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BOARD CHARACTERISTICS AND DIVIDEND POLICY OF LISTED INDUSTRIAL GOODS FIRMS IN NIGERIA: THE MODERATING EFFECT OF PROFITABILITY

Sirajo Bappah[1], Munir Aliyu Saleh[2] and Shehu Usman Hassan[3]

[1]Department of Accounting, Faculty of Management Sciences, Federal University of Kashere, Gombe State. E-mail: Soorajj872@gmail.com
[2]Department of Accounting, Federal University Wukari, Taraba State. E-mail: salehmuniraliyu@gmail.com
[3]Professor of Accounting and Finance, Department of Accounting, Faculty of Management Sciences, Federal University of Kashere, Gombe State

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Abstract: This study examines the impact of board characteristics on dividend policy of listed industrial goods firms in Nigeria, the moderating effect of profitability. The study adopts ex-post factor and correlation research design. The population of the study covers all thirteen (13) industrial goods firms listed on the floor of the Nigerian Stock Exchange as at 31st December 2020. The study utilized two point filters to arrive at a sample size of nine (9) firms and it covers a period of ten years ranging from 2011 to 2020. Data were extracted from the annual report of sampled firms. The study reveal that profitability has a significant and positive moderating effect on the relationship between board independence, board meeting and dividend policy of listed industrial goods firms in Nigeria and it was found to have an insignificant moderating effect on board size, diversity and dividend policy. Based on the findings, it is recommended that listed industrial goods firms in Nigeria should pay close attention to their profitability by ensuring continual growth and increase in their net profit as it was found to moderate the effect board independence and board meetings have on dividend payout ratio.

Keywords: Dividend policy, board characteristics, moderator, profitability, industrial goods firms.

1. INTRODUCTION

The decision to pay or not to pay dividend has been an issue of concern to researchers over the years because of its direct association with the confidence

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investors have in a firm which is tied to the reward derivable from their investments. Since it is directly linked with the investors' confidence, the inability of a firm to give investors some return on their investment as a result of a long trail of losses made by the firm, the trust and confidence those investors have will diminish which will result to capital withdrawal and eventual liquidation of such a company. On the other hand, the directors of the company been representatives of the company owners can decide in an annual general meeting that part or all of earnings generated in a period should either be distributed to the firm owners or be ploughed back to the company as substitute source of finance which in the long run will help in expanding the business and meeting new frontiers by entering into new markets or reinvestment in other viable investments that offer a high rate of return. It is therefore of paramount importance to note that despite the fact that dividend and retained earning move in opposite directions, it is however impossible to make decision on one without affecting the other. Hence the need to balance the two decisions by finding the ratio or percentage of earnings to be paid as dividend which will not affect the firm's ability to get finance internally which will be sufficient enough to support the capital budget of the firm (Tijjani & Ishaku, 2015).

Pursuant to this dilemma and the complex nature of dividend decision, a lot of researchers (Moloi & Marwala, 2020; Alshabibi, Pria & Hussainey, 2021; Pieloch-Babiarz, 2019; Thompson & Manu, 2020) soughted to evaluate firms' decision of whether to pay dividend or retain earnings. Dividend policy has been found to be a control mechanism that aims at mitigating the agency cost problem. Several theories came to being in order to explain the rationale behind dividend payment by firms. One of the most widely used explanations is the agency cost theory, which emanates from the seclusion of ownership from management which resulted into divergence of interest between shareholders who are owners of the firm and managers being stewards of the firm (Moloi & Marwala, 2020). In recent times, agency cost problem has remained a lingering issue to researchers, investors and the public worldwide. This is as a result of fall of firms seen to be strong and viable in the eyes of investors and the public which in reality are doing really bad resulting from the scandals perpetuated by managers of the companies who used the resources of their firms to pursue their personal interest at the expense of the those of the firm's owners. These scandals have left investors unsure about the capability of managers to manage their resources and has reduced the trust and confidence investors have in the management (Saleh, Abdulkarim, & Ibrahim, 2020).

