



BOARD GENDER: SHRINKAGE OR UPSURGE IN WEALTH OF SHAREHOLDERS

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ABSTRACT

Purpose- Shareholder wealth problems are becoming such a commonly recognized standard of corporate activity as a result of globalization and deregulation, which was intended to interact to improve economic growth and shareholder wealth. However, truth reveals that globalization and liberalization combined to deprive companies of massive profits since modern executives are more concerned with compensation, profits, control, and reputation than protecting shareholders' faith and trust. Thus, this study examines the impact of board gender on shareholders' wealth of listed manufacturing companies in Nigeria.

Methodology- This study descriptive research design, the population consists of sixty-three listed manufacturing companies and a filter was used to pick the sample size of fifty-one, annual data collected from the Nigerian Stock Exchange (NSE) over twelve years from 2008 to 2019. And Pooled OLS regression analysis was adapted as the estimation technique.

Findings- The result showed that female directors significantly upsurge the wealth of shareholders. Board gender has a positive influence on wealth optimizers MVS, Tobin's q and PRF. Also, Leverage, Firm Growth and Firm Age upsurge shareholders' wealth while firm size have no significant effect on the wealth of the shareholders.

Conclusion- This paper concludes that female board directors can generate healthier financial decision and translates into positive effect on the wealth of shareholders. Therefore, Nigeria's manufacturing companies need to strengthen their efforts to increase the number of women on the board, as a number of these companies do not have a single female director on their board.

Keywords: Board gender, market value of shares, pooled OLS, shareholders wealth, Tobin's q,

JEL Codes: F60, G30, M48,

1. INTRODUCING

Over the last two decades, firms have been compelled to improve gender diversity on their boards due to increasing concern for corporate governance to sidestep some companies' continuous failure. In response, countries like Belgium, France, Norway, and Italy have introduced legislation that demands more female board representation in firms (Adusei, Akomea & Poku 2017). Subsequently, The Nigerian code of corporate governance 2018 specified that a serious board should expect an obligation for its composition to put the direction and approve the procedures for achieving the precise balance of information, competencies, and independence to objectively and successfully discharge its governance position and responsibilities. The essence of which stems from two complementary theories, liberal feminist theory and feminist social theory. The former assumes that girls face extra discrimination and the systematic deprivation of assets, hindering their efforts to achieve business ventures (Fischer, Reuber & Dyke, 1993). Therefore, while the same opportunities are given women and men, both can obtain similar values because of similar skills (Shin, Cheng, Jeon & Kim, 2019 and Holmes, 2007). While the latter recognizes that women are not presumed to be not as good as men, however, as an alternative, different traits can be equally influential (Shin, Cheng, Jeon & Kim, 2019; Carter, Simkins & Simpson 2003; Black 1989). However, the question is, has the economic consequences of female board representation been achieved?

The study has shown female directorship's potential benefits and concluded that gender plays a critical position within the corporate enterprise context. Jensen and Meckling (1976) posited that the board of directors is a vital governance mechanism

that may make even the pursuits of principals (shareholders) and agents (the managers). Therefore, the board's tracking efficacy is a characteristic of the directors' independence (Bennouri, Chtioui, Nagati & Nekhili, 2018). Adams and Ferreira (2009) stated that feminine directors are more likely to be impartial than men due to girls' meticulous nature. Ferreira (2015) indicates that lady directorship can be a better indicator of a board's independence than their male counterpart measure of independence because of their risk-averse nature. Therefore, the tracking impact of female directors is probably amplified with the aid of their greater independence.

Nonetheless, some opposing arguments challenged lady directorship's possible benefits and argued that the relationship between gender range and independence is questionable for apparent causes (Terjesen, Barbosa & Morais, 2016). Almazan and Suarez (2003) argued that women directors' harsh monitoring might decrease shareholders' wealth because it may weaken managers' incentives. Adams and Ferreira (2009) argued that women directorship might negate communication channels between managers and the board. Supplementary, gender variety might also worsen interactions among board members because of possible worsen cohesiveness (Herring, 2009). Diversity may have the least effect if feminine board members are not sufficient in number (Torchia, Calabro, & Huse, 2011). For these opposing arguments, studies have analyzed the potential association between board gender and shareholders' wealth have mixed outcomes.

Furthermore, optimizing shareholders' wealth requires good corporate governance, as it is fundamental to build a useful decision-making board. Studies such as Bennouri et al. (2018); Ferrari, Ferraro, Profeta & Pronzato (2018); Liu, Wei, Xie (2014); Ferrer, and Banderipe (2012); Campell and Minguez-vera (2008) have revealed that female board contribution had been associated with higher stock value and extra profitability. They argue that women on the board tend to optimize shareholders' wealth because ethical company decision-making calls for the potential to listen and remember only points of view from humans with specific sex, backgrounds, experiences, and views. Chen, Leung, and Goergen (2017) discovered that corporations with a full-size fraction of female directors on their boards ensure high stock price because of feminine expertise. Carter, Simkins, and Simpson (2003) suggested that a greater diverse board is related to shareholders' wealth boost. An increase in female directors may also grow the board's effectiveness considering women tend to ask questions than their male counterparts. Therefore, Marinova, Plantenga, and Remery (2010) concluded that a few women's fractions on the board would negatively affect stock price due to ineffective financial decisions. Conversely, many females on the board will improve the board's decisions and optimize shareholders' wealth. A higher business benefit of femininity representation is expected in corporations with women boards of directors.

