BOARD LEADERSHIP STRUCTURE, BOARD DILIGENCE, AND FIRMS' STRATEGIC CASH FLOW DECISION IN NIGERIAN NON-FINANCE COMPANIES

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Abstract

There is distinctiveness among empirical studies on the relationship between board leadership structure, board diligence, and firms' cash decisions, particularly in Nigeria. This study focused on how board leadership structure and board diligence affect components of firms' cash decisions (operating, investing and financing cash flows) of quoted non-finance companies in Nigeria. Data were obtained for seventy-four (74) companies for the period 2010-2019. Analyses were based on descriptive statistics and inferential statistics (ordinary least square, dynamic panel data modelling, and Hausman specification test). Overall, the Wald statistics showed that board diligence and board leadership structure insignificantly affect cash decisions. However, board diligence significantly affects financing cash flow decision as a component of cash decisions. Given the findings, it was recommended that firms should discourage the practice of dual leadership structure as it decreases firm's cash flow decision. Also, there is need to moderate board meetings of companies.

Keywords: Agency Theory, Board Characteristics, Corporate Governance, Chief Executive Officer

JEL Classification: G34; M19

1. INTRODUCTION

Globally, corporate governance has been of immense concern to all corporate organizations due to the economic crisis, corporate failures, and numerous financial frauds, that have led to the early demise of some organizations. Notwithstanding the above, financial market globalization and liberalization have placed stronger demands for transparency and accountability; hence the functions of the board have been placed under close lens (Dogan & Eksi, 2020; Egbunike & Odum, 2018; Hanh, Ting, Kweh, & Hoanh, 2018; Ilaboya & Obaretin, 2015). Buchdadi, Ulupui, Dalimunthe, Pamungkas and Fauziyyah (2019) opined that the board is charged with the responsibility of monitoring the performance and actions of management in order to ensure that they act in the best interest of shareholders as well as addressing the agency problem arising from ubiquitous separation of firm ownership from control.

Specifically, there are two main imperative aspects of board functioning namely: board leadership structure (BLS) and board diligence. However, BLS seems to be one of the most contentious issues in corporate governance since it addresses whether the chief executive officer (CEO) should concurrently serve as chairman of the board (Arosa, Iturralde, & Maseda, 2013; Buchdadi *et al,* 2019; Johl, Kaur, & Cooper, 2015; Zahid, 2020). BLS refers to the composition of directors in the board (an independent chairman or a combined CEO/chairman with a lead independent director).On the other hand, board diligence which is typically measured by number of board meetings, is an organized setup arranged to assemble directors on the board to discuss and address relevant issues relating to their prior experiences, current predicaments and forward looking matters, as it relates to corporate survival.

The Spencer Stuart Board Index (2015) indicated that while 52 percent of companies in the Standard and Poor (S&P) 500 Index are led by dual chairman/CEO, only 29 percent have independent chairman and 19 percent executive chairman. This clearly portends lack of independence of the board leadership, particularly in area of ability of firms to make decisions relating to cash management. In theory, an independent chairman improves the ability of the board to oversee firm's cash decisions (Buchdadi, *et al,* 2019). By separating the positions in the board, a company visibly and clearly differentiates between the role of the board and its management and gives one director clear authority to direct the board and run its meetings.

Remarkably, separation of board's position eradicates conflicts in aspects of performance evaluation, executive compensation, recruitment of new directors and succession planning. It also permits the CEO to focus wholly on operations, strategies, and organizational concerns while the chairman concentrates on management oversight, board leadership and governance-related matters (Zahid, 2020). Mandatory separation can be artificial, especially when the company already has an effective dual chairman/CEO in place; hence, separation of the board can result to duplication of leadership and impaired decision-making, particularly in times of crisis.