The board of directors according to Fama and Jensen (1983) is considered an important corporate governance control tool used to address agency problems arising from firms due to divorce of ownership right from control in modern businesses. They serve as a representation of the owners of a company and are responsible for overseeing and monitoring the behaviour of the organizational management and aligning the interest of the management and shareholders in order to reduce agency cost and ensure maximization of wealth of the firm (Alshabibi, *et al.*, 2021).

The relationship between the characteristics of a company's board and dividend policy has been an interesting topic of discussion by researchers because each of its components has earn the attention of researchers and scholars around the globe (Nguyen, Dang & Dau, 2021). Theoretician have two opposing schools of thought explaining the relationship between board attributes and dividend policy. Firstly, the found that, a good corporate governance or strong a board will influence high dividend payment which implies the protection of shareholders' interests. The other school believed a weak board or corporate governance will increase the rate of dividend payment. According to this school, a weak board is an indication of high agency cost and it will be difficult for firms in such situation to raise capital from the market, hence the need to pay dividend in order to win over shareholders' interest, attract investors and increase the reputation of the company (Nguyen *et al.*, 2021).

Empirical investigations conducted to further test these theories and further explain the association between board characteristics and dividend policy in both developed and developing countries also produced divergent and inconsistent results. Studies by Nharo, Moloi, and Hlobo (2021) and Shehu (2015) found board independence and ethnicity significantly influence dividend pay-out ratio. Some studies such as Marimuthu, Arokiasamy and Kaliyamoorthy (2019), Alshabibi, *et al.* (2021), and Shehu (2015) examined the relationship between board characteristics and dividend pay-out. Dissannayake and Dissabandara (2021), Thompson and Manu(2020), Nguyen *et al.*(2021), Reddy Yarram and Dollery (2015), Okafor, Ogwuegbe, and Ezeaku Hillary (2016) studied the influence of board characteristics and dividend policy of firms in different countries. On the other hand, Isa and Salawudeen (2019), Pieloch-Babiarz (2019), Duong, Phan, Pho, and McAleer (2020) investigated the association between board characteristics, dividend policy and shareholders' wealth. However, the findings of all these studies are inconsistent and demand for further studies to be conducted in the area. Also, most of these studies are foreign and conducted in developed countries and the findings of such research work cannot be applied in a general context because of the variations in the markets, economy policies, political orientation, standards and regulations. Thus, the need to examine the association between board characteristics and dividend policy of listed Nigerian firms.

Further, the peculiarity of this study is the introduction of a moderator. This is to evaluate whether profitability has a moderating effect on the relationship between board characteristic and dividend policy of listed industrial goods firms in Nigeria. Industrial goods firms are informed by the role they play towards the economic development of Nigeria and the diversity of the firms in the sector allows the latitude to study the different firms that are into different lines of business within the industry. The moderator (profitability) is introduced in to the relationship to see if there will be change in the relationship between board characteristic and dividend policy earlier established by prior literature. A moderator is introduced when there are inconsistencies in findings regarding a particular area of study (Farooq and Vij, 2017). It's therefore anticipated that profitability will moderate the relationship between the variables under study.

The main objective of this study is to examine the moderating effect of performance on the relationship between board characteristic and dividend policy. Other specific objectives are to:

i) examine the impact of board independence on dividend policy of listed industrial goods firms in Nigeria
ii) examine the impact of board size on dividend policy of listed industrial goods firms in Nigeria
iii) determine the impact of board diversity on dividend policy of listed industrial goods firms in Nigeria
iv) investigate the impact of board meeting on dividend policy of listed industrial goods firms in Nigeria
v) find-out the impact of profitability on dividend policy of listed industrial goods firms in Nigeria
vi) investigate the moderating effect of profitability on the relationship between board independence and dividend policy of listed industrial goods firms in Nigeria
vii) examine the moderating effect of profitability on the relationship between board size and dividend policy of listed industrial goods firms in Nigeria

viii) find out the moderating effect of profitability on the relationship between board diversity and dividend policy of listed industrial goods firms in Nigeria.

ix) determine the moderating effect of profitability on the relationship between board meeting and dividend policy of listed industrial goods firms in Nigeria

