BOARD COMPOSITION AND FINANCIAL STATEMENT FRAUD

Izevbekhai, Monday Olade*
Department of Accountancy
Auchi Polytechnic, Auchi
Edo State, Nigeria
&
Ohiokha, Godwin
Department of Accounting
Edo State University, Iyamho
Edo State, Nigeria
*Email of Corresponding Author: mondayizevbekhai75@gmail.com

Abstract
In this study, attempt was made to understand the financial scandals involving accounting irregularities in leading companies. The broad objective of this study is to investigate the relationship between board composition and financial statement fraud. The study utilized a sample of seventy five (75) firms from the universe of companies quoted on the Nigerian Stock Exchange. The data was a combined property of time series and cross-sectional covering the period, 2009 to 2016, with six hundred (600) firm-year observations. The study utilises descriptive statistics, correlation analysis, pooled binary logistic regression and analysis and panel binary logistic regression analysis with the aid of Statistical Package for Social Sciences (SPSS) and E-view 9.0. The result of the study reveals that board composition has the likelihood to increase financial statement fraud. The relationship between female gender composition and financial statement fraud was positive though statistically insignificant at the 5% level, it shows that the presence of female board members is not likely to reduce financial statement frauds of the sampled companies. Among others, we recommend the inclusion of more external independent directors on the board. We also advocated for female gender representation on the corporate board.

Keywords: Board Composition, Fraud, Financial Statement Fraud

Introduction

Leading companies in Nigeria and other countries have experienced corporate scandals and serious financial crises involving manipulated accounting. These include: Cadbury Nigeria Plc, Lever Brothers Nigeria Plc (in Nigeria) Enron, WorldCom, (in United States of America) Yukus, (in Japan) Northern Rock, (in United Kingdom) Paramalat (in Italy) HiH Insurance (In Australia) Saytem (in India); These all highlighted the inadequate role played by the boards and failure of corporate governance processes (Frances & Carney, 2002; Herald, 2003). The public reaction after the Enron collapse led to the enactment of the "Sarbanes-Oxley Act 2002" in the United States of America and other similar regulations or corporate governance codes in other countries. The continues presence of such cases of financial statements fraud have led many investors, regulators, corporate managers and academics try to reduce such incidence by improving the effectiveness of corporate governance and increasing awareness of the danger that indicate accounting scandals.

In findings solutions to curb manipulated accounting that lead to financial quagmire, scholars have tried to develop a model to capture the corporate governance mechanism and its role in detecting and preventing manipulated accounting (Abbott, Park & Parker, 2000; Archambeault, 2000; Beasley, 1996; Bourke, 2007; Bourne, 2008; Chen, Firth, Gao & Rui, 2006; Sanbeh, 2010; Smaili & Labelle, 2009). Their ideas include; increasing the

role and number of independent directors; eliminating the chairman CEO duality; and refining the measurement of accounting scandals.

Abbott, et al (2000); Beasley, (1996); have analysed the impact that certain governance characteristics may have on the accounting practices. These practices cover a wide range of elements such as earnings management and smoothing, restatement and fraudulent financial reports. The general idea that inspires this study is that the weaknesses of the corporate governance system provide an incentive for accounting fraud.

The integrity of financial statement and the need for a balanced board has been a consistent and serious concern for investors, regulators, market participants and the academic community, most especially after the high-profile accounting scandals of some big firms whose collapse shook investors' faith in the capital market and the efficacy of existing board structures in promoting transparency and stewardship. This is due to the fact that financial reporting has been a principal means of communicating financial information to internal and external users (Kajola, 2008).

The Nigerian economy is faced with the crisis which was caused by flagrant disregard for ethics of corporate governance and acts of fraudulent financial reporting and doctoring of books. These fraudulent acts of presenting fictitious financial statements and lack of adherence to corporate governance principles have led to massive loss of funds by investors and diminishing trust by the investing public on the companies quoted on the floor of the Nigerian Stock Exchange (Kajola, 2008).

The relation between board of directors' composition and likelihood of financial statement fraud is germane to the profession of accounting against the back drop of the responsibility of the accountants to identify situations where financial statement fraud has a greater likelihood of occurring. In most countries, when an enterprise fails or when fraudulent reporting is detected, it is usually the auditors and accountants who are blamed. Auditors are required by American institute of Certified Public Accountants, SAS No. 55, consideration of the internal control structure in a Financial Statement Audit (paragraph 20) (American Institute of Certified Public Accountants, 1988), to exhibit relevant understanding of the control environment to be able to predict management's and the board of directors' attitude, awareness and actions concerning the control environment. Even though this requirement exists, auditing professional standards, particularly the "red flag" indicators of financial statement fraud described in SAS No. *53,* are clear as to board of director characteristics that may affect the board's ability to monitor management for the prevention of financial statement fraud..

