
Dividend payout among Nigerian firms: Do female directors matters?

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Abstract

This study explores how female director(s) affect the decision to pay dividend in the sub-Saharan Africa. The study specifically employs non-financial firms listed on the Nigerian Stock Exchange Market from 2009-2015 and logit regression as the technique for data analysis. The independent variable of interest in the study is female director. Consistent with the hypothesis, the study found strong association that firms with at least one female director on board are more likely to affect the payment of dividends. The findings subsist after the commencement of the 2011 CCG and when firms with negative earnings were excluded from the main sample. Furthermore, the results do not change when the model was re-estimated using an alternative measure of female director as well as using OLS regression.

Keywords: Propensity to pay dividends; gender diversity; Nigeria

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Introduction

Despite more than five decades of academic work, dividend policy has continued to attract further attention from different categories of users of financial statement which include regulators, investors and academic researchers. Dividend policy is among the key issues of financial policy of a firm (Ajanthan, 2013; Kim and Jeon, 2015). Dividend payout also serves as mechanism of addressing agency related problems as a consequence of separation of ownership and control (Francis *et al.*, 2011; Jiraporn, Kim and Kim, 2011). Agency theory suggested that dividend payment can reduce managers' likelihood of perquisite consumption and empire building due excess cash available in the firm (Jiraporn, Kim and Kim, 2011; Boumosleh and Cline, 2015). Therefore, it is relevant to factor out among others what influences decision to pay or not to pay dividends among firms.

Empirically, previous evidence has shown that the size of a firm, its profitability and growth are among the leading factors that determine firms' propensity to pay dividends (Fama and French, 2001; DeAngelo, DeAngelo and Skinner, 2004; Fatemi and Bildik, 2012) and firms corporate governance (Francis *et al.*, 2011; Jiraporn, Kim and Kim, 2011; Boumosleh and Cline, 2015). Regarding the board diversity for example, the relationship between female director and dividend policy is still an open question, only a handful studies attempted to examine this relationship using data from the US (Byoun, Chang and Kim, 2016) China (McGuinness, Lam and Vieito, 2015) Spain (Pucheta-Martínez and Bel-Oms, 2016) international study (Saeed and Sameer, 2017) and Nigeria (Idris, Ishak and Hassan, 2017). These studies revealed that shareholders are more likely to receive dividend when a female director is included in the board membership of a firm.

Although some research has been conducted in this area but the findings may not be generalized for one reason or the other. Fundamentally, these studies (for example, Byoun *et al.*, 2016; McGuinness *et al.*, 2015; Pucheta-Martínez & Bel-Oms, 2016; Saeed & Sameer, 2017) are within the context of sophisticated market that have long advocated for greater participation of female directors in the board rooms. Also these markets may probably react favourable or otherwise to the disclosure or announcement of a director made by a firm for example, appointment of female director on board (Adams, Gray and Nowland, 2011). Additionally, the institutional setting of Sub-Saharan Africa, particularly the Nigerian environment differs from those of the developed world as it is characterised by weak law enforcement mechanisms, abuse of shareholders' right and negligence to the adherence of regulatory framework (Okpara, 2011). Perhaps, these issues may likely aggravate agency problems and in turn affect firms' decision to pay dividends. Vafeas and Theodorou (1998) suggested that to explore the value addition of governance structures of a given country, it could be interested to examine such structures individually. This is because every nation has peculiar features in terms of, for instance regulatory framework, markets strength, economic atmosphere among others (Germain, Galy and Lee, 2014).

