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Board Gender, Company Performance, Board Size and Monitoring Mechanisms in Non-Financial Listed Companies

Ayoib Che-Ahmad, Rachael Oluyemisi Arowolo*

Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia

Abstract

The focus of many governments, academicians, regulatory bodies, and shareholders have been the cause of the economic meltdown with emphasis on monitoring mechanisms to reduce information asymmetry in public and private companies. In the light of this, this study examines the relationship between board gender, board size, company performance, and monitoring mechanisms (directorship, internal and external auditing) in Nigerian non-financial listed companies. The study obtained data from annual reports and drew questionnaire on internal auditing as the information is not obtainable from the annual reports. The data are analyzed using Stata 12 application. The findings show that a woman director mediates the relationship between company performance and monitoring mechanisms as well as board size and monitoring mechanisms. This paper adds to the literature on company performance, board gender, board size, and complexity of monitoring mechanisms, particularly in sub-Saharan Africa. It suggests policy implications to the regulatory agents and board of directors in respect of board diversity aligning the interests of the management and the shareholders of a company.

Keywords: Monitoring mechanisms, company performance, company complexity, board gender, auditing, directorship

1. INTRODUCTION

Economic meltdown, incessant business mergers and failures being experienced within the past three decades affect the investors' trusts and confidence in the management of companies (Aldamen, Duncan, Kelly, McNamara, & Nagel, 2012;). This paper focuses on monitoring in the non-financial listed companies in Nigeria and relationships between company performance, board gender, board size, and complexity and monitoring mechanisms. The paper uses Sobel-Goodman mediation test and bootstraps analysis in Stata. The data for the study is from a sample of 111 Nigerian non-financial listed companies.

There is extant literature on monitoring mechanisms, but with no mediating variable (Azim, 2012; Mustapha & Che-Ahmad, 2013). Also, only two of the prior literature treated directorship, internal and external auditing as total monitoring mechanisms (Mustapha & Che-Ahmad, 2011; Anderson, Francis, & Stokes, 1993). Most of the studies on monitoring mechanisms are from developed and transiting countries like Australia and Malaysia. To the best of the knowledge of the researchers, the literature on monitoring mechanisms is rare in developing countries like Nigeria. Also, the literature on mediating effects of board gender in the relationships monitoring

*Corresponding author. Tel.: +60163267252
E-mail: aroldaot@gmail.com

mechanisms with company performance and board size are scarce. Country specifics are also likely to make a difference (Beneish & Yohn, 2008).

Nigeria is now with a population of about 186.99million people (2016 World Population Review), and its ethnic tribes are about 250 (Curry, 2014). Corruption coupled with the political instability and security challenge presently is a serious challenge to the country's economy (Adegbite, 2012). Notwithstanding the existence of laws and many reformations in line with international standards, bad governance and corruption persevere in businesses and the country at large (Arowolo & Che-ahmad, 2016). This paper, therefore, expects that acquisition of knowledge and implementation of satisfactorily diversified monitoring mechanisms (directorship, internal and external auditing) will help to enhance good governance in the businesses and improve the country's economy. Therefore, it considers the relationships between board gender, board size, company performance and monitoring mechanisms in the light of agency and signaling theories.

Due to the scarcity of research on the mediating effect of board gender in the relationships board size, company performance and monitoring mechanisms, more research on monitoring mechanisms is apparently essential to proffer solutions to the persistent business failures consequential from bad governance, and the poor economy in the country, Nigeria.

This study considers extending the study of Mustapha and Che-Ahmad (2009) by introducing a mediating variable, board gender in the model. Mustapha and Che-Ahmad (2009) test the relationship between company performance and monitoring mechanisms. This study empirically establishes that board gender mediates in the relationships between company performance and monitoring mechanisms; board size and monitoring mechanisms as related to agency problems in non-financial listed companies in Nigeria. Therefore, the findings of this study are beneficial to all parties to company's various contracts. The findings are useful to the board of directors, management, external auditors, government, regulators and the public.

The following sections are on the literature review, hypotheses development, methodology, research design, results and conclusion of the study.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Monitoring Mechanisms

Several studies had examined and described monitoring mechanisms in diverse ways (Kao et al., 2004; Azim, 2012). The study of Anderson et al. (1993) investigates how monitoring mechanisms (directorship, internal and external auditing) affect the achievement of corporate governance. The study claims that monitoring mechanisms help to ensure that management does not expropriate the wealth of a company beyond the value they are entitled. Bøhren and Staubo (2015) examine how mandatory gender balance relates to board independence in Norway. The study finds that directorship as a monitoring mechanism effectively monitors management through the presence of independent directors on the board of director to protect shareholders' interests. The study of Arowolo and Che-ahmad (2016) on monitoring mechanisms gender and information system structure in Nigeria find that internal auditing as a monitoring mechanism helps to intensively monitor internal control and promote accountability. Adegbite (2012) examines the regulatory system of corporate governance in Nigeria. The study finds that external auditing as a monitoring mechanism helps to promote good corporate governance through engagement of professional, diligent and honest audit personnel. This study examines monitoring mechanism on the basis of the mechanisms suggested in 2011 SEC Code.