On the contrary, Bøhren and Staubo (2016); Matsa and Miller (2013); Ahern and Dittmar (2012); Dobbin and Jung (2011) conveyed a decline in the business benefit with females on the board. However, Chapple and Humphrey (2014) and Carter, Souza, Simkins, Simpson (2010) did not find support on the subject matter. Yermack (1996) shows that a giant diverse board, in standard, destroys shareholders' wealth because of the charges involved in coordinating the decision-making technique of a broad range of a number of people. A diverse board can hold the executives responsible for not optimizing shareholders' wealth and inefficiencies (Adams & Ferreira, 2009). As a result, the inconsistency calls for further investigating board gender issues on shareholders' wealth. This study deviates from the previous works because it focuses on three measures of shareholders' wealth (market-based and financial-based wealth optimizers) to enable generalization. It also used a thorough approach to checking the robustness of the quantitative data used for the study.

In this paper, the researcher's interest is to address the question of whether or not the number of women directors in the boardroom shrinks or upsurge the wealth of shareholders, particularly in Nigeria's manufacturing companies central to the growth and development of the nation's economy because it influences industrialization. Hence, this research aims to examine the effect of a gender-diverse board on shareholders' wealth of listed manufacturing companies in Nigeria. In line with the study's objective, the following null hypothesis has been formulated for testing: Ho- there is no significant effect of board gender on shareholder' wealth of listed manufacturing companies in Nigeria. This study is of immense importance in many respects. Firstly, it contributes to the existing literature on board gender on shareholders' wealth in Nigeria. Second, it helps the management of manufacturing companies recognize the need to increase females' proportion on the board of directors for healthy decision-making. It provides empirical evidence on the subject matter.

2. LITERATURE REVIEW AND FORMULATION OF HYPOTHESES

2.1. Gender-Diverse Board

The gender of the Board demonstrates the diverse personal characteristics that make the workforce heterogeneous (Robbins & DeCenzo, 2005). This is the difference in the number of women on the board of corporate firms. Generally, board diversity is assumed to assist companies in the fact that: First, diversity allows for a deeper view of the marketplace, and a more diverse

industry encourages corporate profit enhancement (Chapple & Humphrey, 2014; Carter, Souza, Simkins & Simpson, 2010; Adams & Ferreira, 2009). Second, gender-diverse board is known to encourage and strengthened the spirit of creativity and innovation. Torchia Calabro and Huse (2011) have identified that there must be a threshold of at least three women on the board in order to increase the degree of firm innovation. Third, diversity produces more effective problem-solving and risk-averse. Shin, Cheng, Jeon and Kim (2019) argued that a female director's risk-aversion and conservatism may have a substantial effect on the efficient distribution of the company's resources and investment decisions. Fourth, diversity enhances corporate leadership's effectiveness promotes more effective global relationships (Nguyen & Faff, 2008). The international finance corporation (2019) stated that the potential for gender inequality among investors is a problem in countries where cultural values render women's leadership skills into question. Despite these important attributes to board gender diversity, Nigeria still exhibits negative attitude toward gender equality on the board of directors, hence the female representation on the board of listed manufacturing companies in Nigeria is to a large extent few. Based on our study, we found that out of the sixty-three listed manufacturing companies, twenty-six of them had no single female director, and eleven of them had one female director each. Also, seven companies have two female directors each; three female directors have been identified in five companies; however, two companies have four female board members each on their boards. One of the key reasons for this is that Nigeria's culture plays a crucial role in restricting women's participation in boards and senior management roles (Sener & Karaye, 2014).

Consequently, businesses are looking for ways to increase efficiency and revenues by adapting technology and procuring new equipment to ensure quality production, just as wise businesses need to continue to search for ways to boost the wealth of shareholders and stakeholders at large. Since no sector is immune to innovative ways of doing things since businesses want a competitive edge. However, concentrating on gender-diversity boards is a way to overcome this challenge. As the Board of Directors, it is responsible for taking strategic decisions that impact the overall well-being of companies and shareholders. While evidence on the relationship between gender-diversity boards and wealth-enhancing performance is mixed, studies suggest that gender-diversity boards can play an important role in improving shareholder wealth. For example, firms with a greater gender-based board are correlated with higher firm value, better market security and better financial decision-making and enhanced shareholder wealth (Saidat, Seaman, Silva, Al-Haddad, & Marashdeh 2020; Gao, 2018; Carter, Simkins & Simpson, 2003 Catalyst, 2004). Thus, the current study focuses on wealth-enhancing components of the gender-diversity board of manufacturing companies. However, our board gender research of 51 companies found that the percentage of women directors on the board of corporate firms increased the shareholder's wealth. We analyze the wealth of shareholders by considering three form of equity (common shares). Consideration is given here of the number of outstanding shares and current share prices; thus, this study used the share's market value to calculate the wealth of the shareholders.

2.2. Board Gender and Market Value of Share

Researchers focused on gender as part of board diversity (Reddy & Jadhav, 2019; Solal & Smellman, 2019 and González, Guzmán, Pablo & Trujillo, 2020). They recognize why the gender of boards has a changeable effect on the success of corporate firms. Invariably, high financial decisions increase the market value of the share and thus increase the shareholders' wealth. As such, it would be in the management's interest to adopt an optimum gender-diversity board that maximizes the company's stock price (Carter, Simkins & Simpson, 2003). There is a consensus that more gender-diversity is linked to the increase in stock prices.

Studies such as Ridgeway (1991) and Eagly and Karau (2002) Sudeck and Latridis (2014) have shown that gender-diversity is positively correlated with the market value of the company's share. Sudeck and Latridis (2014) have shown that the stock market responds positively to women's announcements to join the board of directors because they believe that female directors value and boost shareholders' wealth. Thus, the gender-diversity board can be an important instrument for enhancing the value of shareholders. Likewise, Ridgeway (1991) and Eagly and Karau (2002) confirmed that market reactions are determined by how investors believe that gender diversity will impact board decisions to improve shareholders. The presence of women on boards of directors increases information on stock prices (Gul, Srinidhi & Ng., 2011). Bolton and Samama (2013) argued that investors are searching for signs that companies prioritize shareholder value because of gender-diversity preference, because market value today is primarily guided by investors seeking short-term returns. On the contrary, Solal and Snellman (2019) argued that a gender-based board reveals a bias for diversity and a poorer commitment to shareholder value, as companies that raise the board's diversity will be penalized and will experience a reduction in market value. Ahern and Dittmar (2012) have shown that women on the board are denying stock values. Although the current study aims to empirically examine, within the Nigerian context, the impact of the gender diversion on the market value of the share or share price.