Therefore, this study is an extension of Idris *et al.* (2017) by examining how female director(s) on board influence the probability of paying dividends to shareholders. This study posits that the perspective of female director(s) on the board may be quite distinct from those of the male as she may exert pressure on the management to pay dividends which could be a great opportunity to the shareholders to receive cash as a return on their investment. Hence, mitigating the agency

related problems between managers and owners of the firm by using dividends payout. The current study contributes to the extant literature on propensity to pay dividend through investigating the trends of female director on corporate boards after the Corporate Governance reforms that took place in 2011. The main contribution of this paper is employing a set of dataset from the second largest economy in the Sub-Saharan Africa (Abor and Fiodor, 2013). Moreover, the findings from this research supported the existing literature in this area documented from other markets. The study also contributes further by providing additional evidence on the influence of female director(s) on dividend policy among profitable firms. This is because prior evidence on propensity to pay dividends (Fama and French, 2001; Fatemi and Bildik, 2012) argued that firms' profitability is an important factor in ascertaining whether a firm pays a dividend or otherwise. The study also shades more insight on the compliance level of firms in Nigeria with the 2011 code of Corporate Governance in relation to board diversity. Finally, it is expected that firms appointing female director on their board may exhibit more likely to pay dividends as oppose to male-dominated boards.

The remaining parts of this paper is structured as follows; brief background information on the Nigerian Code of Corporate Governance is discussed in the introduction, the theoretical and hypothesis development is situated in section 2, section 3 provides a discussion on the methodology of the study. The discussion of results and findings are reported in section 4 and lastly section 5 concludes the paper.

Corporate governance is an instrument or mechanism to protect shareholders against any expropriations from the managers. The first Code of Corporate Governance (hereafter CCG) in Nigeria was issued in 2003 which was aimed at curtailing the attitudes of some managers in running the affairs of the corporations.

However, fast changing in business activities that result from information and communication technology among others, renders the then existing 2003 CCG obsolete.

In this regard, the regulatory authority constituted the M.B. Mahmoud's committee in 2008. The committee was in particular mandated to identify weaknesses and constrains to good corporate governance and further recommends ways by which greater compliance and aligning the code with the international best practices will be achieved (SEC Nigeria, 2011). Accordingly, the committee conducted a thorough review and handed over the report in 2009. The need to have more inputs from the stakeholders and member of the public however, the SEC made a draft of the corporate governance and disclosed it in its website and the national dailies. Henceforth, the final CCG was later released and took effect from April 2011 (Ofo, 2011) and is referred to as the 2011 CCG.

Among the changes made in the 2011 CCG, a provision for diversity was made (Mordi and Obanya, 2014). The 2011 CCG provides in section 4(1) that "The Board should be of a sufficient size relative to the scale and complexity of a company's operations and be composed in such a way as to ensure diversity of experience without compromising independence, compatibility, integrity and availability of members to attend meetings". The 2011 CCG further stated that all firms should carefully consider gender composition when considering appointment of directors. This is documented in Section 13(2) "the criteria for the selection of directors should be written and defined to reflect the existing Boards strengths and weaknesses, required skill and experience, its current age range and gender composition". Therefore, it is expected that changes should emerge for instance in financial policies of a firm as it complies with the 2011 CCG.

Agency theory and dividend payout

The agency theory suggested that managers tend to be the first wealth beneficiaries in the firm instead of the contributing shareholders (Jensen and Meckling, 1976; Rozeff, 1982). Academic works have documented that the managers are more prone to employ the firms' profit for their own benefit at the expense of the outside investors (La Porta *et al.*, 2000). Also, Jiraporn *et al.* (2011) argued that the motives of the high cash retention in firms is to allow the managers of firms with weak governance practices to engage in either perquisite consumption or invest in project that has less benefit to the shareholders. In this regard, one of the leading mechanisms that could be used to address the agency problem is dividend (Rozeff, 1982; Jensen, 1986). Dividend payment according to these theorists, deflate the available free cashflow thereby prompting the management to consider other sources of raising capital to finance new projects. Therefore, sourcing the fund that could be used in the new project for example, in the capital market will subject the managers to greater scrutiny that can guard against wasting the shareholders' funds (Saeed and Sameer, 2017). Although dividend payout serves as a mechanism for monitoring the managers against expropriation, but the shareholders require individuals that can enforce the decision to pay the dividend. Since the shareholders do not act directly but through the directors sitting on the board.

The board of the directors are the topmost individuals entrusted to the affairs of a firm and the success or otherwise of a firm are saddled on them. They are expected to define strategic goals and to ensure both financial and human resources are channelled towards attaining those strategic goals (Ofo, 2011). Therefore, firms need strong and well diversified board for instance presence of female director(s) on board that would enforce good governance practices and return the profits to the shareholders (Pucheta-Martínez and Bel-

Oms, 2016) and consequently, mitigating agency problems.