2.2 Company Performance and Monitoring Mechanisms

Ibrahim and Samad (2011) investigate how corporate governance and company performance relate using 290 Malaysian listed companies. The study documents that the performance of a company impacts the decision of the company on compensation and also affects the proportion of outside directors on its board. Agency theory suggests that good performance of the company invokes more monitoring of the management and the board of directors to keep serving the interests of the shareholders. Also, signaling theory suggests that the effectiveness of monitoring mechanisms adopted by the company is a signal of the determination for good performance to satisfy the shareholders' interests. The request for more monitoring to retain and improve on good performance compels incurring more monitoring costs. This paper, therefore, considers related hypothesis as follows:

H_{1a} Companies' performance positively associates with the demand for monitoring mechanisms (directorship, internal and external auditing).

2.3 Board Size and Monitoring Mechanisms

Agency theory suggests that board size is useful for the board of directors to perform their supervisory duties. Existing literature has, therefore, consider board size about corporate governance matters like quality auditing, timeliness of financial reports, earnings management, risk management, and dividend policy. However, the findings in the previous literature are mixed. Some claim that small board size is better (Ibrahim & Samad, 2011). Others find that larger board size is better (Azim, 2012) while some find no relationship between board size and board performance (Babatunde & Olaniran, 2009). The study of Ibrahim and Samad (2011) finds that board size has a significantly impacts family firms' performance. In Nigeria, board size is expected to be within the range of 5 and 15 persons. The request for more monitoring following an increase or decrease in board size induces incurring more or lesser monitoring costs. This paper, therefore, considers related hypothesis as follows:

H_{1b} Board size significantly associates the demand for monitoring mechanisms (directorship, internal and external auditing).

2.4 Board Gender

There is a growing body of literature on board gender (Bøhren & Staubo, 2015; Lenard et. al. 2014) because of the perception that women are naturally independent. Regulators and governments are also identifying its importance and are including it as a measure of good governance in their revised codes of corporate.

2.5 Company Performance and Board Gender

Signaling theory suggests that companies that purpose to attain good performance engage women directors because having females on the boards of directors signify adequate monitoring as they scrutinize records to ensure transparency and accountability. Likewise, agency theory suggests that company performance influence the diversity and independence of the board of directors (board director is one of the factors of board diversity) to ensure the effectiveness of its monitoring responsibility. Several studies have been carried out on board independence and composition (Bøhren & Staubo, 2015; Azim, 2012) examining board related issues. However, many of the literature that examine the board gender are in the developed and transiting countries. Lenard et. al., (2014) document that boards with female directors are more active in effecting their monitoring roles. It shows that the presence of female directors denotes the presence of diverse expertise and independence that result in improved performance. The study finds that the more the female on the board of directors the less the variability in risks. The request for more monitoring to retain and improve on good performance compels the demand for more female directors because of their adequacy in monitoring. This paper, therefore, considers related hypothesis as follows:

H_{2a} Companies' performance positively associate with board gender

2.6 Board Size and Board Gender

To the best of the researchers' knowledge, the literature that investigates the relationship between board size and board gender is scarce. Bøhren & Staubo (2015) argue that addition of female directors to the prevailing board size increase board size. The request for more monitoring following an increase or decrease in board size induces the demand for female on the board of directors because of their ability for adequate monitoring. This paper, therefore, considers related hypothesis as follows:

H_{2b} Board size positively impact board gender

2.7 Board Gender and Monitoring Mechanisms

The study of Lenard et al. (2014) provides evidence that the presence of females on the board of directors associated with lower variability of the returns on stock, while the result of Bøhren & Staubo (2015) indicate that it associates with board independence and thus, implies more demand for monitoring mechanisms. The presence of women on the board of directors, therefore, requires more monitoring costs resulting from an increase in board size and other board diversities resulting from adding female directors, more scrutiny of records and engagement of experts for the scrutiny. This paper, therefore, considers related hypothesis as follows:

H_3 Board gender positively associates with monitoring mechanisms (directorship, internal and external auditing).