In line with above stated objectives, the following hypotheses are formulated in null form:

H01: There is no significant relationship between board independence and dividend policy of listed industrial goods firms in Nigeria

H02: Board size has no significant impact on dividend policy of listed industrial goods firms in Nigeria

H03: There is no significant relationship between board diversity and dividend policy of listed industrial goods firms in Nigeria

H04: Board meeting has no significant impact on dividend policy of listed industrial goods firms in Nigeria

H05: Profitability has no significant impact on dividend policy of listed industrial goods firms in Nigeria

H06: Profitability has no significant moderating effect on the relationship between board independence and dividend policy of listed industrial goods firms in Nigeria

H07: Profitability has no significant moderating effect on the relationship between board size and dividend policy of listed industrial goods firms in Nigeria

H08: Profitability has no significant moderating effect on the relationship between board diversity and dividend policy of listed industrial goods firms in Nigeria

H09: Profitability has no significant moderating effect on the relationship between board meeting and dividend policy of listed industrial goods firms in Nigeria

The findings of this study will be of great benefit to investors as it will provide information on the dividend policy of industrial goods firms in Nigeria and how the return they are to get on their investment or stake holding is influence by dividend payment. The study will also make available an additional literature in the area of dividend policy, characteristics of board and profitability of industrial goods firms listed on the Nigerian exchange group.

The remaining part of the study is structured as follows; section two review of prior empirical literature and theoretical underpinning of the study. Section three discusses the methodology adopted for the study. Section four is centered towards the discussion of results and section five presents the conclusions and recommendations of the study.

2. REVIEW OF EMPIRICAL LITERATURE

The board with a significant proportion of independent directors is more effective in monitoring management and, therefore, they can mitigate the agency conflict and improve the dividend payout.

Dissannayake and Dissabandara (2021) investigated the impact of board characteristics on dividend policy of firms in a developing country. The study covered a period of five (5) years ranging from 2015-2019 using a sample of 170 firms. They used audit committee size, women on boards, board independence, board size, board meetings and CEO duality to represent board characteristics while dividend decision and dividend payout represented dividend policy. Also, firm size and leverage represented the control variables. Their findings showed that, audit committee size, board meeting and board independence impacts negatively and significantly on dividend decision. Further, they found board gender, board size, and CEO duality to have insignificant association with dividend decision. On the other hand, audit committee size, board independence, board meeting and CEO duality had significant positive impact on dividend payout. Board size was found to be negatively and significantly impacting on dividend payout while board gender was found to be negatively and insignificantly influencing dividend payout.

Nharo *et al.*, (2021) investigated the relationship between board composition and dividend payment policies of top 40 Johannesburg firms spanning a period of five years from 2013-2018. They used board gender, board ethnicity, average age, board financial expertise, board size, and board independence to represent board characteristics and dividend pay-out ratio to represent dividend payment policy. Their study findings revealed the existence of a significant influence of board ethnicity and board independence on dividend pay-out ratio. It however indicated no significant effect of, board gender, average age, financial expertise and board size on dividend payment policy of top 40 firms listed in Johannesburg stock exchange. They recommend strong adherence to the stated legislations regarding board size, independence and other characteristics of a board. They also recommend that companies should understand that the value of true diversity is found in its ability to enhance decision making.

Alshabibi *et al.*, (2021) examined the impact of board structure on dividend policy of listed Omani firms. This relationship was examined using 109 firms listed on Muscat stock exchange for periods between 2009-2019. Board size, board independence, board meetings, board gender diversity and board nationality diversity were used to proxy board structure while dividend per share was used to represent dividend policy. The findings of their study showed that, board independence, board meetings and board nationality diversity were found to have a positive and significant impact on dividend policy while board size and board gender diversity were found to have no significant effect on dividend policy of listed Omani firms.

Nguyen *et al.*, (2021) investigated the influence of corporate governance on dividend policy of enterprises in Vietnam. The study covered periods from 2008-2018 utilizing data from the published accounts of listed Vietnamese firms. General least square regression was used to analyze the extracted data. Their study findings revealed that, companies with strong board of directors tend to pay less dividend also profitability, financial leverage, firm size, and investment opportunities affect dividend policy of listed Vietnamese firms.