Therefore, a study that examines the relationship between board of director's composition and fraudulent financial statement becomes imperative, especially in an emerging economy like Nigeria.

Nigerian economy is one of Africa's most important economies since it has one of the largest markets in Africa. The economy has been plagued with poor corporate governance and the result from such poor corporate governance practice in companies listed on the Nigerian Stock Exchange is shown on the fraudulent financial statements being reported by entities.

Several efforts have been made from extant literature to understand empirically the relationship between board of director composition and the occurrence of financial statement fraud with a view to reducing the spate of corporate frauds through the production of high quality financial reports through an effective board of director composition. These attempts have been concentrated in the developed economies of Europe and America with little studies addressing the peculiarities of the developing economies with Nigeria as a reference point. Even in the developed economies where the issue appears to have received robust empirical consideration, there appears to be inconsistencies as to the board characteristics that engender fmancial statement fraud. For example, while Fodio, Ibikunle and Eko (2011) reported a negative relationship between board size and earnings management, the relationship was positive in the case of Dimitropoulos (2011). These empirical inconsistencies and the paucity of studies in the

developing economies created a knowledge gap upon which this current study is deeply rooted.

Literature Review and Hypotheses Development

Financial statement fraud

According to the American Institute of Certified Public Accounts (AICPA, 1988), financial statement fraud is an intentional or reckless conduct, whether act or omission that results in materially misleading financial statements. It also entails gross and deliberate distortion of corporate records such as inventory manipulation or fraudulent transactions such as fictitious sales or orders. Fraudulent financial reporting may also entail the misapplication of accounting principles.

The terms financial statement fraud, fraudulent financial reporting, earnings manipulations, management fraud are often used interchangeably in literature. The worry over financial statement fraud has led many researchers to undertake empirical studies on the area of financial statement fraud, several researchers (Romney, Albrecht & "Cherrington, 1980; Loebbecket, Eining & Willingham, 1989; Heiman-Hoffman, Morgan & Patton, 1996; Beasley, 1996; Abdul & Tsui, 2001) have tried to determine the factors which are related to financial statement fraud by using the red flag indicator such as decreasing cash, decreasing profitability, reducing closing stock, and so on. Financial statement red flags provide a general overview of the warning signs investors should take note of. The current study relies on Beneish-M-Score as a technique to measure financial statements.

Board Composition and Financial Statement Fraud

The extent to which board composition affects financial statement fraud, earnings management and creative accounting is still under debate. Agency theory suggests that the board should be dominated by outside directors in order to increase the board's independence from management (Fama & Jensen, 1983).

Prior studies carried out in the developed and developing economies on this subject matter are relatively sparse and have produced mixed reactions. Beasley (1996) investigated the relationship between the board of director and financial statement fraud. One hundred and fifty (150) publicly traded firms were used for the study. The study's definition of financial statement fraud is limited to two types: The occurrences where management intentionally issues materially misleading financial statement infoormation to outsider users and the occurrences of misappropriations of assets by top management. The empirical results show that no-fraud firms have higher percentages of outside directors than fraud firms.

Seamer (2000) obtained empirical evidence for the relationship between independent directors on a corporate board and the incidence of management-perpetrated fraud in Australian public companies during the period 1985to 1998. The study results provided support that non-fraudulent firms had a significantly higher proportion of independent directors on their boards than fraudulent firms.

Moradi, Salehi, Bighi & Najari (2012) in Tebran, investigated the relationship between board of directors and earnings management of listed companies for the period 2006 to 2009. Their result showed a negative but non-significant relation between board composition and earnings management. Fodlo, Ibikunle and Oba (2013), in Nigeria, investigated corporate governance mechanisms and reported earnings quality in Nigerian listed insurance firms for the period 2007 to 2010. The study showed that board composition is positively and significantly associated with earnings management.

Seamer (2000) suggested two important implications. Firstly, empirical evidence supports the appointment of mandatory levels of independent directors to the boards of Australian public companies; Secondly, he showed that evidence of a relationship between board composition and incidence of management fraud may prove useful to auditors when making risk assessment and planning the extent of audit tests for fraud.