2.8 Board Gender as a Mediator between Company Performance, Board Size, and Monitoring Mechanisms

This study has debated that company performance, and board size positively associates with monitoring mechanisms and board gender. Likewise, board gender influences monitoring mechanisms. Therefore we expect board gender to mediate the relationships between company performance and monitoring mechanisms as well as board size and monitoring mechanisms. This paper, therefore, considers related hypotheses as follows:

H_{4a} Board gender positively mediates between company performance and the demand for monitoring mechanisms (directorship, internal and external auditing).

H_{4b} Board gender positively mediates between board size and the demand for monitoring mechanisms (directorship, internal and external auditing).

3. DATA

The study empirically examines data from annual reports of the non-financial listed companies for years 2010 to 2012 and questionnaire for internal audit monitoring using quantitative analysis. The researchers also control for company complexity. The research models are as follows:

$$MMit = \alpha it + \beta_1 CPit + \beta_2 BSit + \beta_3 CCit + \mu it + \varepsilon it \quad \text{(C-Path)}$$

$$BGit = \alpha it + \beta_1 CPit + \beta_2 BSit + \beta_3 CCit + \mu it + \varepsilon it \quad \text{(A-Path)}$$

$$MMit = \alpha it + \beta_1 CPit + \beta_2 BSit + \beta_3 CCit + \beta_2 BGit + \mu it + \varepsilon it \quad \text{(B\&C'-Paths)}$$

Where:

MM = Monitoring Mechanisms (Total costs of directorship, internal and external auditing); CP = Company Performance; BS = Board Size; BG = board gender; and CC = Company Complexity

4. RESULTS

The study performs empirical tests using 111 questionnaires analyzed using SPSS 22 and tests the hypotheses using Stata 12. The F-test reveals that the model is statistically significant. Tables 1 and 2 present the results of the regression model for collinearity, multicollinearity, variance inflation factors (VIF) and tolerance of the study as presented in below. The correlations are with values below 0.9; the VIF is below 5 while tolerance is above 0.2. This study is, therefore, with no multicollinearity problem regarding variables examined.

Table 1: Pearson Correlation

	MM	CP	BS	CC	BG
MM	1				
CP	0.1046	1			
BS	0.2336	0.1603	1		
CC	0.6367	-0.0789	0.1273	1	
BG	0.1619	0.1232	0.1092	0.0817	1

NOTE: MM = Monitoring mechanisms; CP = company performance; BS = board size; CC = company complexity; BSB = board gender

Table 2: Variance Inflation Factors (VIF)

Variable	VIF	1/VIF
Board Size	1.05	0.948576
Company Performance	1.05	0.951386
Company Complexity	1.03	0.967351
Board Gender	1.03	0.970276
Mean VIF	1.04	

Table 3 presents the results of the tests. Model A tests how company performance (CP) relates to monitoring mechanisms (MM) and how board size (BS) relates to MM. A 2-tailed test was also done for directional relationships. The result suggests that CP (β=₦40.6m, t=1.91, p=0.029) and BS (β=₦8.5m, t=4.37, p=0.000) relate positively to MM. Company complexity (CC - β=₦12.2m, t=15.02, p=0.000) when controlled for, also relate positively to MM. Model B tests the relationships between CP, BS and board gender (BG). The result suggests that CP (β=0.061, t=2.26, p=0.013) and BS (β=0.005, t=2.00, p=0.046) positively relate to BG. Also, CP (β=0.002, t=1.49, p=0.069) when controlled for, positively relate to MM. Model C tests the probability of BG mediating in the relationships between CP, BS, and MM. It shows that BG relates significantly to MM. Thus, it suggests the probability of BG mediating in the tested relationships. The results of the 1000 iterated bootstrap at 95% confidence interval is consistent with the results of Sobel-Goodman Mediation Tests. None of the variables is with zero in the interval for indirect effect.

Table 3: Sobel-Goodman Tests and Bootstrap Results

Model A (c-path)					
MM	**Coef.**	**Std. Err.**	**t**	**P>t**	**R^2**
CP	4.06E+07	2.12E+07	1.91	0.029	0.011
BS	8527105	1951075	4.37	0.000	0.055
CC	1.22E+07	810060.6	15.02	0.000	0.405
Model B (a-path)					
BG	**Coef.**	**Std. Err.**	**t**	**P>t**	**R^2**
CP	0.0605392	0.026811	2.26	0.013	0.015
BS	0.0050477	0.002525	2.00	0.046	0.0119
CC	0.0019765	0.001326	1.49	0.069	0.007
Model C (b&c'-paths)					
MM	**Coef.**	**Std. Err.**	**t**	**P>t**	**R^2**
BG (b-path)	1.20E+08	4.31E+07	2.77	0.003	
CP (c'-path)	3.34E+07	2.12E+07	1.58	0.058	0.034
BG (b-path)	1.09E+08	4.21E+07	2.59	0.005	
BS (c'-path	7976720	1946116	4.10	0.000	0.073
BG (b-path)	8.74E+07	3.33E+07	2.62	0.005	
CC (c'-path)	1.20E+07	805642.3	14.89	0.000	0.418