Female on board

Corporate boards around the world have been mainly dominated by male. However, board diversity in terms of gender representation on boards has attracted attention in recent times (Pucheta-Martínez and Bel-Oms, 2016). Legislation around the globe for example, France, Germany, Malaysia, Kenya, South Africa and Nigeria, stipulates directly or otherwise the provision for recruiting female director on corporate board (Mordi and Obanya, 2014). This provision is aimed at exploring or harnessing their talents, views and perceptions as well as contributions toward achieving the laid down organizational goal. Thus, the self-serving behaviour of managers as demonstrated by agency theorists could be addressed when female director is included on the board.

Prior evidences have associated strong monitoring with a board that is diversified in terms of gender and indicate strong support for female influencing dividend payment as oppose to a male-dominated board. Studies on female director on board (McGuinness, Lam and Vieito, 2015; Byoun, Chang and Kim, 2016; Pucheta-Martínez and Bel-Oms, 2016; Pucheta-Martínez and López-Zamora, 2017) have shown that shareholders are better protected to the extent that they could receive cash return in the form of dividend when female director is on board.

Byoun *et al.* (2016) in their study using data from US provides that gender diverse board pays more dividends. Notably, the study reveals that diversity in relation to gender is more likely to offer solution to firms with greater exposure to agency problems. Thus, this evidence is in agreement with Adams and Ferreira (2009) that gender diversity provides greater support in monitoring the opportunistic managers. Pucheta-Martínez and Bel-Oms

(2016) investigated how female director impact on dividend policy from the Spanish market with a sample totalling 894 firms. The study revealed that the presence of female directors on board ensured significant positive effects on dividend policy. The results suggested that female directors on board may constrain the managerial opportunism with regards to dividends payout policy given their controlling role in the firm. Similarly, this results concur with the recent findings of Pucheta-Martínez and López-Zamora (2017) that the presence of female directors on boards is likely to address agency conflict in firms with opportunistic management using dividend payout.

Examining the effects of gender diversity among the board members on corporate actions has also extended to the gender status of the CEO. McGuinness et al. (2015) employed Chinese firms to investigate the impact of female gender on dividend payout. They posited that female manager weakens the tendency of cash distribution. In support of their argument, the study found out that the level of dividend payout did not change with a female being the CEO of a firm. Also, the study revealed that firms with two or more female directors on a board are less likely to distribute more cash dividend. The authors further argued that the evidence could be the result of the financial knowledge exhibited by female directors on the board. Moreover, the result may be driven by the fact that the female CEOs as well as the female directors are more prevalence in the Chinese firms characterised with greater private ownership, lower level of assets in place and with higher growth potential. This finding however, is in contrast with Idris et al. (2017) who examined a handful of firms listed on the NSE between 2013-2015 using panel data approach and found out that firms having female director on board are more likely to influence firm to pay dividends. The study further suggested that increase in female director is likely to curb

agency related problems. Based on the aforementioned empirical evidences the study conjectures that:

H₁: Firms listed on the NSE with at least one female director on board exhibit higher likelihood of paying dividends.

Extant managerial literature has emphasized on the impact female directors' have on corporate outcomes. Prior evidence such as Carter, D'Souza, Simkins and Simpson (2010) and Adams and Ferreira (2009) associated the link between gender diversity and higher firm performance. They argued that the higher performance may be due to the emergence of a new and distinctive idea since it is a mixed gender board. Moreover, female director's role has also been linked with positive perception towards taxation (Huseynov and Klamm, 2012) and lower probability to evade tax (Kastlunger *et al.*, 2010), higher stock market valuation (Ntim, 2013), enhancement of shareholders' value (Nguyen and Faff, 2007). These evidences provide that female director could lead to value addition if recruited on the corporate board. For instance, Terjesen, Sealy and Singh (2009) showed that mixed gender board may greatly inspires positive mentorship and networking. The study noted that the female on a mixed board serves as a role model for other females who aspire to be on corporate board. Hence, the female director provides a motivational benefit. Beside this benefit, the female director could also play a complementary role through exhibiting greater ability to manage conflict situations. Since female director is associated with several corporate outcomes which is beneficial to the shareholders. Therefore, it is probable that firms that continue to have female director on its board may influence dividend payment decision particularly that the 2011 CCG stipulates that listed firms in Nigeria should have a well-diversified board in terms of gender. In this sense, the study predicts that:

H₂: Firms listed on the NSE that continue to have at least one female director after the 2011 CCG are more likely to pay dividend.

Prior studies have documented that dividend payout may be an indication that firm is profitable and doing well (Fama and French, 2001; Ferris, Sen and Yui, 2006; Adjaoud and Ben-Amar, 2010; Fatemi and Bildik, 2012; Byoun, Chang and Kim, 2016). It is likely that when profitable firms fail to disgorge cash to their shareholders, it will be exposed to a greater risk of managerial opportunism, perquisite consumption and empire building. Thus, having female director on board may influence the other board members to consider distributing the free cash flow to the owners with a view to mitigate agency problems (Adams and Ferreira, 2009; Byoun, Chang and Kim, 2016; Pucheta-Martínez and Bel-Oms, 2016; Saeed and Sameer, 2017). Additionally, the female director(s) as role model may increase her ability and capability to protect owners' interests given their (female) limited number corporate board (Terjesen, Sealy and Singh, 2009) and thus influencing the decision to pay dividend. Consistent with this argument, the study hypothesizes that:

H₃: Profitable firms listed on the NSE that appoint at least a female director are more likely to pay dividends.

Methods

The sample period is 2009-2015 which consist of all listed non-financial firms on the Nigerian Stock Exchange market. The use of non-financial firms for this study is in line with propensity to pay dividend literature (for instance, Sharma 2011; Abdulkadir et al. 2016; McGuinness et al. 2015). The total number of the non-financial firms is 105 and represent 66.5% as at 2015. Out of this figure, 16 firms were excluded because of missing data. The filtering further reduces the sample size to only 89 non-financial firms and represents 53.6% of the total listed firms on the NSE

market. Hence, with 623 firm-year observations.

The dependent variable (DIVD) is estimated in two ways: (i) as a dummy variable with a value of 1 when a firm pays a dividend and 0 otherwise (Jiraporn, Kim and Kim, 2011; Sharma, 2011; Byoun, Chang and Kim, 2016; Pucheta-Martínez and Bel-Oms, 2016); (ii) (DITA) as a ratio of dividends to total assets of a firm (Jiraporn, Kim and Kim, 2011; Sharma, 2011; Pucheta-Martínez and López-Zamora, 2017). Conversely, female director (FEML) is the main independent variable of interest and the study follows (Byoun, Chang and Kim, 2016) to measure it as 1 if a firm has at least one female director on board during the period of the study otherwise 0. This variable (FEML) is also measured as a ratio of female director on board to the board size consistent with prior study (Pucheta-Martínez and Bel-Oms, 2016; Idris, Ishak and Hassan, 2017).

In line with the propensity to pay dividends, this study includes some firm characteristics as control variables due to their effect on dividend policy. The first control variable included is firm age (FAGE) which is the number of years of firm since listing. Hu and Kumar (2004) and DeAngelo et al. (2004) showed that shareholders of older firms are more likely to receive dividends than highly growing and young firms. Assets growth (ASGT) is used as a proxy of growth opportunities and calculated as change in assets. The literature suggested that highly growth firms are less likely to pay dividends since the yearly returns would be invested (Fama and French, 2001; Fatemi and Bildik, 2012). Prior evidence also documented that highly indebted firms are constrained in paying dividends to the shareholders (Pucheta-Martínez and López-Zamora, 2017; Saeed and Sameer, 2017). Hence, the study controls for debt and is measured as ratio of total debts to total assets (FLEV). Moreover, the study also controls for board size (BSZE) as firms with larger

board may pay higher dividends (Chang and Dutta, 2012; Bradford, Chen and Zhu, 2013; Byoun, Chang and Kim, 2016). On the other hand, in line with previous studies (see for example, Grullon, Paye, Underwood, & Weston, 2011; McGuinness et al., 2015; Saeed & Sameer, 2017) this study winsorises all the continuous variable at the 5% and 95% levels to minimize the effect of or potential threat of outliers. Lastly, year 2012 was considered as the base year because the CCG came into effect in April 2011. Hence, all firms are expected to comply from 2012.