H0₁: there is no significant effect of board gender on shareholder wealth (market value of share)

2.3. Gender and Tobin Board Q

Tobin's q is the ratio of market value to book value of assets, and is a broad reflection of the company's market valuation as a whole, incorporating both current performance and future growth opportunities (Anderson & Reeb 2004). The q investment theory is usually used to predict a strong relationship between firms' market value and their investment rate. As a result, women may enhance or reduce the value of board strategic decisions without necessarily improving or undermining the firm's value, as board performance has not been consistently identified as predictive of firm outcomes (Dalton, Daily, Johnson, & Ellstrand, 1999, Pletzer, Nikolova, Kedzior & Voelpel, 2015). Several analyzes have explored and shown that the gender-diversity board tends to restrict the value of firms. Adams and Ferreira (2009) found that women board members had negative effects on Tobin's q. They argued that female directors' appointment had a negative effect as a result of the excessive monitoring of firms. Smith, Smith, and Verner (2006) found that female outside directors had negative effects on Tobin's q performance measurement from Danish firms. Zahra and Stanton (1988) found no effect of gender diversity on stock performance (Tobin's q). It is logical to argue from these results that companies with good performance tracks are likely to appoint women, although they may not guarantee women's efficiency in improving the value of firms, which usually produce neutral or negative value effects.

However, Nguyen and Faff (2008) state that the gender diversity and firm value proxy by Tobin's Q are positively linked and conclude that female directors' quality and quantum on the board can improve firm value. Saidat, Seaman, Silva, Al-Haddad, and Marashdeh (2020) concluded that the presence of a non-family female director on the board of directors improves Tobin's Q. These results suggest that a female director should be appointed for effective board decisions because a female member is a sensitive market monitor and can take a more realistic approach that can reflect on shareholders' wealth. As such, a board gender can positively impact shareholder value (Smith, Smith & Verner, 2006). Carter, Simkins and Simpson, (2003) and Erhardt Werbungl and Shrader (2003) found that female board members' presence had a positive impact on Tobin's Q. They argued that U.S. companies with a higher proportion of female members on their board increase the effectiveness of monitoring and control functions. Although it appears that a female top management firm is more likely to have larger female board members (Nguyen & Faff, 2008). Whether or not this could be relevant in the case of Nigeria is subject to an empiric examination. Therefore, there is a need to examine the potential for positive, negative or even gender-diversity effects on the market values and investment of corporations.

H0₂: there is no significance effect of board gender on shareholders' wealth (Tobin's Q)

2.4. Gender and Performance of the Board

Gonzalez, Guzmán, Pablo and Trujillo (2020) have discovered that female directors generally deny firm performance. However, they did reveal that when women directors acting outside the board had a positive and significant effect on the firm's performance. Similarly, Adams and Ferreira (2009) have shown that women on the board deny firm performance. However, Reddy & Jadhav (2019) argued that the gender diversity of the board could improve the effectiveness of the board and its performance, although it all depends on the masculine and feminine characteristics. However, they suggested that companies could benefit from allowing professional women on their boards. Catalyst (2004) concluded that firms with the largest proportion of women in the board of directors had significantly higher returns on equity (ROE) than those with the smallest proportion of women. Low, Roberts and Whitting (2015) have shown that the increasing number of female directors on the board positively affects the firm's return on equity (ROE) performance. Bennouri, Chtioui, Nagati and Nekhili (2018) found that female directors had significantly increased their equity returns. There is a need for an empiric examination of the effect of the gender-diversity board on firms' performance in Nigeria. Therefore, there is a need to examine the possibility of a positive or negative impact on the Gender Diversity Board's financial performance.

H0₃: there is no significant effect of gender-diversity on shareholder wealth (return on equity)

2.5. Empirical Literature Review

Isa and Salawudeen (2019) examine the relationship between gender diversity on the market price per share in Nigeria using sixty-three manufacturing companies with shares listed on the Nigerian stock exchange between 2008 and 2018. Some filters were used to select the sample size of fifty-one firms. Study data collected from annual reports and accounts for the eleven years from 2008 to 2018. Multiple regression with Ordinary Least Square (OLS) estimation technique used to test study hypotheses using STATA software version 13.0. The Board found that gender diversity positively impacted shareholders' market price per share at a 1 % level of relevance. Ferrer and Banderlippe (2012) examine the relationship between gender diversity on the market price per share of Philippine companies. The study used a sample of 29 companies from the Philippines. The regression analysis was used to estimate the effect of gender on market prices per share. This results in a

significant positive effect of board gender on the market price. In the same way, Ferrari, Ferraro, Profeta & Pronzato (2018) examines the relationship between gender diversity on the market price per share in Germany. The study used a sample of 245 companies in the United States. Data collected from the annual report for the four years from 2011 to 2014. The usual least square method of estimation is used to estimate gender's effect of gender on the market price per share. The result gives significant positive support to the relationship between gender diversity on the market price per share.