Furthermore, when the board holds regular meetings and is adequately attended, it is likely to remain informed about the relevant performance of the company; leading them to take and direct suitable actions aimed at addressing firms' cash decisions. Empirical evidence suggests that the diligence of the board can come into conflict with the busyness of the directors (Ferris, Jagannathan, & Prichard 2003). However, theoretical literature posits that busyness can act as a vital signal of a director's reputation and proxy for high director quality (Fama, 1980). Such over-extension of commitment on the part of directors can, nevertheless, result to reduced attendance in board meetings.

An important facet of corporate governance that has gained prominence of late is BLS (Hermalin, 2005). Fama and Jensen (1983) had suggested that the board plays an important role in decision making and alleviating agency cost. Jensen (1993) described the board as the apex of the internal control systems in an organization. This portends that the board exists to protect the interests of shareholders. More so, protection of interests of shareholders cannot be effective if there is no diligence.

Vafeas (1999) argued that the size of the board and board independence cannot in themselves lead to effectiveness in the monitoring role unless it is diligent and, the CEO separated from the board chairman. Given this standpoint, this study was carried out with the view to empirically assess board diligence, BLS and firm's strategic cash decision by means of cash flow components of quoted non-financial companies in Nigeria as an emerging economy. Studying corporate governance in emerging markets is of international value because they differ from developed markets in terms of patterns of production, industrial accumulation, income, and wealth distribution. Consequently, business ownership structures that emerge are quite distinct. Often, family businesses are more in number. Hence, corporate governance issues are tailored to reflect the characteristics of ownership orientation.

Accordingly, there is high value in studying corporate governance in emerging countries if we are to successfully construct in a comprehensive manner, the literature on corporate governance. On this note, the specific objectives of this study are to: (i) examine the relationship between board diligence, BLS, and operating cash flow decisions. (ii) Ascertain the association between board diligence, BLS, and investing cash flow decisions. (iii) Determine the link between board diligence, BLS, and financing cash flow decisions.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 BOARD LEADERSHIP STRUCTURE

The concept of BLS has been broadly defined in management literature. Board structure can be defined as the composition of directors in the board. Prominent among BLS measurements has been the dual role of the CEO (El-Maude, Bawa, & Shamaki, 2018; Elsayed, 2007; Salloum, Schmitt, & Bouri, 2012). Although there are numerous board leadership structure measures like CEO nationality, gender, tenure, turnover, and ownership structure, this study however employs CEO duality because of the interests it generates when organizations are viewed as socio-political entities.

According to Mousa, Desoky and Sanusi (2012) and Bacha (2019), board attributes such as distinction between the CEO and the chairman, and the percentage of non-executive (outside directors) in the board are deemed as among internal mechanisms of corporate governance. Andra (2019) opined that the most dominant group of actors in corporate governance is the directors, who can be either executive or non-executive directors. Kumar and Singh (2010) asserted that the primary role of board leadership is that of trusteeship to protect and enhance shareholders' value via strategic supervision. As trustees, board leadership ensures that the corporation has clear goals relating to shareholders' value and its growth.

The board provides direction and exercise appropriate control over cash flow decisions to fulfill stakeholders' expectations. As one of the mechanisms of corporate governance, board leadership is expected to efficiently manage firms' cash decision to protect shareholders' investment (Hendry & Kiel, 2004). In addition, board leadership develops directional policies, supervises and remunerates senior executives and ensures accountability of the firm (Ponnu, 2008). Board leadership is charged with ensuring that CEOs carry out their obligations in a way that serves the best interests of shareholders.

CEO duality occurs when the same person holds both the CEO and board chairmanship positions. CEO duality has opposing effects that boards must attempt to balance. Duality can firmly entrench a CEO at the top of a corporation, thus challenging board's ability to effectively enhance firms' decisions (Finkelstein & D'Aveni, 1994; Uwuigbe, Eluyela, Uwuigbe, Obarakpo, & Falola, 2018). According to the agency theory, the agent is a self-interest optimizer; hence, it has been argued that the internal and external monitoring mechanisms of the board have been initiated to lessen the divergence of interests between shareholders and management (Elsayed, 2007). Johnson, Daily and Ellstrand (1996) asserted that board leadership has three major obligations - monitoring management actions and decisions (such as cash decisions), advising CEO, and getting external resources that are vital to building corporate capabilities. Interestingly, one fundamental contention that has received growing attention in management literature has been whether board leadership structure will significantly affect firms' cash flow decisions and the nature of such influence.