Previous researches have analyzed the relationship between the Board of Directors and fraudulent financial reporting (Beasley, 1996; Beasley et al.,

1999; Doyle, Ge, & MeVay, 2007; Bowen, Rajgopal and Venkatachalam, 2008). Based on the empirical results from logit regression analysis, Beasley (1996) established that non-fraudulent firms have boards with a significantly higher percentage of external members than fraudulent firms. However, as external director ownership in a firm and external director tenure on a board increase, and as the number of external directors in other firms held by external directors decreases, the probability of financial statement fraud decreases. Jaggi, Leung and Gul (2009) in their study found significant negative relation between earnings management or financial statement fraud and a higher proportion of external directors in Taiwan and Hong Kong. The studies also suggested that the inclusion of larger proportion of external members on the board of directors provides improved oversight of management to mitigate earnings management activity. Guizar and Wang (2011), did not find any empirical evidence on the association between earnings management and board independence or composition. Researchers consider outside directors to be better representatives of shareholder interests than insider directors (Carter, Simkins, & Simpson, 2003), and studies have found their relationship to be stronger with overall corporate performance (Pearce & Zabra, 1992; and Perry & Shivdasani, 2005) and larger shareholder returns (Shivdasani & Yermack, 1999). Surprisingly, the number of outside board member tends to increase immediately after a firm performs poorly (Hermalin & Weisbach, 1988) and they are associated with improved performance during period of corporate restructuring (Perry & Shivdasani, 2005).

D'onza and Lamboglia (2012) revealed that fraud firms have weaknesses in corporate governance mechanisms. The weaknesses include: board with lower percentage of outside directors, fewer audit committee, fewer financial experts on the audit committee, the quality of the external audit firm and when the CEO is also chairman, the presence of a rapid company growth and poor financial performances is a major factor of weakness. The paucity of literature in this regard, found the basis of our first proposition:

> *Proposition 1: There is no significant relationship between board composition and financial statement fraud.*

Board Size and Financial Statement Fraud

Board size is the total number of directors sitting on each company's board. Board size is defined as the number of board members in a given year. It refers to the total sum of members with voting privileges on the board of directors of a company (Pugliese & Wenstop, 2007). Board size can be small or large. Several scholars have asserted that small boards operate more efficiently than large boards because of the high corporate costs and free rider problems associated with large boards. For example, Lipton and Lorsch (1992) argued that where a board has more than ten (10) members, there is likely to be more problem of expressing their ideas and opinions in the short time available for board meetings, thereby leading to less meaningful and substantive discussions. Boards with smaller size are more effective because they can hold more integrated discussions, make decisions quickly and are less controlled by management. Similarly, Jensen (1993) conjectures that holding unto small boards can help improve company performance. When boards get seven (7) or eight (8) people, they are likely to function effectively.

There has been increasing attention in accounting literature on board size and financial statement fraud. Beasley (1996) ascertained that attention drives from the board of directors' responsibility to monitor the quality of financial reporting in a firm. Fodio, Ibikunle and Oba (2013) investigated corporate governance mechanisms and reported earnings quality in Nigerian listed insurance firms for the period 2007 to 2010 and they found negative significant effect between board size and earnings management. Nugroho and Eko (2011), in Indonesia, investigated board characteristics and earnings management and discovered that board size does not affect earnings management of firms listed in Indonesian Stock Exchange.

Dimitropoulos (2011) analyzed the effect of the size of the board, directors' composition on the accounting manipulation among football clubs companies in some selected European Union countries. The result from 268 firm year observation shows that the size of the board is positively associated with accounting manipulation. Agyun, Ic and Arvas (2010) ascertained the

relationship between board governance and earnings activities. The result shows a negative relationship between the size of the board and accounting manipulation.

Extant literature supports this argument by documenting that larger boards are strongly associated with lower levels of earnings management (Yu, 2008). Yu (2008), in his study, found that small boards are likely to fail in detecting earnings management because of the inability to share the workload among large number of board members. Guizar and Wang (2011) found a positive relationship between the size of the board and earnings management. Moradi, Salehi, Bighi and Najari (2012) found no significant relationship between size of the board and earnings management. Alaryan (2015) found no significant relationship between board size and manipulation in financial statement. This shows that the size of the board of the selected sample firms has the tendency to increase financial statement fraud, even though the extent is not statistically significant.

Against the above background our second research proposition is thus;

> *Proposition 2: There is no significant relationship between board size and financial statement fraud.*

Board Female Gender Composition and Financial Statement Fraud

Board gender diversity refers to the presence of women on corporate boards of directors or women representation on boards (Dutta & Bose, 2006; Julizaerma & Soti, 2012). Although it is a growing area that is arguably the most debated diversity issue, not only in terms of board diversity, but also in politics and other general societal situations. For example, in recent years, there have been various quota systems designed to increase representation of women in government. The issue of gender in board diversity in Africa and Europe is given serious attention (Ripley, 2008).