The current study employs logit and OLS regressions to conduct the analysis. Prior studies on decision to pay dividends (see for instance, Byoun et al., 2016; Jiraporn et al., 2011; McGuinness et al., 2015; Pucheta-Martínez & Bel-Oms, 2016) have employed similar methodology. The model of the study is as follows:

$$DIVD_i = \alpha_0 + \alpha_1 FEML_i + \alpha_2 FAGE_i + \alpha_3 ASGT_i + \alpha_4 FLEV_i + \alpha_5 BSZE_i + \epsilon_i$$

Results and Discussion

Descriptive statistics

The results from Table 1 provide details on the mean, standard deviation, median, minimum and maximum for all the variables under consideration. The results from this table show that on the average,

60.5% of the non-financial listed firms pay dividend during the period of study. In comparison, this statistics is above 56% that was reported by Pucheta-Martínez and Bel-Oms (2016) and McGuinness et al. (2015) from the Spanish and US markets respectively. Furthermore, the average ratio of dividend to total assets of the non-financial listed firm is 2.6%. On the average 57.1 % of the sample firms for this study have at least one female director on board with either executive or non-executive status during 2009-2015.

For the control variables, the mean age for the sample is 20.9 years with growth opportunity of 6% per year. More so, 9.5% represents the average ratio of debt to total assets of these listed firms. This ratio is far below 21.5% and 60% reported for the US market (Jiraporn, Kim and Kim, 2011) and Spanish market (Pucheta-Martínez and Bel-Oms, 2016) respectively. Thus, this implies that listed Nigerian firms may use less debt to finance their assets. Consequently, the statistic shows that the mean value of the board size for the Nigerian non-financial listed firms is 8.6 which is lower than 10.7 when compare with the board size of the Spanish firms previously documented by Pucheta-Martínez and Bel-Oms (2016).

Table 1. Descriptive statistics

Variable	Mean	Std. Dev	Median	Min	Max
DIVD	0.605	0.489	1.000	0.000	1.000
DITA	0.026	0.039	0.009	0.000	0.143
FEML	0.571	0.495	1.000	0.000	1.000
FAGE	20.992	12.723	21.000	2.000	39.000
ASGT	0.060	0.176	0.039	-0.308	0.457
FLEV	0.095	0.122	0.035	0.000	0.415
BSZE	8.621	2.193	9.000	5.000	17.000

Note the flowing: DIVD = dividend decision; DITA = dividend to total Assets; FEML = female director(s) on board; FAGE=firm age; ASGT = assets growth; FLEV = firm leverage; BSZE = board size.

Correlation results

The analysis of the correlation reported in Table 2 indicates that dividend decision has a positive and strong correlation with female directors on board. Hence, the correlation results provide an indication of the possible relationship between decision to pay dividend and female directors on board in the main regression model of the study. For the control variables as can be seen from the correlation table, firm age and assets growth is correlated positively with dividends and statistically significant at 1% and 10% respectively. Contrarily, firm leverage is found to have a negative correlation and statistically insignificant while, the correlation between dividend decision and board size is positive and statistically significant.

The study also examines whether multicollinearity is a threat to findings. Based on the analysis which is reported in Table 2, it shows that none of the variables has a variance inflation factor above the cut-off point of 10. Hence, confirming the absence of multicollinearity in the study as suggested by Gujarati (2004).