2.2 BOARD DILIGENCE

Board diligence, usually measured by board meeting, is an avenue set up for discussions on essential issues amongst board members to make certain important decisions for the progress and growth of organizations. Mostly, board diligence is measured as the board meeting attendance frequency by each board member (Eluyela, *et al*, 2018; Ilaboya & Obaretin, 2015). Notably, there is no benchmarked governance regulation in Nigeria that shows the minimum number of meetings to be attended by a board member. Impliedly, the control overboard members' diligence is subject to the chairman.

Concerning the frequency of board meetings, empirical studies (Eluyela, *et al*, 2018; Vafeas, 1992) suggest that the fewer the board meetings the better the performance of the firm aggregately. Supporting this position, Johl, Kaur and Cooper (2015) found a negative relationship between board diligence and firm performance. The reason adduced for this is that frequent meetings lead to diversion of firm's resources and time, thus resulting to impaired performance in the form of less productive activities. Nevertheless, the importance of board meetings cannot be overstressed since they are vivid tools for any good governance.

Notwithstanding the divergent viewpoints in the literature on the role of board diligence, a gap still exists as there have been no rigorous studies, on the relationship between board diligence and firm's cash flow decisions (operating, investing and financing).

2.3 FIRMS' STRATEGIC CASH FLOW DECISION

Cash flow decision is considered as one of the most vital elements in managerial finance since it exposes the level at which companies can avoid liquidity problems. It is a decision concerning firm's continuity as opposed to financial position. Specifically, firms' cash decisions refer to decisions relating to three major components of organizational activities namely; operating, investing, and financing activities. Ozordi, Adetula, Eluyela, Aina and Ogabi (2019) opined that a firm's cash decision is very germane to the growth as well as survival of the firm. Nevertheless, firm's cash decision is exceedingly influenced by the board because they are tasked with the responsibility of determining the amounts of cash to be retained in an accounting period and how these cash can be put to use by the firm.

Prior literature (Buchdadi *et al,* 2019; Johl, *et al,* 2015; Kuan, Li, & Chu, 2011 Zahid, 2020) alludes to the fact that an improved cash decision by firms can be attained by means of efficient corporate governance systems such as board diligence, board leadership structure among others. Consequent upon this, a growing body of literature has emerged recently to explain the implication of corporate governance systems on firms' cash decisions and corporate performance. In this study, firm's cash decision was measured using three components of cash flows which are operating, investing, and financing cash flows. Whether board diligence and BLS significantly affect firms' cash decisions still remain an area of empirical discourse in the corporate governance literature, particularly in developing African economies like Nigeria. In view of this, the following hypotheses have been formulated.

H_o1: There is no significant link between board diligence, board leadership structure and operating cash flow decision of a firm.

H_o2: There is no significant association between board diligence, board leadership structure and investing cash flow decision of a firm.

H_o3: There is no significant relationship between board diligence, board leadership structure and financing cash flow decision of a firm.

2.4 THEORETICAL UNDERPINNING

This study is anchored on the agency theory which proposes that agency conflicts exist between the owners and management of organizations. The agency theory is based on the fact that corporate governance hinges on the primary role of the board of directors to protect shareholders interest (Ponnu, 2008). The existence of agency theory is based on the relationship between the principals (wealth owners) and agents (board members) which emanate due to separation in ownership and control, such that wealth owners appoint board members to ensure creation of a disciplined business atmosphere, setting of timely and achievable strategic plans (Donaldson & Davis, 1991), efficient control of management team (Hendry & Kiel, 2004) and enhancing firms' cash decision, which will lead to maximization of shareholder's value.