Indeed, there exist some evidences that women on the board can increase a corporation's value. Brennan and McCafferty (1997) suggested that there are two merits of having women on board; first, women are not part of the "big boys" network, which allows them to be more in independent. Second, they may have a better understanding of consumer behavior, the needs of customers, and opportunities for companies in meeting those needs.

Women tend to have different professional experiences than their male counterparts (Nielson & Huse, 2010). Indeed, female directors tend to hold advance degrees, have broad non-business backgrounds and join more firms at faster rates than their male counterparts (Hillman, Cannella & Paetzold, 2000). Singh, Terjesen and Vinnicombe (2008) found that British female directors are more likely to have Masters of Business Administration (MBA) degree and international work experience. Overall, women tend to bring a different set of human capital resources to the boardroom table.

A number of studies show that firms with a higher proportion of female board directors have better corporate reputations (Bernarch, Bosco & Vassill, 2006; Brammer, Millington & Pavelin, 2009).

The link between board female gender composition and the fraudulent financial statement of the firm has attracted the attention of researchers around the world. Corporate boards are part of the resource stream since they bring bundles of knowledge, experience, ideas, and professional contacts (Carpenter, Geletkanycz & Sanders, 2004). Moradi *et al*. (2012), in Tehran, examined the relationship between board of directors and earnings management of listed companies for the period, 2006 to 2009. The study showed a positive but significant relationship between board female gender composition and earnings management. Buniarnin, Johari, and Abdul Rauf (2012) investigated on board diversity and discretionary accruals of the top 100 Malaysian companies. Their result revealed a positive significant relationship between women directors and earnings management.

Ye, Zhang and Rezaee (2010) found that, based on a sample of *5,216* firms in China over the 2001 – 2006 period, there is no impact from female executives on apparent *earnings* management. Further, Veithouse and Kandogan (2007) found that

male managers value personal and ethical concerns significantly more highly than do female managers. On the other hand, women are found to have stronger feelings than men about ethical issues concerning disclosure (Roxas & Stoneback, 2004). Adams and Ferreira (2009) found a positive relation between gender diversity and effective firm governance and concluded that a gender-diverse board is a tougher monitor. Ye, Zhang and Rezaee (2010) found no significant relationship between women in top management and earnings management suggesting that there is no ethical value of differences between men and women in China. The above in consistencies form the basis of our third proposition.

> *Proposition 3: There is no significant relationship between gender composition of board and financial statement fraud.*

Methodology

Analytical framework and model specification

The framework for the analysis of board composition and financial statement fraud is premised on agency theory as propounded by Jensen and Meckling (1976) where the principal agent problem was heightened. The principal usually faces the problem of motivating the agent to work on his behalf. The separation of ownership from control according to Berle and Means (1932), is a characteristic of the modest conclusion that the agent will always circumvent the resources of the organization at the expense of the owner of the resource. However, agency theory is important with this study and is expected that there exist greater board composition differences between financial statement fraud and non financial statement fraud because monitoring shareholders cannot exercise direct influence hence the reliance on board composition like board of directors, board size and board female gender, to make sure that manager acts in the best interest of shareholders to reduce the likelihood of financial statement fraud.

Research Design

The population of the study consists of 186 companies listed on the Nigerian Stock Exchange (NSE) as at December, 2016. A sample size of 75 companies was purposively selected from the universe of companies listed on the Nigerian Stock Exchange, based on the availability of annual reports up to 2016 accounting year.

Data Estimation Technique

The pooled and panel binary regression techniques were applied due to the dichotomous nature of the dependent variable. The panel binary regression result revealed a preference for the random effect model as a result of the outcome of the Hausman test which reported a probability value of 0.2006. Before the regression analysis, we carried out the classical regression diagnostics, to test the accuracy of our regression model.

Flowing from the above theoretical exposition and extant empirical studies, a functional relationship is thought to exist between board composition and financial statement fraud. The relationship is expressed in the form:

FINFRAUD = f (Board composition)- - - - - - - - (i)

Leaning on the award winning study of Beasley (1996)*, after some modifications to suit the purpose of the current study, the model is expanded thus:

FINFRAUD = f (Board composition, Board size, and Board female gender) - (ii)

Incorporating the usual control variables of revenue growth and firm age proposed by Beasley (1996) and expressing the function in econometric form, we have:

$FINFRAUD_{it} = \beta_0 + \beta_1 BCOMP_{it} + \beta_2 SIZE_4 + \beta_3 BFGEND_{it} + \beta_4 FSIZEit + \beta_3 GROWTH_{it} + FAGE_{it} + U_{ft}$ - - - - - - - - (iii)

Where: β_0= Intercept; BCOMP = Board composition; BSIZE = Board size; BFGEND Board female gender; BGROWTH = Revenue growth; BFAGE = Firm age; μ_{it}, Error term; i = Number of

companies (1, 2, 3, ...,75); t= Time period covered (1, 2, 3, ..., 9); β_1, β_2,β_3. . . β_6 Regression coefficients.