However, Dobbin and Jung (2011) examine the relationship between gender diversity on the market price per share of US companies. The study used a sample of 432 U.S. companies. Data collected in the annual report for a period of nine years from 1997 to 2005. Ordinary least square estimation method used to estimate the effect of gender on the market price per share. As a result, there is significant negative support for gender diversity's relationship on the market price per share. Besides, Sayumwe and Amroune (2015) examine the relationship between gender diversity on the market price per share in Canada. The study used a sample of 36 Canadian companies on the Toronto Stock Exchange. Data obtained from the annual report for a period of 3 years from 2011 to 2013. Multiple regression techniques use the result to provide significant and positive support for the effect of gender on market prices per share. Similarly, Shittu, Ahmad, and Ishak (2016) study the relationship between genders on the performance measure earnings per share in Malaysia. The study used a sample of fully-fledged Islamic banks in Malaysia. Data collected from the annual report for six years from 2010 to 2015. Multiple regression techniques were used to analyze the effect of gender-based boards on firm performance. The result provides significant but positive support for the gender impact on firm performance. Catalyst (2007) refers the diversity of boards to the profitability of more than 500 U.S. companies between 2001 and 2004. It concludes that companies with the highest proportion of female board members had a substantially higher return on investment than those with the smallest proportion of women.

Similarly, Erhardt, Werbel, and Shrader (2003) analyzed 112 companies over five years and found a positive relationship between board diversity (gender) and performance measures; however, they indicated that performance could lead to diversity rather than vice versa. Carter, D'Souza, Simkins, and Simpson (2003) analyzed the gender and racial makeup of 500 board committees between 1998 and 2002 and found that diversity had positive effects on ROA. Studies have found that the diversity of boards neither or negative effects on profitability and market values. For example, Zahra and Stanton (1988) found no impact of gender diversity on any performance measures taken by American firms. Smith, Smith, and Verner (2006) analyze gender diversity on performance and used panel data for 2,500 Danish firms. Female outside directors had adverse effects, while female inside directors had positive effects. Adams and Ferreira (2009) used panel data from 1996 to 2003 on 1,939 American firms and found that more women directors in the boards are doing better, especially in monitoring firms. Farrell and Hersch (2005) analyzed a sample of 300,500 firms between 1990 and 1999, finding that firms with large income are more likely to select female directors, but female directors have little effect on subsequent results. Rose (2007) is one of the promoters of gender diversity boards that explores gender diversity on stock performance using a sample of 443 Danish firms; however, the analysis showed no impact on stock performance.

3. METHODOLOGY

This study adopts a correlational and causal research methodology since the study's data are quantitative and in nature. It uses secondary data from the annual reports and accounts of the sampled listed manufacturing companies submitted with the Security and Exchange Commission and Nigeria Stock Exchange. The research is therefore based on a functional and positivist model. The population of this study includes six-three (63) manufacturing companies indexed on the Nigerian stock exchange as at 31 December 2019 and spans twelve (12) years from 2008 to 2019. Twelve years are considered adequate for research to achieve the right results. The timeframe is considered reasonable since most research in this field used a minimum of five (5) and above to empirically review the relationship between the gender-diversity board and the shareholders' wealth. Again, this study analyzed the list of manufacturing companies since the manufacturing sector is essential to the economic growth of any country's economy through its considerable contribution to national GDP and its ability to generate jobs. This sector has attracted investors (foreign and domestic) in recent times. This study sampled the listed manufacturing companies on a stratified random sample due to similarities in the distribution of assets from other sectors. Thus, the strata are built based on five main sectors having similar characteristics. The sectors are conglomerates with six companies, manufacturing and real estate with seven companies, consumer goods with twenty-six companies, manufactured goods with nineteen companies, and natural resources with five companies. A sample size of fifty-one (51) was reached after excluding firms deemed unsuitable in this study based on selection criteria. Companies under conglomerates were censored because of the availability of information, four companies selected from the construction and real sector, twenty-three selected from the consumer goods sector, fourteen selected from the industrial goods sector and four selected from the natural resources sector. With 63 manufacturing companies indexed in the Nigerian stock exchange database from 2008 to 2019, we are employed two filters and eliminate 12 firms. First, we exclude three (3) firms that are subject to the firm; thus, this analysis does not recognize companies with an age of less than twelve years from the date indicated. Second, we exclude nine (9)

companies that have been delisted by the Security and Exchange Commission in Nigeria due to non-reporting of financial details during the time under review. Thus, the companies whose shares were delisted before the end of the study period had been excluded from the study because, for the company to count as a sample, the company's shares had to be listed for the entire study period. Companies must also send their reported audited financial statements to the Nigeria Stock Exchange (NSE) for the entire period. It is also essential to have all the financial details in order. The reasoning behind the implementation of these parameters is that the financial results include the factors to be analyzed for the relationship between the gender-diversity board and the shareholders' wealth.

3.1. Variable Measurement

Our study evaluates the firm valuation and measure the sample company's total value and use it as a more robust alternative to the capitalization of the stock market. Consequently, firm value is seen as market capitalization plus debt, minority interest, and common stock minus cash and cash equivalents; thus, Tobin's q was used in this study to measure firm value. We use Tobin's Q (TBQ) as measure of shareholders' wealth for our sample of 51 listed manufacturing companies. Tobin's q , is the ratio of the market value of the firm divided by replacement cost (value of the firm's assets), is the most broadly customary measure of the corporate share price (Kaldor, 1966 and Dobbin & Jung, 2011). Our study also explores the shareholders' valuation as part of the capitalization of the company's equity rather than long-term debt. Thus, the analysis used returned to equity to calculate the worth of the shareholders. Profitability is proxy by return on equity because, conceptually, it is different from a stock performance. We use profitability to measure shareholders' wealth for our sample of 51 listed manufacturing companies. We define profitability as profit after tax divided by the number of shares outstanding

In addition, the share market value (MVS) refers to the most recent price of a single share in a publicly-traded stock. This study considers the fluctuation in share price throughout the trading periods. We define the market value of share as the year's opening price plus the year's ending price divided by two (average share price). Previous studies such as Dobbin and Jung (2011), Ferrer and Banderipe (2012), and Ferrari, Ferraro, Profeta & Pronzato (2018) used the market value of the share as a proxy for shareholders' wealth. However, in line with the previous studies, we use the share's market value to measure shareholders' wealth for our sample of 51 listed manufacturing companies. Stock market value is primarily influenced by the economy and investor predictions and expectations regarding how investment returns influence market value of the price. As a result, market value of share is an essential and crucial tool for investors to assess their wealth. Investors whose investment returns interest is in the long term may consider a more comprehensive alternative to equity market capitalization. However, for this study, the market value of the share, Tobin's q and the return on equity are used as proxies for the shareholders' wealth. In this paper, the researchers intend to examine the wealth-enhancing properties of the gender-diversity board. In particular, we test the hypothesis that the gender of the board is not associated with the wealth of the shareholders (market value of the share, Tobin's q and the return on equity).