In ensuring that shareholders wealth is maximized by management, it is imperative for the board to be diligent in their functioning to enhance firms' cash decision and overall performance. The relevance of agency theory to this current study is that for a better corporate decision (whether cash or otherwise), efficient monitoring via board diligence and transparent leadership structure is essential to protect and aid shareholders' investments and good compensation for board members.

2.5 SOME EXTANT STUDIES

The literature is not mute on empirical examination of the influence of board diligence and BLS on corporate decisions and performance. Dogan and Eksi (2020) examined board characteristics of CEO duality on risk level and performance of 19 deposit banks in Turkey over the period 2012 to 2018. The result of the GMM estimation showed that CEO duality has negative and insignificant correlation with risk level (non-performing loans) and performance (ROA). Thus, the study submitted that decisions and performance regarding either high or low levels of ROA and non-performing loans are not influenced by duality. Buchdadi (2019) examined board of director meeting and firm performance using 135 firms' panel data during 2013 to 2016. Findings show that board meeting has a positive effect on market value based performance and accounting-based performance; thus, board diligence significantly and positively affect firm performance.

Bacha (2019) evaluated the relationship between ownership structure, board size, ownership concentration, independence of audit committee, and cost of debts of Tunisian listed firms over the period 2007-2016. The ordinary least square (OLS) regression result revealed that cost of debt is inversely related to board size and ownership concentration. More so, the study found evidence that audit committee and independent audit committee have insignificant impact on cost of debt.

Hanh, Ting, Kweh, and Hoanh (2018) examined the relationship between board meeting frequency and financial performance of 94 Vietnam listed firms from 2013-2015. Financial performance was proxied by return on assets, equity and sales. Results indicated that board meeting frequency exerts a negative effect on financial performance of firms. Moreover, high board meeting frequency equates to low returns on assets, equity and sales. Similarly, Eluyela, et al (2018) evaluated the relationship between board meeting frequency, board size and Nigerian deposit money banks performance by means of panel data regression. The study found evidence that while board meeting frequency significantly and positively affects firm performance, board size positively and insignificantly affects firm performance.

Egbunike and Odum (2018) studied the link between board leadership structure and earnings quality of 45 non-financial listed Nigerian companies from 2011-2016. Board leadership structure was measured using board size, composition, proportion of non-executive directors and CEO duality and pooled regression was employed. Findings showed that board size and board composition positively and significantly affect earnings quality. However, proportion of non-executive directors was negative and significant while CEO duality was positive and statistically significant.

Arosa, et al, (2013) investigated board structure and firm performance of 307 SMEs in Spain. Board structure proxies were board composition, board size, leadership structure and CEO tenure. The study found a negative impact of board structure on firm performance. Again, Salloum, et al (2012) explored the nexus between board structure and financial distress of 276 Lebanon firms from 2007-2010. Board structure was measured using outside directors, insiders' equity ownership, CEO/chairman duality and multiple logistic regression was used. Findings showed that the presence of outside directors has no effect on financial distress; insiders' equity ownership reduces likelihood of financial distress, while CEO-board chairman duality increases the probability of financial distress of Lebanese family firms.

3. DATA AND METHODS

In this study, ex-post facto research design was employed. The study population comprised of all non-finance companies (companies that are not in the financial services sector) quoted on the Nigerian Stock Exchange (NSE) during the period 2010-2019. As of 31st December, 2019, there were 120 non-finance companies quoted on the Exchange (NSE, 2020). However, complete data was available for 80.4 percent of the population, that is, 74 companies which constituted the sample.