It is presumptively expected, based on existing theories and empirical studies that β_1, β_2,β_3,...$\beta_6 < 0$. That is, through adequate scrutiny, balanced board with the above attributes should be associated with effective monitoring which will ultimately translate into reduction in financial statement fraud.

Empirical Results

Descriptive Statistics

Table 1: Result of the Descriptive Statistics

	FRAUD	BSIZE	BCOMP	FAGE	FSIZE	BFGEND	REVGR
Mean	0.730000	8.921667	0.659067	27.15333	6.962017	0.738333	0.126558
Median	1.000000	9.000000	0.670000	31.00000	6.950000	1.000000	0.066596
Maximum	1.000000	17.00000	1.000000	55.00000	8.980000	4.000000	5.585844
Minimum	0.000000	4.000000	0.170000	2.000000	4.940000	0.000000	-0.857786
Std. Dev.	0.444330	2.428723	0.158950	11.25793	0.764055	0.817094	0.396828
Skewness	-1.036131	0.457369	-0.373879	-0.433741	0.081362	0.991384	6.136955
Kurtosis	2.073567	2.935117	2.668386	2.403547	2.392270	3.739095	70.90399
Jarque-Bera	128.8136	21.02389	16.72777	27.70707	9.895379	111.9408	119040.0
Probability	0.000000	0.000027	0.000233	0.000001	0.007100	0.000000	0.000000
Sum	438.0000	5353.000	395.4400	16292.00	4177.210	443.0000	75.93485
Sum Sq. Dev.	118.2600	3533.318	15.13388	75917.89	349.6839	399.9183	94.32589
Observations	600	600	600	600	600	600	600

Source: Researchers Computation from E-Views, 2017.

Table 1 presents the result of the descriptive statistics of the variables of regression. The dependent variable of FRAUD which is a dichotomous variable of one (1) representing fraudulent financial statement and zero (0) non-fraudulent financial statement, has a mean value of 0.730000, a median value of 1.0000000, a maximum value of 1.000000 and a minimum value of 0.000000. The mean value of board size is approximately 9.000000, with a maximum board size of 17.000000 and a minimum board size of 4.000000. The average number of outside directors in relation to the total number of directors is 0.659067. The implication is that about 65% of the total members of the board of the sampled companies are outside directors. The variable of board composition has a maximum value of 1.000000 and a minimum value of 0.170000. The average age of the sampled firm is about 27 years with a minimum age of 2 years and a maximum age of 55 years. The average size of the sampled firms is about #7B with a minimum firm size of #4.94B and a maximum of #8.98B. The mean female board member representation is 0.73833 3, with a maximum value of 4.000000 and a minimum value of 0.000000. The standard deviations of the variables of regression are relatively low, which are indicative of the quality of the data. The standard deviation of the dependent variable of FRAUD is 0.444330. The variable of board size has a standard deviation of 2.428723, board composition, *0.158950,* firm age 11.25793, finn size, *0.764055,* O.817094.The result of the Jacque-Bera test shows that the variables are in line with the Gaussian standard normal description.

Correlation Coefficient

Table 2: Results of the Coefficient of Correlation

Covariance Analysis: Ordinary
Sample: 1600
Included observations: 600

Correlation t-Statistic Probability	FRAUD	SIZE	BCOMP	FAGE	FSIZE	BFGEND	REVGR
FRAUD	1.000000						

BSIZE	0.005121	1.000000					
	0.125220	------					
	0.9004	------					
BCOMP	0.058120	0.109911	1.000000				
	1.423687	2.704163	------				
	0.1551	0.0070	------				
FAGE	-0.007729	0.110221	- 0.042359	1.000000			
	-0.189021	2.711866	-1.036785	------			
	0.8501	0.0069	0.3003	------			
BSIZE	-0.087302	0.429638	-0.108137	0.030379	1.000000		
	-2.143060	11.63498	-2.659974	0.743230	------		
	0.0325	0.0000	0.0080	0.4576	------		
BFGEND	0.007403	0.228568	0.026267	0.084586	0.119389	1.000000	
	0.181044	5.741395	0.642550	2.075900	2.940581	------	
	0.8564	0.0000	0.5208	0.0383	0.0034	------	
REVGR	-0.066305	-0.058234	0.062431	-0.140686	0.012647	0.036218	1.000000
	-1.625008	-1.426487	1.529665	-3.474913	0.309289	0.886262	------
	0.1047	0.1542	0.1266	0.0005	0.7572	0.3758	------

Source: Researchers Computation (E-VIEWS) 2017

The results of the coefficient of correlation are presented Table 2. From the result it is clear that there is a mixed correlation between the dependent and independent variables. The explanatory variables of board size (0.005121), board composition (0.058120), and board female gender composition (0.007403) are positively associated with the dependent variable of fraudulent financial statement. The other variables are firm age (-0.007729) and firm size (-0.087302) are negatively related to the dependent variable of financial statement fraud. The values of the correlation coefficient are relatively small and indicative of the absence of the problem of multicollinearity in the regression variables. From the result in Table 2, the highest correlation coefficient is 0.42938. The value is however below the benchmark of 0.80 and does not pose any problem of multicollinearity.