Past studies such as Carter et al. (2008); Dobblin and Jung (2011); Buniamin et al. (2012); Hamzah and Zulkfli (2014) have employed a percentage of the gender of the board. The proportion of female seats on the board of directors as an indicator of the gender-diverse board (BGD). We describe the gender of the board as the proportion of female directors to the board's size. We have used five sets of control variables to improve the effect of gender on shareholders' capital. In this case, firm characteristics variables described in the literature are used to influence firm output as control variables in this analysis. Corporate business is seeking to boom the owner's income, which is mostly actualized by fixed-cost financing, which can typically be made available at a lower cost. Leverage (LEV) is used to leverage fixed-cost assets or the budget to maximize shareholder equity (Pandey & Prabhavathi, 2016). For our sample of 51 listed manufacturing firms, we use leverage as a control variable for robust shareholder capital. Leverage is defined as the ratio of total debt to total assets. Our analysis used firm size (FSZ) as a control variable to improve the gender influence on shareholders' capital. It is due to the possibility that the company's size will affect the wealth of the shareholders. Larger companies have greater prospects for growth and access to funding opportunities, less facts asymmetry due to information availability, larger share distribution, and ownership profile (Sulong, 2008 and Hamzah & Zulkifli, 2014). We use firm size as a control variable for the robust shareholder capital of our sample of 51 listed manufacturing firms. We describe the size of the firm as determined by the natural log of total assets. It is believed that high growth (GWT) creates wealth for shareholders. Firm growth (increase in sales revenue) proliferates the resources of shareholders (Ataunal, Gurbuz & Aybars 2016). For our sample of 51 listed manufacturing firms, we use firm growth as a control variable for robust shareholder wealth. We describe growth as determined by the natural log of sales revenues. Firm age is one of the variables that affect shareholders' wealth, since the firm's success continues to improve as the firm grows older, raising shareholders' wealth (Pervan, Pervan & Curak, 2017). For our sample of 51 listed manufacturing firms, we use firm age as a control variable for robust shareholder capital. We describe the firm age as the age measured by the number of years since the company became listed.

3.2. Technique of Analysis of Data

Panel data regression techniques used to assess the variability of dependent variables Shareholders' wealth due to changes in any explanatory variables include gender diversity and control of firm characteristics proven to impact Shareholders' wealth, leverage, firm size, firm growth, and firm age. Specifically, we use pooled OLS regression to evaluate the gender of the board and the income of the owners of the sampled data by evaluating three different models. We estimated the hypotheses using the time frame of the sample. This study checks whether the gender of the board has a significant effect on the market value of share, output and firm value-Tobin's q. The following model was then adopted.

3.3. Model Specification

In this study, three types of variables are used dependent variables, independent variable and control variable.

The dependent variable is the shareholders' wealth proxy by the market value per share, Performance and Tobin's q. The independent variable is board gender diversity and four control variables which are leverage, firm size, firm growth, and firm age. Hence, the model that follow was adapted to estimate the variables of the study.

$$MVS_{i,t} = \beta_0 + \beta_1 BGD_{i,t} + \lambda_2 LEV_{i,t} + \lambda_3 FSZ_{i,t} + \lambda_4 GWT_{i,t} + \lambda_5 AGE_{i,t} + \mu_{it} \quad (1)$$

$$PRF_{i,t} = \beta_0 + \beta_1 BGD_{i,t} + \lambda_2 LEV_{i,t} + \lambda_3 FSZ_{i,t} + \lambda_4 GWT_{i,t} + \lambda_5 AGE_{i,t} + \mu_{it} \quad (2)$$

$$TBQ_{i,t} = \beta_0 + \beta_1 BGD_{i,t} + \lambda_2 LEV_{i,t} + \lambda_3 FSZ_{i,t} + \lambda_4 GWT_{i,t} + \lambda_5 AGE_{i,t} + \mu_{it} \quad (3)$$

Where;

MVS is Market Value per Share of Firm i at Period t, PRF is Performance of Firm i at Period t, TBQ is Tobin's q of Firm i at Period t, BGD is Board Gender Diversity of Firm i at Period t, LEV is Leverage of Firm i at Period t, FSZ is Firm Size of Firm i at Period t, GWT is Firm Growth of Firm i at Period t, AGE is Firm Age of Firm i at Period t, β_0 Constant/Intercept for the Regression Model of Firm i at Period t β_1 Coefficient of Regression Model of Firm i at Period t, μ_{it} Error Terms of the Regression Model of Firm i at Period t, λ is the Parameters of the Control Variables, t is Time Dimension of the Variables i Represents Firms under Consideration.

4. RESULTS AND DISCUSSION

4.1. Robustness Checked

The robustness test was carried out to ensure the validity of all statistical inferences for this analysis and to verify the problems of the outliers of the data obtained before the appropriate statistical method was selected. The linearity test performed to verify the relationship between the variables under study; provides a functional linearity test. A multi-collinearity test conducted to determine if there is a relationship between the independent variable of the sample. The result indicates an insignificant dependence of the variables in the sample. The collinearity test was carried out using the vector inflation factor (VIF). It shows a mean of 1.53, which is less than 10, indicating a lack of collinearity (see Table 3). The heteroscedasticity test was further performed to assess whether the error term's variability was constant.