Univariate analysis

The analysis of mean difference is also performed for three different periods using two sample t-test and is reported in Table 3. The sampling is classified into three periods: All periods (2009-2015); pre-CCG (2009-2011) and post CCG (2013-2015) to further ascertain whether the two groups of firms constructed based on the dividend payout differs with regards to the influence of female director on board as

Table 2. Correlation matrix

	1	2	3	4	5	6	VIF
1. DIVD	1.000						1.09
2. FEML	0.156***	1.000					1.07
3. FAGE	0.149***	0.072	1.000				1.05
4. ASGT	0.095*	0.002	0.011	1.000			1.01
5. FLEV	-0.098	-0.069	-0.162***	0.002	1.000		1.06
6. BSZE	0.180***	0.204***	0.083*	0.013	0.121**	1.000	1.10

(***), (**), (*) significant at 1%. 5% 10% respectively. Note the flowing: DIVD = dividend decision; FEML = female director (s) on board; FAGE=firm age; ASGT = assets growth; FLEV = firm leverage; BSZE = board size.

Table 3. Comparison of means for non-paying and paying dividend firms

	Non-Paying dividends		Paying dividends		Mean diff
	Mean	Std. Dev.	Mean	Std. Dev.	
ALL PERIODS (2009-2015)	0.476	0.500	0.634	0.482	-0.158***
PRE-CCG (2009-2011)	0.542	0.501	0.613	0.489	-0.070
POST-CCG (2013-2015)	0.411	0.494	0.663	0.474	-0.251***

(***), (**), (*) significant at 1%. 5% 10% respectively

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the independent variable. The results reported from the t-test in Table 3 show that two (All periods and post CCG) out of the three periods were statistically significant. Thus, indicating that female director may likely influence the distribution of cash dividend to the shareholders. The findings also may suggest that the provision for female director on board in the 2011 CCG has impacted much on the corporate cash payout among the sample firms in the current study.

Regression analysis

Table 4 depicts the results of the regression for female directors on board. In conducting the regression, three models were constructed. Model 1 reports the regression performed for the entire sampling period, 2009-2015 with decision to pay dividend as the dependent variable. In

the second model of Table 4 the regression is performed for the period 2009-2011 and is referred to as pre-CCG. In last model, the analysis is on post-CCG the period between 2013-2015. In all these periods, the variable of interest is female director with four control variables. The pseudo R² of first model is 6.16% which is higher than 5.11% in the second model and lower than 10.38% for the last model. The small pseudo R² reported in the study may not be a threat to the model fit as pseudo R² cannot be equated to R² in OLS models (Hosmer, Lemeshow and Sturdivant, 2013). Studies (for example, McGuinness et al., 2015) also reported very low pseudo R². Looking at the three models shown in Table 4.4, the Chi-square is statistically significant at 1% throughout the three periods.

Table 4. Binary logit regression

ALL FIRMS	(1) ALL PERIODS 2009-2015	(2) PRE-CCG 2009-2011	(3) POST-CCG 2013-2015
FEML	0.474*** (0.175)	0.191 (0.273)	0.826*** (0.269)
FAGE	0.0194*** (0.00690)	0.0149 (0.0103)	0.0220* (0.0114)
ASGT	1.173** (0.527)	1.644** (0.783)	1.446 (0.890)
FLEV	-1.628** (0.709)	-2.699*** (0.993)	-1.155 (1.125)
BSZE	0.161*** (0.0431)	0.0949 (0.0648)	0.227*** (0.0655)
Constant	-1.515*** (0.374)	-0.694 (0.544)	-2.369*** (0.626)
Observations	623	267	267
Log-likelihood	-392.22	-170.58	-161.11
p-value of Chi-sq.	50.65***	18.38***	31.11***
Pseudo R ²	6.16%	5.11%	10.38%
GOF test Chi-sq. (10)	0.2738	0.4212	0.8773
% Corr. Predic.	64.21%	62.17%	67.79%

Robust standard errors in parentheses (***), (**), (*) significant at 1%, 5%, 10% respectively. Note the following: DIVD = dividend decision; FEML = female director(s) on board; FAGE=firm age; ASGT = assets growth; FLEV = firm leverage; BSZE = board size.