Isa and Salawudeen (2019) studied the association between board characteristics, dividend policy and shareholders' wealth of listed manufacturing companies in Nigeria using a sample of fifty-one (51) firms to represent the population of sixty-three manufacturing firms listed on the floor of Nigerian stock exchange as at 31st December, 2018. They used four variables (board composition, board size, board ownership and board gender) to represent the independent variable board characteristics and used earnings per share and market price per share to proxy the dependent variable shareholders' wealth. They also used dividend policy classifying it into dividend pay-out ratio, dividend per share and dividend yield to mediate the relationship between board characteristics and shareholders' wealth. Structural equation model was used to analyze the data collected using STATA 13 as a tool. Their study findings revealed that dividend policy has a mediating effect on the relationship between board composition, board size, board ownership, board gender and earnings per share of listed manufacturing firms in Nigeria. It has showed a significant mediating effect on board size and market price per share. Their findings however indicated no mediating effect on the association between board characteristics (board composition, board ownership and board gender) and market price per share of listed manufacturing firms in Nigeria. They recommended that manufacturing firms in Nigeria should restructure their dividend policy in order to increase shareholders' wealth which will help attract investors to the company.

Pieloch-Babiarz (2019) in a study titled "Ownership structure, board characteristics and dividend policy: evidence from the Warsaw Stock Exchange" studies the impact of ownership structure and board characteristics on dividend payment by non-manufacturing firms listed on Warsaw stock exchange. The findings of his study revealed that, companies that pays dividend were observed to be characterized by high institutional and state ownership. Further, the boards of such companies are large, members of the board also hold shares in the company, and the chairman retains office for a long period of time.

Okafor *et al*., (2016) examined the effect of board interest on the dividend policy of Nigerian manufacturing sector for periods from 2009-2015. The data used were of secondary nature and were analyzed using pooled panel least square regression. The findings of the study showed that ownership concentration has a positive but an insignificant influence on dividend policy of listed manufacturing firms in Nigeria while firm size was found to have a significant positive effect on dividend payout of listed manufacturing firms in Nigeria. They recommended that, manufacturing firms should balance the use of dividend policy and insider ownership as a means to settle agency conflict.

Uwalomwa, Olamide & Francis (2015) provide similar findings in which they indicate that board independence has significant positive effect on dividend policy which is consistent with the outcome model. The positive relationship suggests that the higher the outside members on the board, the higher the dividends. Reddy *et al*. (2015) provide evidence that independent directors seem to impact boards to pay higher dividends. Thus firms are encouraged by independent directors to pay a higher payout and seek the required funds from capital markets.

Shehu (2015) examined the impact of board characteristics on dividend payout of public listed companies in Malaysia. He utilized a sample of 164 Malaysian firms for the year 2013. Dividend payout ratio was used to represent dividend payout while board independence, board size, CEO duality, proportion of family members on the board, and concentrated of ownership to serve as proxies for board characteristics. Multiple regression technique was used to test the association between the dependent and independent variables of the study. The findings of the study indicated a significant position impact of concentrated ownership on dividend payout ratio and a significant negative impact of board independence on dividend payout ratio of listed Malaysian firms. However, the findings of the study showed no significant impact of board size, CEO duality and proportion of family members on the board on dividend payout ratio of listed Malaysian firms.

Reddy *et al*., (2015) examined the effect of board structure on dividend policy of listed Australian firms. The study used a sample of 413 listed non-financial firms in Australia covering periods from 2004-2009. The data used were taken from the Thomson Reuters Datastream database. Their study found that profitability, board independence and board size have a significant positive influence on dividend payout of listed Australian firms. On the other hand, current losses and growth opportunity were found to exert a negative significant influence on dividend payout. Asamoah (2011) argues that independent non-executive directors may act as a monitoring device on the firm's managers, thus dampening in principle, the need for higher dividend payout. If independent directors are an effective monitoring device, then board independence and dividend policy should be substitutes in the monitoring of agency problems.