This result shows a coefficient of 68.50 significant at 6.64 percent for model 1, also a coefficient of 0.92 which is not significant for model two and a coefficient of 36.02 significant at 5.58 percent for model 3 (see Table 3). Models 1 and 3 with significant p-values were further checked, thus -a robust standard heteroscedasticity error test conducted to correct Model 1 and Model 3. Normality of residues has also been carried out; the Error Term's Normality Test is the assumption of the regression model (OLS), which ensures that the validity of all residual tests (p, t, and F) is normally carried out. However, the study predicts the error term (e) by running sktest e and the result shows a significant p-value of 0.5923 for Model One, 0.0597 for Model Two, and 0.0563 for Model Three. It means that the standard error is not normally distributed in models two and three (see table 4.3). Thus robust regression analysis was adopted in that respect, and the result indicated a good fit and did not suggest the presence of outliers among the regression standardized residuals. (See table 3) The pooled OLS regression result was carried out after a preliminary test of its assumption.

4.2. Descriptive Statistics

The average share price in which shareholders can pay one share of the sampled manufacturing firms in Nigeria for twelve-year period is N0.37k implying that investment in the sampled firms may be worthwhile. The standard deviation is 0.24, implying the data points are distributed over a broad value range of N11.57k, the difference between the minimum and the maximum values of N0.25k and N11.82k. The market value of share as a dependent variable to be stable. More so, the sample firms' different share prices and heterogeneous nature could also explain the full range. Similarly, the average profit returned

to the sampled companies' shareholders is 0.0022, which indicates that the output metric is N0.22k with a minimum of -N0.9k and a maximum of N0.99k. The standard deviation of 0.33 suggests no substantial difference in the sampled companies' output during the study period. The average firm's value Tobin's Q (TBQ) for all the sampled firms in Nigeria over twelve years is N3.29k. Indicates low firm's value by the sampled firms, which means the Tobin q value above 1 means that the company's market value is greater than the replacement cost of its assets. The standard deviation of 22.39 shows a substantial difference in Tobin's q between some of the sampled firms during the study period. The minimum value of Tobin's q is N1.24m implying low market capitalization in some firms during the study with maximum market capitalization of N23.62m. Tobin's q as a dependent variable fluctuate. More so, the sample firms have different market capitalization and heterogeneous, hence the gap of N23.38m between the minimum value (N1.24m) and the maximum value of N23.62m of the market capitalization.

Table 1: Descriptive Statistics of Board Gender Diversity and Shareholders Wealth

Variables	Mean	Std Dev	Min	Max	Skewness	Kurtosis	Obs
MVS	0.3683	0.2424	0.0025	11.82	0.0000	0.0000	612
PRF	0.0022	0.0033	-0.009	0.0099	0.0590	0.0101	612
TBQ	3.2919	22.394	1.2410	23.623	0.0000	0.0000	612
BGD	0.0329	0.1055	0.0000	0.0400	0.0000	0.0021	612
LEV	0.0853	0.2027	0.0002	2.2668	0.0000	0.0018	612
FSZ	9.8274	0.7227	7.7298	10.993	0.0001	0.0008	612
GWT	9.8614	0.8297	7.6917	11.527	0.0368	0.0132	612
AGE	37	10.747	12	58	0.0000	0.0336	612

Source: Descriptive Statistics Result Using STATA 13.0

Subsequently, the mean of women directors of the sampled firms for the twelve years stood at 0.0329, implying that sampled firms have 3.29% women representing the Board of Directors on average. The standard deviation was 0.1055 greater than the mean, indicating many variations of the data points amongst the sampled firms. The minimum value was zero, while the maximum 4% indicated that some sampled companies did not have women on their board within the study period. On the other hand, some sampled companies do have 4% of women sitting on their boards. Leverage is 0.0853, which means the firm needs to fulfill an average of N0.08m obligation, the minimum of N0.02m, and a maximum of N2.27m. The standard deviation of 0.20 indicates no significant variation in leverage of the sampled companies during the study period. The average firm size is 9.83, with a standard deviation of 0.72. Firm size can deviate around both sides. The low standard deviation indicates that the data points spread out over a broad range of values N3.3m (i.e., the difference between the minimum and the maximum values of N7.7m and N11m). Also, the average firm growth is 9.86m, with a standard deviation of 0.83. The low standard deviation indicates that the data points spread out over a broad range of values N3.83m (i.e., the difference between the minimum and the maximum values of N7.69m and N11.52m). Again, the average firm age for the sampled firms in Nigeria is 37 years, with 12 years minimum and maximum of 58 years. The standard deviation of 10.74 indicates a significant variation in the ages of the sampled manufacturing companies in Nigeria. However, all the variables under study are positively skewed, meaning that more results are obtained in the lower values; this happens because the right side of the axis has the histogram's peak. The kurtosis of the variables in the study exhibits the characteristics of a platykurtic and leptokurtic curve shape. The peak of the curves is less peaked than the standard curve in all the variables except board composition, which exhibits more peaked than the standard curve.

4.3. Correlation Matric

Ttable 2. BGD has a positive relationship with MVS, PRF and TBQ at the value of 22%, 23% and 18%, respectively. LEV has a weak negative association with MVS, PRF, Tobin's q, and independent variables BGD at 9.6%, 2.81%, 2%, and 6.66%, respectively. FSZ has a positive correlation with MVS, PRF, Tobin's q and BGD at the value of 46%, 09%, 16%, and 13% respectively, while FSZ have negative relationship with LEV at the value of 21%. Similarly, GWT positively correlated with MVS, PRF, TBQ, BGD, and FSZ at 65%, 18%, 27%, 20%, and 74% only LEV has a negative correlation with GWT at the value of 6.81%. Finally, AGE negatively correlates with MVS, PRF, LEV, FSZ, and GWT at 4.93%, 8.87%, 1.22%, 1.04% and 5.34% respectively. AGE has positive relationship with Tobin's q and BGD at the value 1.94% and 3.91%.