Regression Diagnostics

The validity and reliability of the regression result is a function of the extent to which the classical regression assumption tests are achieved. To validate the accuracy of the regression model, the following regression assumption tests were conducted. The Breusch-Godfrey test of serial correlation was conducted to test for serial correlation in the regression variables. The Breusch-Pagan-Godfrey test was conducted to test for the presence of heteroskedasticity in the regression variables. The Ramsey RESET test was employed to test the extent to which the model was well specified.

Serial Correlation

Table 3: Result of the test of Serial Correlation

Breusch-Godfrey Serial Correlation LM Test:

F-Statistics	1.90018	Prob. F(2,592)	0.1000
Obs*Rsquared	3.01176	Prob. Chi-Square(2)	0.0900

Test Equation:
Dependent Variable: RESII)
Method: Least Squares
Date: 12/10/17 Time: 12:26
Sample: 1 600
Included observations: 600
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001728	0.191615	-0.009016	0.9928
BSIZE	0.001316	0.008386	0.156957	0.8753
BCOMP	0.006387	0.113789	0.056134	0.9553
FAGE	4.88E-05	0.001580	0.030910	0.9754
FSIZE	-0.002058	0.025955	-0.079305	0.9368
BFGEND	-0.001574	0.022179	-0.070958	0.9435
RESID(-1)	0.252399	0.041057	6.147575	0.0000
RESID(-2)	-0.055716	0.041429	-1.344851	0.1792

Source: Researchers Computation (E-VIEWS) 2017.

The test of serial correlation was conducted using the Breusch-Godfrey LM test. The F- statistic of and the Obs*Rsquared values of 1.90018 and 3.01176 with probability values of 0.1000 and 0.0900 respectively are not sufficient to sustain the null hypothesis of serially correlated regression variables. The probability values of 0.1000 and 0.0900 exceeds the table value of p=0.05 at the 5% level of significance. In conclusion, the result of the test is a confirmation of the absence of serial correlation.

Regression Analyses

Table 4: Result of the Panel Least Square Regression Analysis
Dependent Variable: FRAUD
Method: Panel Least Squares
Date: 12/10/17 Time: 14:35
Sample: 2008 2015
Periods included: 8
Cross-sections included: 75
Total panel (unbalanced) observations: 598

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.007286	0.746685	1.349011	0.1779
BSIZE	0.016540	0.015021	1.101149	0.2713
BCOMP	0.077511	0.174324	0.444637	0.6568
FAGE	-0.025841	0.010061	-2.568581	0.0105
FSIZE	0.032341	0.122272	0.264504	0.7915
BFGEND	0.013154	0.034667	0.379447	0.7045
REVGR	-0.085781	0.048681	-1.762124	0.0786

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.554078	Mean dependent var	0.729097
Adjusted R-squared	0.438655	S.D. dependent var	0.444798
S.E. of regression	0.412811	Akaike info criterion	1.193703
Sum squared resid	88.10362	Schwarz criterion	1.788821
Log likelihood	-275.9172	Hannan-Quinn criter.	1.425405
F-statistic	2.201274	Durbin-Watson stat	1.885014
Prob(F-statistic)	0.000000		

Source: Researchers Computation (E-VIEWS) 2017.

The coefficient of multiple determination of 0.5 54078 and the adjusted R-squared value of 0.438655 shows that on the average, about 44% of the cross-sectional systematic variation in the dependent variable of FRAUD is accounted for by the explanatory variables of BSIZE (board size), BCOMP (board composition), and BFGEND (board gender composition), and the control variables of FAGE (firm age), FSIZE (firm size) and REVGR (revenue growth rate). The robust F-statistic of 2.201274 and the significant probability value of 0.000000 is an indication of a significant linear relationship between the explanatory, control variables and the dependent variable of fraudulent financial statements. The Durbin-Watson statistic of 1.885014 is substantially close to the 2.00 benchmark which indicates the absence of autocorrelation in the regression variables. The result of the DW statistic is a further confirmation of the result of the diagnostic test of serial correlation which indicates the absence of serial correlation in the variable of regression.