However, if the monitoring ability of outside directors is insufficient, then it could be that non-executive directors may influence higher dividend payouts by a company, to enhance managerial monitoring by external markets (Soliman, 2013). Similarly, Gaur, Bathula, and Singh (2015) argue that outside board members have the incentive to establish a reputation as effective stewards for shareholders free from managerial influence and control. There is empirical evidence indicating that outside board members tend to serve the interest of shareholders. Whether more independent boards produce higher or lower dividends depends upon whether the outcome model (dividends will increase) or the substitution model (dividend will decrease) prevails.

3. METHODOLOGY

This study aims to examine the moderating effect of profitability on the relationship between board characteristics and dividend policy of listed industrial goods firms in Nigeria. It adopts correlation research design. The population of the study covers all thirteen (13) industrial goods firms listed on the floor of the Nigerian Stock Exchange as at 31st December 2020. The study used a sample of nine (9) firms using two filters to arrive at the sample size.

The first filter excludes does industrial goods firms that have not been delisted or suspended within the study period while the second filter excludes firms with incomplete annual reports covering the periods of study. The study covers period of ten years ranging from 2011 to 2020 and the extracted data are of secondary nature. Board independence, board size, board diversity and board meetings represented board characteristics while dividend payout ratio is used to proxy dividend policy and net profit margin is used to represent profitability.

The following models are specified to test the formulated hypotheses

$$DPRit = \beta_0 + \beta_1 BINDit + \beta_2 BSIZEit + \beta_3 BDIVit + \beta_4 BMEETit + \beta_5 PROFit + \beta_6 BINDit *PROF + \beta_7 BSIZEit *PROF + \beta_8 BDIVit*PROF + \beta_9 BMEETit *PROF + eit \quad (2)$$

Where:
DPR = Dividend payout ratio
BIND= Board independence
BSIZE= Board size
BDIV= Board diversity
BMEET= Board meeting
PROF= profitability
e = error term
β_1–β_3 = coefficient
i = firm
t = time/year

Table 1: Variable Measurement

Variables	*Measurement*	*Sources*
Dividend Payout Ratio	Dividend per share to earnings per share.	Nharo, Moloi, & Hlobo (2021)
Board Independence	Proportion of non-executive directors to the total number of members on the board	Saleh, Abdulkarim & Ibrahim (2020)
Board Size	Natural logarithm of total number of members in the board	Nharo, Moloi, & Hlobo (2021)
Board Diversity	Proportion of female directors to the total number of members in the board	Saleh, Abubakar, Saleh & Shehu (2021),

Variables	*Measurement*	*Sources*
Board Meeting	Number of meetings held by members of board of directors in an accounting year	Saleh, Abubakar, Saleh & Shehu (2021),
Profitability (NPM)	Net Profit divided by Turnover	Lembong (2020)

Source: Authors' compilation, 2022.

4. RESULTS AND DISCUSSIONS

This section presents and discusses the result of the study. The section commenced with presentation of descriptive statistics, followed by correlation matrix, multicollinearity and heteroscedasticity tests result, then the regression result.

Table 2: Summary of Descriptive Statistics

Variables	*Obs*	*Minimum*	*Maximum*	*Mean*	*Std. Dev*
DPR	90	-0.2853	1.4706	0.4265	0.3987
BIND	90	0.0769	0.9444	0.7353	0.1359
BSIZE	90	4	19	8.9111	3.5998
BDIV	90	0	0.6667	0.1484	0.1686
BMEET	90	3	10	5.1444	1.3455
PROF	90	-3.4418	1.9797	0.1039	0.4820