3.1 EMPIRICAL MODEL

The empirical model adopted by this study is informed by the studies of Buchdadi (2019), Hanh, *et al* (2018), Eluyela, *et al* (2018) and Arosa, *et al* (2013). In expressing the functional form of BLS, board diligence, and firms' cash decision, the following models ensued:

Firms' cash flow decision = f (board diligence, board leadership structure) (1)

Equation 1 is based on the implicit depiction of the dependent variable (firms' cash decisions) and independent variables (board diligence and board leadership structure). The disintegrated models show firms' cash flow decision components as a function of board diligence and board leadership structure.

$$cfoa_{it} = \beta_0 + \beta_1 bmet_{it} + \beta_2 ceod_{it} + e_{it} \quad (2)$$

$$cfia_{it} = \beta_0 + \beta_1 bmet_{it} + \beta_2 ceod_{it} + e_{it} \quad (3)$$

$$cffa_{it} = \beta_0 + \beta_1 bmet_{it} + \beta_2 ceod_{it} + e_{it} \quad (4)$$

Where: cfoa = cash flows from operations;
cfia = cash flows from investing activities
cffa = cash flows from financing activities
bmet = board meetings (proxy for board diligence)
ceod = chief executive officer duality (board leadership structure proxy)
i = cross section of sampled non-finance companies
t = time frame
e_{it} = error term

Table 1: *Measurement of Variables*

Variables	Measurement
Firms' cash flow decision	Approximated by operating, financing and investing cash flows at time t
Board diligence	number of board meetings held at time t
Board leadership structure	CEO duality at time t, approximated as a dummy variable of 1 if an individual is both CEO and board chair and zero otherwise

Source: Author's compilation

The data are analyzed in phases beginning with descriptive statistics, correlation matrix, and variance inflation factor for independent variables and inferential statistics comprising of pooled OLS, panel data fixed and random effects models, and Hausman specification test.

4. RESULTS AND DISCUSSION

The analysis of the data begins with the descriptive statistics of the variables as presented in Table 2.

Table 2: *Summary Statistics for Variables*

	bmet	ceod	cfoa	cfia	cffa
Mean	4.6886	0.96998	0.0935	-0.0534	-0.0362
Median	4.0000	1.0000	0.0848	-0.0373	-0.0302
Maximum	10.000	1.0000	0.5895	2.4000	0.5514
Minimum	1.0000	0.0000	-0.5411	-0.5333	-2.1208
Std. Dev.	1.8950	0.1707	0.1319	0.1249	0.1389
Skewness	12.723	-5.5090	0.0329	10.089	-4.4039
Kurtosis	256.66	31.349	4.6586	204.23	73.075
Probability	0.0000	0.0000	0.0000	0.0000	0.0000
Observations	729	729	729	729	729

Source: Authors' Computation

From Table 2, variables of board diligence (bmt), board leadership structure (ceod), and operating cash flow (cfoa) exhibited positive average values while the other two components of firms' cash decision (cfia and cffa) exhibited negative average values. More so, standard deviations range from 1.8950 (bmet) to 0.1249 (cfia); the low variations imply conformities of similar board diligence and board leadership structure of non-finance companies.

Furthermore, all data series except cfoa displayed non-zero skewness. Also, variables of bmet *(*12.723), cfoa (0.0329) and cfia (10.089) skewed to the right while ceod (-5.5090) and cffa (-4.4039) skewed to the left as indicated by their positive and negative signs. Impliedly, while components of firms' cash decision (cfoa and cfia) are positively skewed with board diligence and board leadership structure, the opposite was found for cffa (negative). Interestingly, all the variables are not normally distribution as indicated by the kurtosis and their corresponding probability values.

To ensure that there is no multi-collinearity among pairs of independent variables, correlation matrix was computed, and the result presented in Table 3.

Table 3: *Correlation Matrix*

Variables	bmet	ceod	cfoa	cfia	cffa
bmet	1.0000				
ceod	0.1131	1.0000			
cfoa	0.0460	-0.0549	1.0000		
cfia	0.0080	0.0278	-0.2826	1.0000	
cffa	-0.0832	-0.0031	-0.4369	-0.2681	1.0000

Source: Authors' Computation

Table 3 showed the correlation result for board diligence, board leadership structure and firm's cash flow decision. Correlation for board diligence (bmet) is positive with cfoa (0.0460) and cfia (0.0080) and negative with cffa (-0.0832), indicating that during the study period, there is an inverse link between board diligence and firms' financing cash decision.