Table 2: Correlation Matric of Board Gender Diversity and Shareholders Wealth

Variables	MPS	PRF	TBQ	BGD	LEV	FS	GWT	AGE	VIF
MPS	1.0000								
PRF	0.1273	1.0000							
TBQ	0.3874	0.5322	1.0000						
BGD	0.2240	0.2275	0.1759	1.0000					2.27
LEV	-0.096	-0.028	-0.020	-0.666	1.0000				2.19
FSZ	0.4570	0.0853	0.1594	0.1349	-0.209	1.0000			1.15
GWT	0.6539	0.1770	0.2688	0.1985	-0.068	0.7423	1.0000		1.04
AGE	-0.0493	-0.0887	0.0194	0.0391	-0.122	-0.0104	-0.053	1.0000	1.02

Source: Correlation Matric using STATA 13.0

4.4. Regression Results

Pooled OLS models 1, 2, and 3 display probabilities, i.e., Prob > chi2 = 0.0000, 0.0000 and 0.0005, i.e., 1% each, meaning that the relationship between board gender and shareholder wealth is statistically significant and relatively reasonable, implying that the variables in the model have been appropriately selected, combined and used. It is not due to chance since 99 percent of the outcomes and inferences derived from the results can be founded on the significance level of 1 percent. As such, at 1 percent, the p-value of Prob > chi2 is statistically significant, meaning that its predictors predict dependent variables accurately.

Table 3: Pooled OLS Regression Result of Board Gender on Shareholders Wealth

Variables	Model 1 (MVS)			Mode 2 (PRF)			Mode 3 (Tobin's Q)		
	Coeff	t-v	t>/t/	Coeff	t-v	t>/t/	Coeff	t-v	t>/t/
Constant	3.6070	7.19	0.000	0.4822	2.16	0.036	0.2583	4.21	0.000
BGD	1.3866	2.17	0.031	0.6027	5.16	0.000	0.1079	2.73	0.007
LEV	0.3319	2.13	0.033	0.1914	1.90	0.045	0.0730	3.38	0.001
FSZ	0.1582	0.68	0.694	-0.355	-1.41	0.159	-.0092	-1.08	0.279
GWT	0.5222	4.12	0.000	0.6325	2.93	0.004	0.0413	5.66	0.000
AGE	0.0584	3.69	0.000	0.0423	1.96	0.051	0.0019	1.95	0.049
R ²			0.44			0.29			0.27
Adj. R ²			0.31			0.18			0.11
Obs			561			561			561
F(sig)			24.52			11.61			10.48
Prob >F			0.000			0.000			0.0005
Chi ²			68.50			0.92			36.02
Hetest			0.0664			0.3366			0.0578
Sktest			0.5923			0.0686			0.0597
VIF Mean			1.53			1.53			1.53

Source: Regression Result using STATA 13. Note *, **, *** indicate significance levels at 10%, 5% & 1% respectively.

The models record R2 at 44 percent, 29 percent, and 27 percent, respectively, indicating the degree to which MVS, PRF, and TBQ clarified the wealth proxy of dependent variable shareholders by the independent variables. In this model, only 56 percent, 71 percent, and 73 percent are responsible for factors not being captured. The modified R2 illustrates that the explanatory variable can further explain the explained variable. This illustrates the power, its applicability, and its utility in assessing the degree to which the gender board of the board influences influences the wealth of shareholders.

The outcome of pooled OLS indicates a major positive impact of the Gender-Diverse Board on the Market Value of Share (MVS), Profitability (PRF) and Tobin's Q (TBQ) measures of shareholders' wealth at 1 percent, respectively. At 1 percent, LEV has a significant positive effect on MVS, PRF and EPS. FSZ has an insignificant negative impact on MVS, PRF and TBQ at the same time. At 1%, GWT has a significant positive effect on MVS, PRF and TBQ. At 1%, AGE has a favorable effect on MVS, PRF and TBQ.

At a 1 percent level of significance, the Gender-Diverse Board has a positive significant impact on shareholder wealth (MVS, PRF and TBQ). The coefficient values are 1.387, 0.603 and 0.108 and their corresponding t-values are 2.17, 5.16 and 2.73 respectively.

The positive result of models 1 to 3 indicates that the wealth of the shareholders' increases as the number of female directors on the board of the listed manufacturing companies increase by 1%, which means that the more female directors on the board, the more increase in wealth, which can increase the confidence and trust of the shareholders. Board gender diversity leads to more productive problem-solving, because more women on the board are more sensitive in the financial decision-making process. It is because women are sensitive to problems and are more diligent as they take decisions with the utmost caution, because such successful financial decision attracts investors when expressed in the wealth of shareholders, this will normally reflect the stock's high efficiency, firm value and market value as investors will purchase a stock of company with optimum performance. This study showed that a rise in female directors has a high impact on the sampled firm's company, market and financial-based wealth optimizers.

However, the underlying assumption of the influence of board gender on the resources of shareholders is that it is assumed to have a positive impact because when the number of women on the board rises, it would be advantageous as this will improve the efficiency of the board decision thereby increasing shareholders' wealth (Marinova, Plantenga, & Remery, 2010). However, this report states that the fraction of women on the board of some companies is one to four percent and some instances zero, hence the need to promote the inclusion of more female board members to ensure successful decision-making that enhances the wealth of shareholders. The beneficial effect of board gender on the wealth of shareholders would otherwise be compromised. This outcome, however, confirms the existing literature on this phenomenon. The research of Ferrari, Ferraro, Profeta, and Pronzato (2018), Sayumwe and Amroune (2015) by Ferrer and Banderipe (2012) found a positive impact of board gender on market value of share. However, this research contradicts the discovery of a negative influence of board gender on the market value of share by Dobbin & Jung (2011) and discovering a negative effect of board gender on performance Shittu, Ahmad and Ishak (2016).