Source: STATA Output, 2022

From table 2 above, it can be observed that board independence has a mean value of 0.7353 which is within the minimum and maximum values of 0.0769 and 0.9444 respectively. It implies that about 74% of the boards of listed industrial goods firms in Nigeria is made up of non-executive directors which is also an indication of strong compliance to corporate governance requirement. Also, the table showed that on an average, the size of the board of listed industrial goods firms in Nigeria is 8.9111 which is about 9 members per board. This implies that most of the firms in the industrial goods sectors has a large board size. From the table, it can be seen that board diversity has an average value of 0.1484 with minimum and maximum values of 0 and 0.6667. This implies that about 15% of the boards of listed industrial goods firms comprises of female directors. This however indicates a low representation of female directors on the board of listed industrial goods firms in Nigeria. Board meeting can be seen to have a mean value of 5.1444, a minimum value of 3 and a maximum value of 10. These impliedly means that within the study periods, the board of directors of listed industrial goods firms in Nigeria held at least 3 meetings per year and at most 10 meetings per year. Profitability represented by net profit margin has a mean value of 0.1031, minimum and maximum values of -3.4418 and 1.9797 with standard deviation of 0.4820. Finally, dividend payout ratio is within the range of -0.2853 and 1.4706. It also has an average and standard deviation value of 0.4265 and 0.3987. The standard deviation can be seen to be high which implies that some listed industrial goods firms like Dangote Cement Plc and Lafarge Cement Plc tend to pay more dividend while some like Meyer Plc and Portland Paint plc do not pay dividend at all within the study period.

Correlation Matrix

The correlation matrix shows the association between the explanatory variables and the dependent variable and the association between the explanatory variables themselves. Below is a table depicting these relationships.

Table 3: Correlation Matrix

	DPR	*BIND*	*BSIZE*	*BDIV*	*BMEET*	*PROF*
DPR	1.0000					
BIND	-0.1383	1.0000				
BSIZE	0.0993	0.2695	1.0000			
BDIV	-0.0938	0.0451	-0.0109	1.0000		
BMEET	0.2092	-0.0670	0.4963	0.1612	1.0000	
PROF	0.2279	-0.1107	0.1980	0.1397	0.2685	1.0000

Source: STATA Output, 2022

The correlation result presented in table 3 showed that board independence and board diversity have negative correlation with dividend payout ratio. While board size, board meeting and profitability have positive correlation with dividend payout ratio to the tune of 9.93%, 20.92% and 22.78% respectively. Board independence is positively correlated with board size and board diversity at the values of about 27% and 5% respectively and also negatively related to board meeting and profitability as at about 7% and 11% respectively. Further, board size has a negative relation with board diversity but positive and significant relations with board meeting and profitability. Also, board diversity correlates positively with board meeting and profitability. The correlation between profitability and board meeting is positive and significant. In summary, some of the variables are positively correlated while others are negatively correlated. Also, there is no high correlation between the explanatory and explained variables as all the figure were seen to be considerably below 0.8. It can however not be concluded with certainty that collinearity is not a problem unless it is tested using multicollinearity test.

Table 4: Multicollinearity

Variable	*VIF*	*1/VIF*
BSIZE	1.57	0.6377
BMEET	1.50	0.6660
BIND	1.18	0.8468
PROF	1.12	0.8919
BDIV	1.07	0.9382
Mean VIF	1.29	

Source: STATA Output, 2022

In order to whether there is harmful collinearity among the variables, multicollinearity test is conducted and the table above presents the result. From table 4 above, VIF has minimum and maximum values of 1.07 and 1.57 respectively and the mean value is 1.29, all of which are considerably below 10. This therefore, indicates the absence of harmful multicollinearity amongst the data set.

Regression Result and Diagnostic Tests

The table below represents the result of the study indicating the association between the explanatory variables and the explained. The table also contains results of further diagnostic tests conducted that adds credibility to the outcome of the regression result.