The fitness of the three models are ascertained using Hosmer-Lemeshow test. This test indicates how well the binary logit model fits the data. In partitioning the observations, the conventional 10 groupings are used. In all the three models, the Chi-Square were found to be statistically insignificant and accordingly, the models are statistically fits. Another goodness of fit conducted is the predictive accuracy. The performance of the models is interesting. In all the models, the overall predictive accuracy is above 50%. Although the pre-CCG has the lowest score of 62.17% among the remaining models. This is consistent with Pampel (2000) who opined that the predictive accuracy lies between 50% and 100% of correctly predicted cases. Finally, in the entire regression models, robust standard errors are used which may allow the study to correct the potential threat of heteroscedasticity and serial correlation threat (Rogers, 1993).

For all these three models in Table 4, the dependent variable is one if a firm pays a dividend otherwise zero. The study attempts to determine the influence of female director on the dividend decision around three different periods of the CCG, the main variable of interest is still female director. As expected, the coefficient of female director on board is positive and significant in Model 1 and Model 3, therefore agrees with Hypotheses 1 and 2 respectively. Indicating that the 2011 CCG has contributed a lot to the payment of dividend as firms with at least one female director on board shows a higher likelihood of dividend payment. This evidence supports the univariate analysis performed in this study. Furthermore, the overall results in line with the previous studies (McGuinness, Lam and Vieito, 2015; Byoun, Chang and Kim, 2016; Pucheta-Martínez and Bel-Oms, 2016;

Table 5. Binary logit regression models for the profitable firms in the sample

PROFITABLE FIRMS	(1) ALL PERIODS 2009-2015	(2) PRE-CCG 2009-2011	(3) POST-CCG 2013-2015
FEML	0.426** (0.210)	0.0548 (0.312)	1.003*** (0.338)
FAGE	0.0305*** (0.00833)	0.0258** (0.0117)	0.0366** (0.0148)
ASGT	-0.0917 (0.641)	-0.0947 (0.901)	0.0678 (1.076)
FLEV	-0.380 (1.008)	-1.158 (1.431)	-0.227 (1.561)
BSZE	0.160*** (0.0530)	0.0610 (0.0774)	0.292*** (0.0798)
Constant	-1.272*** (0.442)	-0.100 (0.617)	-2.870*** (0.745)
Observations	505	227	210
Log-likelihood	-284.58	-135.60	-107.91
p-value of Chi-sq.	37.86***	0.1186	33.54***
Pseudo R ²	6.01%	2.7%	0.14%
GOF test Chi-sq. (10)	0.2193	0.0340	0.7593
% Corr. Predic.	70.30%	69.16%	72.38%

Robust standard errors in parentheses (***) (**), (*) significant at 1%. 5% 10% respectively.

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Idris, Ishak and Hassan, 2017; Pucheta-Martínez and López-Zamora, 2017) that female director(s) on board force managers to distribute cash dividends to the shareholders and thereby weakening the possibilities that managers use the free cash flow for perquisite consumption, empire building among others which are not to the best interest of the shareholders. Hence, consistent with the agency theory.

Furthermore, to test hypothesis 3, the study conducts another analysis by excluding firms with negative earnings from the main sample in all the three periods (all period, pre and post CCG) since they may constrain the payment of dividends. The results are documented in Table 5. From this table, the coefficient of the variable of interest is also positive and statistically significant at 5%. Thus, the influence of

female director on decision to pay dividend persist and in this case supporting hypothesis 3. The results are in support of the prior studies of Pucheta-Martínez and Bel-Oms (2016) who found profitable firms to have higher probability of dividend payout.

Additional analysis

In other to confirm the robustness of the findings, we conduct additional test. Firstly, the study uses ratio as an alternative measure of female director. This measure has been used by other studies in this area (see for example, Idris et al., 2017; Pucheta-Martínez & Bel-Oms, 2016; Saeed & Sameer, 2017). The model is re-estimated for the three periods (all period, pre and post CCG). The results are documented in Table 6.