Result of the Pooled BinaryLogit Regression

Table *5*
Dependent Variable: FRAUD
Method: ML-Binary Logit (Quadratic hill climbing)
Date: 12/10/17 Time: 14:30
Sample: 2008 2015
Included observations: 598
Convergence achieved after 4 iterations
Covariance matrix computed using second derivatives

Variable	Coefficient	Std. Error	z-Statistic	Prob.
BSIZE	0.022549	0.043425	0.519256	0.6036
BCOMP	1.357601	0.513356	*2.644558*	0.0082
FAGE	0.000842	0.008149	-2.568581	0.0105
FSIZE	-0.016689	0.072643	-0.229742	0.8183
BFGEND	0.035977	0.118466	0.303693	0.7614
REVGR	-0.352417	0.227525	-1.548920	0.1214
Mean dependent var	0.729097	S.D. dependent var		0.444798
S.E. of regression	0.445003	Akaike info criterion		1.181617
Sum squared resid	117.2321	Schwarz criterion		117.2321
Log likelihood	-347.3034	Hannan-Quinn criter.		1.198780
F-statistic	694.6068	Durbin-Watson stat		698.6493
Avg. log likelihood	-0.580775			
Obs with Dep=0	162	Total obs		598
Obs with Depl	436			

Source: Researchers Computation (E-VIEWS) 2017.

The variable of board composition reported a mean value of 0.659067 which means that about 66% of the total directors in the board of the selected companies are outside directors. This is not consistent with the findings of Beasley (1995), who reported an average of 5 0.2%. The result of the variable of interest board composition in the logit cross-sectional regression is positive and statistically significant at the 5% level, with a robust z-value of 2.644558 and a probability value of 0.0082< P=0.05. The result of the study shows that the current board composition of the sampled firm increases the likelihood for fraudulent financial statement.

The explanatory variable of board size with a z-statistic of 0.519256 is positive. The probability value of 0.6036 is > p = 0.05. The implication is that the null hypothesis of no significant relationship between financial statement fraud and size of the board is sustained. The mean size of the board as reported by the descriptive statistics is an average of nine (9) persons. The finding is consistent with the study of Ilaboya and Obaretin (2015) who also found a mean board size of 7 directors. The result of the correlation coefficient shows that a positive association exist between board size and financial statement fraud with r = 0.005 121.

The explanatory variable of female gender composition of the board reported a positive relationship with a Z-statistic of 0.303693 and associated probability value of 0.76 14 > p = 0.05. The association between female gender composition and the dependent variable of financial statement fraud is positive with r0.007403. The probability value of 0.7614 shows that even though a positive relationship exist between female gender composition and financial statement fraud, the likelihood of financial statement fraud based on the percentage of women in the board of the selected firms is not significant. The result shows that the presence of women in the board of the selected firms is not sufficient to reduce the likelihood of financial statement fraud. The finding contradicts the position of Abbott, Parker, and Presley (2012) who found a significant association between the presence of at least one female director on the board and lower likelihood of restatement. Females are thought to be more ethically sensitive and less likely to be involved in fraudulent activities.

The control variable of revenue growth rate is negative, signifying that firms with high revenue growth rate are less likely to falsify their financial statement. The variable reported a negative coefficient of -0.352417 and a Z-statistic of -1.548920. From the result of the correlation coefficient, the association between revenue growth rate and the dependent variable of financial statement fraud is r = 0.066305. The descriptive statistic reported a mean growth rate of 0.126558, representing an annual growth rate of 13%.The import of the above findings is that slow growth companies are more likely to falsify their financial statement, compared to high growth companies. The control variable of firm size reported similar negative relationship which signifies that larger firms have lower likelihood of reporting fraudulent financial statement. The reason for the negative relationship may be ascribed to the increased tendency for public scrutiny and higher government attention compared to smaller firms which activities are more obscure and cohesive and easier to reach consensus especially if the firm's environment is not complex. The control variable of firm age is positive, signifying that older firms are more likely to falsify their fmanc.ial statement. The variable reported a Z-statistic of 0.103325 and a probability value of 0.9177 at the 5% level of significance.

Result of the Panel Binary Logit Regression

In addition to the pooled binary logit regression analyses above, we also carried out a panel binary logit regression analysis to strengthen the result of our study. In the panel binary logit regression, we analysed both the fixed and random effect, and based on the result of the Hausman test, we had preference for the random effect model.