Besides, the H₀ hypothesis: the gender of the board does not have significant effect on shareholders' wealth was proved to be incorrect. Board gender impacts shareholders' wealth, with a positive impact on the shareholders' wealth of the listed manufacturing companies in Nigeria. The null hypothesis was estimated by regression analysis. The magnitude of the board gender effect on shareholders' wealth in the three models (market value of share (MVS), performance (PRF) and firm value (Tobin's q)) have coefficients and t-value of 1.387(2.17), 0.603(5.16) and 0.108(2.73) respectively, with a substantial 1% value which means that the gender-based board has a significant positive impact on shareholders' wealth. Subsequently, the relationship is statistically significant; thus, we reject the null hypothesis that gender-based boards have no effect on shareholders' wealth and conclude that gender-based boards have a significant positive impact on shareholders' wealth. A substantial positive effect of the board gender on shareholders' wealth suggests that more women directors on the board can boost the financial decision because the constructive disposition of women on the board will contribute to better decision-making, thereby ensuring an increase in the shareholder wealth of listed manufacturing firms in Nigeria.

Moreover, leverage significantly positively affects shareholders' wealth - MVS, PRF and TBQ with a coefficient of 0.332, 0.191 and 0.073 with their respective t-value of 2.13, 1.90 and 3.38, respectively. Although the leverage effect on ROE is insignificant. It implies that the leverage of firms has a substantial effect on the wealth of shareholders, which means that the level of leverage a company decides to use does determine the wealth of the shareholders; thus, if a sufficient level of the external fund is maintained, it will lead to the smooth running of financial operations, thereby enhancing the wealth of the shareholders. This finding is consistent with the current literature on this phenomenon, and thus the study does not refute the null hypothesis that leverage does not affect the shareholders' wealth of the listed manufacturing firms in Nigeria. These results are consistent with the Pandey and Prabhavathi (2016) study.

Similarly, firm size has a major negative influence on shareholder wealth-MVS, PRF and TBQ with a coefficient of 0.158,-0.355,-0.0019 and a t-value of -0.68,-1.41 and -1.08 respectively. The outcome showed an insignificant negative impact of firm size on PRF and TBQ. It means that the size of the company determines the wealth of the shareholders. This finding is consistent with the current literature on this phenomenon, and therefore the study does not reject the null assumption that the size of the company does not affect the shareholders' wealth of the listed manufacturing companies in Nigeria. These results are consistent with the Hamzah and Zulkifli (2014) study, which found that firm size had a negative impact on the market value of the share.

Also, firm growth has had a significant positive impact on shareholder wealth – MVS, PRF, TBQ coefficients, and t-values of 0.522(4.12), 0.633(2.93), 0.0413(5.66) with significant values of 1%, respectively. It means that an increase in the company's growth will boost Nigeria's shareholder wealth of listed manufacturing companies by 1%. It's because a mature firm is facing

a lower systematic payoff. This finding is consistent with the existing literature on this phenomenon, and therefore the study does not reject the null hypothesis that firm growth does not affect the shareholders' wealth of the listed manufacturing companies in Nigeria. These results are consistent with the study of Ataunal, Gurbuz and Aybars (2016) which found that firm growth had a positive impact on the market value of the share.

The firm age also has a substantial positive impact on shareholder wealth with a coefficient and t-value of 0.058(3.69), 0.0423(1.96), and 0.0019(1.95), with a significant p-value of 1% and 5%, respectively. It means that an increase in firm age will raise Nigeria's listed manufacturing companies' shareholder wealth by 1%. This may be because older firms earn more. After all, they have more market experience, because they have built up their market position and usually have a lower cost structure. Older firms may be reaching the end of their product life cycle again. However, firm age has a significant negative effect on shareholder wealth (PRF and TBQ) coefficients and t-values of 0.0001(-2.54) and -0.0001(-2.32), which is significant at 1%, respectively. It implies that an increase in the company age will decrease its performance and value of the listed manufacturing firms in Nigeria by 1%. This finding is consistent with the existing literature on this phenomenon, and therefore the study does not reject the research assumptions that a firm age affects the market price per share of the listed manufacturing companies in Nigeria. These results are consistent with the study by Pervan, Pervan and Curak, (2017) and Gregory, Rutherford, Oswald, and Gardiner (2005) which found that firm age had a positive impact on market price per share.

5. CONCLUSIONS

Boards Gender improve the wealth of shareholders. We conclude that companies with a proportion of female board contributors have positively affected shareholders' wealth. Thus, firms with few or zero women board members are encouraged to abide by legal decisions on gender representation on the board to ensure an appropriate balance of skills and diversity, including gender, and not compromise the experience, competence, independence and integrity of the board.

It implies that the proportion of women on the board of directors of listed manufacturing companies in Nigeria adds value to the board's decision-making processes, which translates into positive effects on shareholders' wealth. This suggests that a large number of women directors on the board would improve the market value of share, firm value and revenue growth, which explains the diligence and risk-averse role that women have played in making a decision that optimizes shareholder wealth. We may deduce from this study that more women directors on the board mean improved firm, market and financial-based results. Therefore, it suggests that women directors on the board should be increased to an average of 15 percent by management to ensure a better and continuous quality of the financial decision to ensure enhanced shareholder wealth.

This paper provides insight into the possibility that female board members' contributions to the board could contribute to sound financial decision-making and a positive effect on shareholders' wealth, especially in manufacturing companies in Nigeria.

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