Bootstrap		**Observed**	**Bootstrap**			**Normal-based**
		Coef.	**Std. Err.**	**z**	**P>z**	**[95% Conf. Interval]**
CP -> BG -> MM	Indirect Effect	7235875	5053646	1.43	0.152	-2669089 1.71e+07
	Direct Effect	3.34E+07	1.23E+07	2.71	0.007	9251315 5.75e+07
BS -> BG -> MM	Indirect Effect	550384.6	467478.1	1.18	0.239	-365855.6 1466625
	Direct Effect	7976720	1378659	5.79	0.000	5274597 1.07e+07
CC -> BG -> MM	Indirect Effect	172722.8	167460	1.03	0.302	-155492.8 500938.4
	Direct Effect	1.20E+07	1850071	6.48	0.000	8370401 1.56e+07

NOTE: MM = Monitoring Mechanisms; CP = Company Performance; BS = Board Size; CC = Company Complexity; BG = Female Directors

5. DISCUSSIONS

The more the company performance increases, the more the demand for monitoring mechanisms (MM). This study provides evidence that companies demand more MM as they increase in value. This finding is consistent with the result of Mustapha and Che-Ahmad (2011) that the companies rely on their performance to attract investors and therefore demand MM. The situation in Nigeria requires strengthening its economy. Hence, it needs both local and foreign investment in many of the companies. The companies, therefore, have no choice but to improve their performance through good corporate governance. Increasing the board size is likely to lead to more demand for monitoring mechanisms (MM). The bigger the size of the board the more the board's diversity, which implies more independent directors, relevant experts, experience and possibly gender balance. Extant literature is evidence that each of the board diversity factors helps to reduce information asymmetry through MM (Lenard et. al., 2014; Bøhren & Staubo, 2015). Similarly, company complexity explains the increase in the demand for monitoring mechanisms (MM) when increase.

Thus, we establish the first condition of Baron and Kenny (1986) that independent variables should impact the dependent variable (c-path) in establishing a mediating effect. The second rule is that the independent variables should affect the mediating variables (a-path). The results provide evidence that the independent variables, company performance (CP) and board size (BS) positively impact board gender (BG). Thus, the results suggest that BG is likely to mediate the relationships. With the identified need to strengthen Nigerian economy, many listed companies are now recruiting women on their board of directors. Likewise, companies in Nigeria are now trying to ensure the implementation of sound corporate governance that can reduce agency problems and advance the national economy. Also, Nigerian companies are engaging women directors while expanding their board membership considering the alignment between women nature and the demand for record scrutiny due to expansion complexity. The third condition is that the mediating variable should affect the dependent variable. This study provided evidence that BG consistently relates positively to MM at $p<0.000$ when the study regresses MM on the tested independent variables and BG. Furthermore, the bootstrap results are with no zero in the confidence interval value for all the indirect effects.

6. CONCLUSION

The purpose of this paper is to test how female directors (BG) better explains the relationships between company performance (CP), board size (BS), and monitoring mechanisms [MM – directorship (NEDIR), internal auditing (IAC) and external auditing (EAC)]. The study provides evidence of the relationships using Sobel-Goodman Mediation Tests and bootstraps replications (1000) in Stata 12. The paper adds to the literature on CP, BS, MM, company complexity (CC) and BG. Extant literature on organizational attributes which to the best of the knowledge of the researchers combined NEDIR, IAC, and EAC as MM are two with none in Sub-Saharan African nor mediating variables. The main contribution of this paper is that BG positively mediates the relationships between CP, BS, CC and MM. The study also reveals that BG affects NEDIR and IAC but not EAC when tested separately. This is because EAC is mandatory in Nigeria. Companies can only decide the type of external auditor to employ (Big-4 or Non-Big-4 / Big or Intermediate or Small audit firm). This study offers significant implications for the shareholders, board of directors, external auditors, internal regulators, and government for the possible strengthening of corporate governance in the public companies. The sample for the study is limited to non-financial listed companies only; researchers may wish to expand the scope of the study by introducing other mediating variables such as information system structure and regulatory agents into the model.

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