Likewise, correlation for board leadership structure (ceod) is positive with cfia (0.0278) and negative with cfoa (-0.0549) and cffa (-0.0031), indicating an inverse relationship between board leadership structure and some components of cash flow decisions. Impliedly, while ceod positively relates with a component of firms' cash decision (cfia), the reverse was found for the other two firms' cash decision components (cfoa and cffa). Notwithstanding the correlation results, the highest correlation is 0.0460, which however did not exceed the maximum benchmark of 0.80, suggesting the absence of multi-collinearity among pairs of the independent variables (bmet and ceod).

Table 4: *Variance Inflation Factor (VIF) Test*

Variables	VIF	1/VIF
bmet	1.01	0.987219
ceod	1.01	0.987219
Mean VIF	1.01	

Source: Authors' Computation.

Table 4 shows the regression diagnostic test results (VIF for independent variables). It shows the mean VIF to be 1.01, which is less than the benchmark value of 10.0, suggesting that there is the absence of multi-collinearity problem in the model. Impliedly, the data series are good enough for regression analysis.

Test Result for Model 1

The regression results of analysis of model 1 (represented by equation 2) using OLS and panel data fixed, and random effect models are presented in Table 5.

Table 5: *Model 1 Results*

Estimator	OLS		Fixed Effect		Random Effect	
Variable	**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**
bmet	0.0058	0.158	0.0062	0.129	0.0058	0.158
	(1.41)		(1.52)		(1.41)	
ceod	-0.0467	0.105	-0.0396	0.170	-0.0467	0.104
	(-1.62)		(-1.37)		(-1.62)	
_cons	0.1131	0.000	0.1042	0.001	0.1131	0.000
	(3.51)*		(3.23)*		(3.51)*	
R-Squared	0.0058					
R-Sq. Adj.	0.0030					
F-ratio	2.08					
Prob. F.	0.1251					
R-Sq. within			0.0052		0.0052	
R-Sq. between			0.0950		0.1548	
R-Sq. overall			0.0057		0.0058	
Hausman Test						0.077
Wald Ch2	4.17					
Prob. Ch2	0.1243					

Source: Authors' Computation

* indicates sig at 1% level; Items in parentheses are t-values, z-values

Table 5 shows the OLS, Fixed effect and Random effect results for board diligence (bmet), board leadership structure (ceod) and operating cash flow. The OLS result revealed that *bmet* and *ceod* are insignificant at 5% level in explaining operating cash flow decision *(cfoa)*. This is because the probability value of the t-statistic for bmet (0.158) is greater than 0.05, and that of ceod (0.105) is also greater than 0.05.

The panel data fixed, and random effects results are also presented in Table 5. The choice of the appropriate panel model to be interpreted depends on the outcome of the Hausman test. This test result shows a probability value of 0.077. As this is greater than 0.05, it means that the null hypothesis should be accepted implying that the result of random effect is preferred to fixed effect, hence random effect result is more desirable. Using the OLS and random effect results, coefficients of *bmet* are 0.0058 and 0.0058 and *ceod* are -0.0467 and -0.0467 respectively, indicating that when quoted non-finance Nigeria companies have diligent board, it will lead to approximately 0.58% increase in operating cash flow(*cfoa)*; however, with dual leadership structure, it will lead to approximately 4.67% decrease in *cfoa.*

Additionally, the t-values for bmet (1.41) and *ceod* (-1.62) have respective probability values of 0.158 and 0.104 in the random effect model. The t-test results show that both (*bmet)* and *(ceod)* are insignificant in explaining the variations in firms' operating cash flow decisions. Again, the overall R^2 is 0.0058 using random effect model implying that *bmet* and *ceod* explain about 0.58% variation in firms' cash decisions. The F-ratio is 2.08 (p-value = 0.1251 > 0.05) which is insignificant, and the Wald test also shows insignificant power of the explanatory variables. These statistics provide evidence of non-rejection of the proposition that there is no significant relationship between board diligence, board leadership structure and firms' cash decision (measured by operating cash flow) of quoted non-finance firms in Nigeria.

