and Exchange Commission (SEC) may need to revisit gender diversity policies, ensuring that the emphasis is not just on representation but on the quality of participation and the ability of diverse board members to influence corporate strategy effectively. The regulatory focus may need to shift toward initiatives that enhance board effectiveness, such as leadership development programs for women in

corporate governance, rather than solely imposing quotas. This view is in line with Ahern and Dittmar (2012), who found that gender diversity mandates in Norway led to lower firm value due to constraints in the selection of qualified female directors.

Investors must recognize that gender diversity alone is not a guarantee of better financial performance and should instead evaluate whether female board members have the expertise, authority, and influence needed to drive value creation. The findings also caution against assuming that gender-diverse boards will automatically improve decision-making. Instead, investors should advocate for governance structures that allow all directors—regardless of gender—to actively contribute to corporate strategy. This aligns with the views of Adams and Ferreira (2009), who suggested that the benefits of board diversity depend significantly on the firm's governance framework and the degree of participation allowed for minority directors. While gender diversity is often perceived as a positive indicator of governance quality, the study suggests that it does not necessarily correlate with improved firm value in the Nigerian manufacturing sector. This aligns with Carter, Simkins, and Simpson (2003), who noted that while diversity can improve board deliberations, its impact on financial outcomes is not always straightforward. Foreign investors seeking to invest in Nigerian manufacturing firms may need to assess whether female board members bring the necessary expertise and whether their presence enhances corporate governance or merely serves as a compliance measure. Additionally, institutional investors may consider engaging with firms to understand how they integrate board diversity into their strategic objectives rather than relying solely on gender diversity statistics when making investment decisions.

Analysts should consider other dimensions of board effectiveness beyond gender composition when evaluating firm performance. The insignificant effect on share price suggests that gender diversity is not a key factor influencing stock valuation decisions in Nigeria's manufacturing sector, possibly due to other dominant market forces at play. Analysts should incorporate qualitative assessments of board effectiveness, including how well gender-diverse boards contribute to governance and strategic decision-making, rather than assuming a direct

positive correlation between diversity and firm value. Given that gender diversity did not enhance firm value in the present study, accounting professionals and auditors should consider emphasizing other governance indicators that have a stronger link to firm performance, such as board independence, expertise, and the effectiveness of internal controls. These findings contradict the conclusions of Terjesen, Sealy, and Singh (2009), who argued that gender-diverse boards improve governance outcomes, highlighting the need for context-specific analysis in corporate governance research.

Conclusion

This study highlights the crucial role of board diversity as a governance mechanism that enhances financial oversight and safeguards shareholder interests. The importance of strong board governance has been reinforced by past corporate failures, such as Enron, WorldCom, and Lehman Brothers, which raised global concerns about corporate management and its impact on public trust. In this context, the study examines the relationship between board gender diversity and firm value using data from listed manufacturing firms in Nigeria from 2012 to 2021. The empirical findings present mixed results, showing that board gender diversity significantly decreases firm value when measured using Tobin's Q but has an insignificant negative effect when measured using share price. The study suggests that a higher proportion of women on boards can enhance communication and corporate oversight, potentially contributing to long-term performance improvements. The study contributes to existing knowledge by employing a larger sample size and a longer study period than many previous studies. Additionally, while earlier research predominantly relied on OLS regression techniques, this study utilizes multivariate panel regression, allowing for better control of unobserved heterogeneity across firms, fiscal years, and industries.

While the study provides valuable insights, it is limited by its sole focus on gender diversity. Future research should expand the scope of board diversity by examining factors such as directors' qualifications, ethnic and cultural diversity, and professional experience, which could significantly influence firm performance. Additionally, investigating individual-level board attributes, such as leadership style, decision-

making capabilities, and risk tolerance, could provide a deeper understanding of how board composition affects corporate decision-making. Further studies could also adopt comparative approaches by examining gender diversity's impact across different sectors or countries, offering broader insights into its implications for firm value.

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