Table 6. Binary logit regression (ratio of female director to board size)

ALL FIRMS	(1) ALL PERIODS 2009-2015	(2) PRE-CCG 2009-2011	(3) POST-CCG 2013-2015
FEML	2.298** (1.014)	0.845 (1.630)	3.474** (1.566)
FAGE	0.0186*** (0.00685)	0.0147 (0.0103)	0.0212* (0.0110)
ASGT	1.162** (0.526)	1.634** (0.783)	1.376 (0.884)
FLEV	-1.616** (0.710)	-2.698*** (0.995)	-1.143 (1.138)
BSZE	0.177*** (0.0426)	0.103* (0.0627)	0.249*** (0.0659)
Constant	-1.565*** (0.378)	-0.719 (0.549)	-2.387*** (0.629)
Observations	623	267	267
Log-likelihood	-393.21	-170.69	-163.01
p-value of Chi-sq.	48.07***	18.04***	27.72***
Pseudo R ²	5.9%	5.0%	9.3%
GOF test Chi-sq.Prob (10)	0.1600	0.5819	0.6973
% Corr. Predic.	63.56%	62.92%	66.67%

Robust standard errors in parentheses (***) (**), (*) significant at 1%. 5% 10% respectively. FMLE = ratio of female directors on board to board size

The variable of interest from this result reported in Table 6 remains intact as previously reported. Although, the significant level has changed from 1% in Table 4 to 5% in Table 6 for both model 1 and model 3. Thus, the influence of female director on decision to pay dividend persist. Summarily, the result confirms the earlier findings of the study and the change in the measurement of the variable of interest does not affect the results.

Secondly, consistent with the propensity to pay dividends (Jiraporn, Kim and Kim, 2011; Sharma, 2011; Pucheta-Martínez and Bel-Oms, 2016), the study also examine the effect of female director(s) on board on the level of dividend payout policy. The study in this case, excludes all

non-dividend paying firms in other to carry out the estimations with dividend to total assets as the dependent variable. Table 7 reveals the OLS regression analysis with robust standard errors. Consistent with the previous evidence presented in Table 4 and Table 5, results remain intact. Female director as can be seen is found to be positive and statistically significant in Model 1 and Model 3. This evidence concurs with the existing results of the current study. Therefore, the results all things been equal, provide strong evidence that within the dividend paying firms, firms with female director may lead to higher dividend payout.

Table 7. Ordinary least squares regression using DIITA as the dependent variable

ALL FIRMS	(1) ALL PERIODS 2009-2015	(2) PRE-CCG 2009-2011	(3) POST-CCG 2013-2015
FEML	0.00604* (0.00309)	0.00334 (0.00542)	0.00912** (0.00390)
FAGE	0.000270** (0.000128)	0.000349 (0.000219)	0.000248 (0.000175)
ASGT	0.0410*** (0.00866)	0.0422*** (0.0136)	0.0423*** (0.0125)
FLEV	-0.0383*** (0.0119)	-0.0435** (0.0199)	-0.0351** (0.0152)
BSZE	0.00214*** (0.000712)	0.00156 (0.00117)	0.00260*** (0.000997)
Constant	4.27e-05 (0.00622)	0.00801 (0.0101)	-0.00806 (0.00895)
Observations	623	267	267
R-squared	0.084	0.072	0.121
F-Stat	11.78	4.32	7.69
P-Value(F)	0.0000	0.0000	0.0000

Robust standard errors in parentheses (***), (**), (*) significant at 1%, 5% 10% respectively. Note the flowing: DITA = dividend to total Assets; FEML = female director(s) on board; FAGE=firm age; ASGT = assets growth; FLEV = firm leverage; BSZE = board size.

Conclusion

This study investigates the relationship between decision to pay dividends and female director(s) on board. The findings of the study show that firms with female director are more likely to affect the distribution of cash dividend with a view of addressing agency conflict. Further, additional analysis was carried out to ascertain the robustness of the result such as reducing the sample to profitable and dividend paying firms while estimating the models with logit and OLS regressions.

This study is important as it provides strong evidence on the provision made by the 2011 CCG in which required firms listed on the NSE to have a diversity in terms of female on their board and in turn influences financial policies for example dividend policy. Moreover, the findings from this research supported the existing literature in this area documented from other markets where they found out that female director on board have strong effect on firms' dividend payout.

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