Table 5: Regression Result

Variables	*Coefficients*	*Z-value*	*P-value*
BIND	-1.1726	-2.26	0.024
BSIZE	0.1657	0.46	0.642
BDIV	-0.1234	-0.40	0.689
BMEET	-0.0099	-0.21	0.832

Variables	*Coefficients*	*Z-value*	*P-value*
PROF	-5.1161	-2.50	0.013
BINDPROF	5.8247	2.13	0.034
BSIZEPROF	-0.7764	-0.55	0.585
BDIVPROF	0.2105	0.18	0.859
BMEETPROF	0.3644	2.04	0.041
Constant	1.1569	2.75	0.006
R-square			0.1834
F-stat.			17.97
F-significance			0.0356
Hettest			1.49(0.2216)
Hausman			49.14(0.0000)

Source: STATA Output, 2022

In order to test for heteroscedasticity, Breusch-Pagan/Cook-Weisberg test was used. The test result showed that the Chi2 value is 1.49 and probability value of 0.2216. Since the probability value is insignificant, it signifies that heteroscedasticity is not a problem. Despite this result, Hausman specification test was conducted after running fixed and random effect regressions. As can be observed from the table above, hausman has a chi2 value of 49.14 and a probability value of 0.0000 which is significant at 1% indicated that fixed effect regression should be interpreted. In line with the foregoing, fixed effect regression is interpreted as below.

From the table above, the R2 being the multiple coefficient of determination is 0.1834. It connotes that over 18% of the total change in dividend payout ratio of industrial goods firms listed in Nigeria is caused by the combined effect of board independence, board size, board diversity, board meeting and their moderator. The F-statistics and significance value indicates that the model the well fitted and the independent variables are appropriately selected and employed.

The regression result showed that board independence has a coefficient of -1.1726 and a probability value of 0.024. It indicates that there is a negative and significant association between board independence and dividend payout ratio of listed industrial goods firms in Nigeria and any increase in the number of non-executive directors on the board will affect dividend payout ratio negatively. This finding concurs to the findings of Shehu (2015), Abor and Fiador (2013), and Papo (2016) but contradicts the findings of Dissannayake and Dissabandara (2021) and Alshabibi *et al.* (2021) who found a positive and significant association between board independence and dividend policy. In line with the above findings, we reject the null hypothesis which states that there is no significant association between board independence and dividend policy of listed industrial goods firms in Nigeria.The moderated board independence has a coefficient of 5.8247, a z-value of 2.13 and a probability value of 0.034 which is significant at 5% level. This signifies that profitability has a significant moderating effect on the relationship between board independence and dividend payout ratio. It also implies that any change in profitability of listed industrial goods in Nigeria will result to a positive change on the effect that board independence has on dividend payout ratio. We therefore, reject the null hypothesis which states that profitability has no significant moderating effect on the relationship between board independence and dividend policy of listed industrial goods firms in Nigeria.

Also, the coefficient of board size is 0.1657 and its probability is 0.642. It indicates that board size has a positive and insignificant impact on dividend payout of industrial goods firms. This result showed that any increase in board size will lead to a positive but an insignificant increase in the rate of dividend payment by industrial goods firms in Nigeria. This is line with the findings of Nharo *et al.*, (2021), Dissannayake and Dissabandara (2021), Isa and Salawudeen (2019) and Shehu (2015) that found no significant interaction between board size and dividend payout. It is however in conflict with those of Thompson and Manu (2020), Al-Najjar and Kilincarslan (2016) and Kurawa and Ishaku (2014) who found a significant association between board size and dividend payout. The moderated board size has a coefficient of -0.7764, z-value of -0.55 and p-value of 0.585. This result implies that board size been moderated by profitability has a negative and insignificant impact on dividend policy of listed industrial goods firms in Nigeria. It also implies that any increase in board size moderated by profitability will reduce the dividend payout ratio of listed industrial goods firm. It can therefore say that profitability does not significantly moderate the relationship between board size and dividend policy of listed industrial goods firms in Nigeria. Hence, the study failing to reject the null hypothesis 7.