Test Result for Model 2

The results of the model with investing cash flow as proxy for firm's cash decision (represented by equation 3) are presented in Table 6.

Table 6: *Model 2 Results*

Estimator	OLS		FE		RE	
Variable	**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**
Bmet	-0.0004	0.896	-0.0003	0.898	-0.0002	0.948
	(-0.13)		(-0.13)		(-0.06)	
Ceod	0.0137	0.469	0.0076	0.681	0.0091	0.620
	(0.73)		(0.41)		(0.50)	
_cons	-0.7170	0.001	-0.0626	0.002	-0.0644	0.003
	(-3.39)*		(-3.04)**		(-3.01)**	
R-Squared	0.0008					
R-Sq. Adj.	-0.0020					
F-ratio	0.29					
Prob. F.	0.7515					
R-Sq. within			0.0002		0.0002	
R-Sq. between			0.1426		0.1931	

R-Sq. overall			0.0006		0.0007	
Hausman Test						0.069
Wald Ch2	0.25					
Prob. Ch2	0.8840					

Source: Authors' Computation

*, ** indicates sig at 1% and 5% levels; Items in parentheses are t-ratios, z-scores

Table 6 shows the OLS, fixed effect and random effect results for bmet, *ceod* and *cfia*. First, in the OLS result, bmet has a negative coefficient of -0.0004 while ceod has a positive coefficient of 0.0137. Implicitly, board diligence influences investing cash flow decisions negatively, while board leadership structure has positive influence. However, the probability value for the two variables are 0.896 and 0.469 respectively are greater than the 0.05 level of significance. Therefore, these variables do not have significant influence on firm's cash decisions.

In the panel data results, we are again guided by the outcome of the Hausman test. The probability value is 0.069 and this is greater than the 0.05 level of significance. This result suggests that the random effect model is more appropriate for analysis as the null hypothesis was accepted. In the random model, the coefficient of bmet is negative (-0.0002) while that of ceod is positive (0.0091). These values imply that when quoted companies have diligent board, it will lead to approximately 0.02% decrease in investing cash flow; however, with dual leadership structure, it will lead to approximately 0.91% increase in *cfia.*

Furthermore, the t-values of *bmet* and *ceod* are -0.06 and 0.50 respectively in the random effect model. However, the probability values show that both variables are insignificant in explaining the variations in firm's cash decision. The overall R^2 is 0.0007 meaning that that *bmet* and *ceod* explained about 0.07% variation in firms' cash decision. Again, the F-ratio is 0.29 (p-value = 0.7515 > 0.05) which is insignificant. The Wald test 0.25 (p-value 0.8840 > 0.05) is also not significant. This evidence supports the proposition that there is no significant association between board diligence, board leadership structure and firms' investing cash flow decisions.

Test Result for Model 3

In this model, financing cash flow is taken as proxy for cash decision (equation 4) and the result is presented in Table 7.

Table 7: *Model 3 Results*

Estimator	**OLS**		**FE**		**RE**	
Variable	**Coef.**	**Prob.**	**Coef.**	**Prob.**	**Coef.**	**Prob.**
bmet	-0.0081 (-2.24)**	0.025	-0.0079 (-2.22)**	0.027	-0.0081 (-2.24)**	0.025

ceod	0.0043	0.864	0.0049	0.847	0.0043	0.864
	(0.17)		(0.19)		(0.17)	
_cons	-0.0006	0.982	-0.0015	0.958	-0.0006	0.982
	(-0.02)		(-0.05)		(-0.02)	
R-Squared	0.0070					
R-Sq. Adj.	0.0042					
F-ratio	2.52					
Prob. F.	0.0812					
R-Sq. within			0.0069		0.0069	
R-Sq. between			0.0240		0.0246	
R-Sq. overall			0.0070		0.0070	
Hausman Test						0.9638> 0.05
Wald Ch2	5.04					
Prob. Ch2	0.0805					