The representation of female directors on the board of industrial goods firms listed in Nigeria was found to have a coefficient of -0.1234 and a probability of 0.689. It shows that the diversity of board of industrial goods firms in Nigeria has an insignificant negative effect on dividend payout ratio. It also implies that an increase in the number of female directors on the board of industrial goods firms will reduce dividend payout. Nharo *et al*., (2021), Eluyela *et al*. (2019), Taylor and Peens (2017) and Isa and Salawudeen (2019) also found insignificant effect of board diversity on dividend payout. On the contrary, Nguyen *et al*., (2021) found a significant association between board diversity and dividend policy. Therefore, the study fails to reject the null hypothesis 3 which states that board diversity has no significant impact on dividend payout of listed industrial goods firms in Nigeria. On the other hand, board diversity moderated by profitability has a coefficient of 0.2105 and a probability value of 0.859. This also signifies the absence of significant moderating effect on the relationship between board diversity and dividend policy of listed industrial goods firms in Nigeria. It also implies that an increase in the number of female directors on the board of listed industrial goods firms moderated by profitability will have no significant impact on dividend payout. This also provides evidence to fail to reject the null hypothesis 8 of the which stated that profitability has no significant moderating effect on the relationship between board diversity and dividend policy of listed industrial goods firms in Nigeria.

Table 5 also revealed that board meeting has coefficient of -0.0099, z-value of -0.21 and p- value of 0.832. These values signify that board meeting has a negative and insignificant impact on dividend payout of listed industrial goods firms in Nigeria. It also means that an increase in the number of meetings held by board members of listed industrial goods firms in Nigeria by one will impact negatively by reducing the percentage of dividend payout by those firms. This finding is backed by the findings of Elmagrhi, Ntim, Crossley, Malagila, Fosu and Vu (2017). It however contradicts the findings of Chen and Chen (2012), and Alshabibi *et al*., (2021). Based on the above findings, the study therefore fails to rejects the null hypothesis 4 of the study which states that board meeting has no significant impact on dividend policy of listed industrial goods firms in Nigeria. Board meeting moderated by profitability was found to have a coefficient of 0.3644, z-value of 2.04 and a p-value of 0.041. This implies that board meeting moderated by profitability has a significant positive effect on dividend policy of listed industrial goods firms in Nigeria. It also means that a change in the number of meetings held by the board of listed industrial goods firms stirred by a change in profitability will consequently result to positive change in the rate of dividend payment by the sampled industrial goods firms in Nigeria. The null hypothesis 9 of the study which states that profitability has no significant moderating effect on the relationship between board meeting and dividend policy is therefore rejected.

Lastly, profitability been the moderator introduced in this study was found to have a coefficient of -5.1161 and a probability of 0.013 which is significant at 5% level. It indicates that profitability has a significant but negative impact on dividend policy of listed industrial goods firms in Nigeria. This result is however not surprising because, it was found by Lembong (2020) that some firms tend to retain profit to enhance growth than pay dividend. He further stated that even though a company made a profit high than that of a previous year, it may decide to pay a lesser dividend or even not pay at all. He concluded that an increase in profitability is not a guarantee for increased dividend payment. Contrary to the findings of Nguyen *et al*., (2021), Dangand Tran(2019) and Fama and French (2001),who believed that an increase in profitability should result to an increase in dividend payment. Based on the findings obtained above, the study rejects the null hypothesis 5 which states that there is no significant relationship between profitability and dividend policy of listed industrial goods firms in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

This study examines the impact of board characteristics and dividend policy of listed industrial goods firms in Nigeria moderated by profitability. To examine this relationship, the study employed board independence, board size, board diversity and board meetings to represent board characteristics and dividend payout ratio as a proxy of dividend policy. Profitability was represented by net profit margin. In line with the empirical and statistical evidence gathered, the study generally concludes that, profitability has a significant and positive moderating effect on the relationship between board independence, board meeting and dividend policy of listed industrial goods firms in Nigeria and it was found to have an insignificant moderating effect on board size, diversity and dividend policy.

Based on the findings, it is recommended that listed industrial goods firms in Nigeria should pay close attention to their profitability by ensuring continual growth and increase in their net profit as it was found to moderate the effect board independence and board meetings have on dividend payout ratio. It is further recommended that, listed industrial goods firms in Nigeria should try as much as possible to maintain a relatively smaller board size because it was found that any increase in the size of their board will lead to a decrease in dividend payout ratio even after moderated by profitability. Also, the number of female directors should be maintained or even reduced because it was found that any increase will result to a negative effect on dividend payout ratio though insignificantly.

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