Source: Authors' Computation

**indicates sig at 5% level; Items in parentheses are t-values, z-scores

In Table 7, the OLS result showed that bmet is negative (-0.0081) and statistically significant in explaining firm's cash decisions. On the other hand, ceod is positive (0.0043) but insignificant. In the panel model, the result of the Hausman test suggests that the random effect model is more appropriate. In the random effect model, the coefficient of bmet is -0.0081 and that of ceod is 0.0043. This result means that diligent board will lead to approximately 0.81% decrease in financing cash flow, but dual leadership structure will lead to approximately 0.43% increase.

The statistical significance of the coefficients of the explanatory variables measured by the t-test revealed that the t-value for *bmet* and *ceod* are -2.24 and -0.17 respectively. The probability value for bmet (0.025) is less than the 0.05 level of significance; hence this variable is significant in explaining financing cash flow decision. However, this is not the case with ceod where the probability value of the t-statistic is greater than the 0.05 level. The overall R^2 is 0.0070 implying that *bmet* and *ceod* explained about 0.7% variation in firms' financing cash flow decisions. Moreover, the F-ratio is 2.52 (p-value = 0.0812 > 0.05) which is insignificant. The result of Wald statistic is 5.04 with probability value of 0.0805 which is greater than 0.05 suggesting that the explanatory variables are not significant. Therefore, there is no significant relationship between board diligence, board leadership structure and firm's cash decision in Nigerian non-financial firms.

4.1. DISCUSSION OF RESULTS

Fundamentally, the interest of any company is to enhance its cash decision to become a sustainable going-concern. The instrumentality of board diligence and BLS have been considered as vital means of realizing the objective of maximizing firms' cash decision, since diligent board and efficient board leadership structure may result to improved operating, financing and investing decisions.

The findings of this study using random effect model show that, while board diligence positively relates with operating cash flow, it negatively relates with investing and financing cash flows. Similarly, while board leadership structure relates positively with investing cash flow and financing cash flow, it has negative association with operating cash flow. This finding in part corroborates with the results of Buchdadi (2019) and Hanh, *et al* (2018). Moreover, the t-test results confirm that both board diligence and board leadership structure are insignificant in explaining variations in firm's cash decision, particularly for operating and investing cash flows while board diligence is significant in supporting the variation in financing cash flow. Again, this finding in part substantiates the results of Eluyela, *et al* (2018). Overall, the results of Wald statistics suggest no significant association between board leadership structure, board diligence and firms' cash decisions (operating, investing and financing cash flow decisions) of quoted non-financial companies in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

This study has investigated the link between board diligence, board leadership structure and cash flow decisions of non-financial firms listed in Nigeria. This is against the backdrop that firm leadership aim at maximizing the value of the firm. In this connection, valuation models that relate firm value to board characteristics would be of interest to investors. Among the financial numbers that can be explored in decision making, the potency of cash flow cannot be over-emphasized. In this study panel data analysis and pooled OLS were used to analyze data of 74 firms over the period 2010 to 2019. Findings indicated that board leadership structure insignificantly affect firms' cash decision; while, board diligence significantly affects one component of firms' cash decision, which is financing cash flow decisions.

On the basis of the findings, this study recommends that quoted Nigerian non-finance companies should discourage the use of dual leadership structure, since results indicated that dual leadership structure decreases firms' cash decision; however, there is need to moderate board meetings of companies. The regulatory framework of companies should aim at providing a benchmark frequency of meetings that must be held by the board. This would help in improving firms' cash decisions. Further studies are required to assess the relationship between other corporate governance mechanisms and firms' cash decision.

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