Table 6: Result of the Hausman Test

	---Coefficients---			
	(b) (fe)	(B) Re	(b – B) Difference	sqrt (diag (V_b-V_B) S.E.
Bsize	.0773865	.064487	.0128995	.0649799
bcomp	.48934	.7072101	-.2178701	.5816782
fage	-.1571564	-.0108512	-.1463053	.0624325
Fsize	.1927492	-.412699	.6054483	.7866287
bfgend	.0910376	.0516285	.0394091	.147831
Revgr	-4966762	-.3725265	-.1241497	.1573972

b = consistent under Ho and Ha; obtained from xtlogit
B = inconsistent under Ha, efficient under Ho; obtained from xtlogit
Test: Ho: difference in coefficients not systematic
chi2(6) = (b-B)'[(V_b-V_B)^(-l)](b-B) 8.56 Prob > chi2 = 0.2001

The Hausman test was used to determine the more preferred model between the random effect model and the fixed effect model. The chi-square value of 8.56 and the probability value of 0.200 1 which exceeds the critical value of p 0.05 show preference for the random effect model. The analysis of the panel binary logit regression is based on the random effect model.

The Random Effect Model

Table 7: Result of the Random Effect Model of Panel Binary Logit Regression

Random-effects logistic regression		Number of obs =	598
Group variable: cross		Number of groups =	75
Random effects u_i Gaussian		Obs per group: mm =	7
avg =	8.0		
Max =	8		
Integration method: mvaghermite		Integration points =	12
Wald chi2(6) =	7.77		
Log likelihood =	-333.59971	Prob >chi2 =	0.2553

Fraud	Coef.	Std.Err.	Z	P>/z/	[95% Conf.	Interval]
bsize	.064487	.0608448	1.06	0.289	-.0547666	.1837407
bcomp	.7072101	.7720073	0.92	0.360	-.8058965	2.220317
fage	-.0108512	.13456	-0.81	0.420	-.372245	.0155222
Fsize	-.412699	.210442	-1.96	0.050	-.8251578	-0.0002402
bfgend	.0516285	.1590331	0.32	0.745	-.2600706	.3633277
revgr	-.3725265	.265081	-1.41	0.160	.8920758	.1470227
_concs	3.3298961	3830292			-.8676195	.6338273
/Insig2u	-.1168961	.3830292			.6480355	1.372884
Sigma_u	.9432272	.1806418			.6480355	1.372884
rho	.2128647	.0641778			.1131996	.3642372

Likelihood-ratio test of rho—0: chibar2(0l) = 21.83 Prob > chibar2 = 0.000
Source: Researcher Computation (Stata) 2017.

The result of the panel binary logit regression is not substantially different from the pooled binary logit result in Table 5.

The explanatory variable of board composition reported a robust coefficient of 0.7072101, a probability value of 0.003 < p = 0.005 critical value at the 5% level of significance. The result shows that the variable of board composition does not have the likelihood of reducing financial statement fraud. The robust coefficient shows that board composition has the likelihood of increasing financial statement fraud in the selected listed firms in Nigeria. The positive relationship between board composition and financial statement fraud appears to contradict the widely held view that outside directors confer superior performance on the board of corporate organizations.

The explanatory variable of female gender composition reported a positive coefficient of 0.05 16285 and a probability value of *0.745*. The Z-statistic is 0.32. The implication of the finding is that the presence of women in the board of the sampled companies has the likelihood of increasing financial statement fraud. The result is, however, not unexpected in the Nigerian case as some women have been involved in monumental fraud in the Nigerian corporate setting (Cecilia Ibru – Oceanic Bank; Nelly Mayshak – Pension Board Fraud). The result contradicts the general belief that women are more ethically sensitive and less likely to be involved with risky venture and commit fraud.

The explanatory variable of board size, which is defined as the number of directors sitting in the board, is positive. The result of the relationship between board size and financial statement fraud in the panel binary logit regression reported a coefficient of 0.06448 7 and a probability value of 0.2 89. The Z-statistic of 1.06 shows that board size increases the likelihood of financial statement fraud, even though the increase is not statistically significant at the *5%* level of significance.

The control variables of firm age, firm size and revenues growth rate were all negatively related to financial statement fraud. The implication of the negative relationship is that the respective control variables all have the likelihood of reducing financial statement fraud in the selected listed companies in Nigeria. The variable of firm size is negative with a robust coefficient of -0.412699 which is beyond the likelihood of chance. The Z-statistic of -1.96 and the probability value of 0.005 shows that large firms have the likelihood to reduce financial statement fraud in Nigeria listed companies. The result shows that increased public scrutiny of the activities of large firms may cut down their tendency to be involved with fraudulent reporting. The relationship between revenue growth rate and financial statement fraud is negative showing that firms with increased revenue growth are less likely to be involved with financial statement. The variable reported a Z-statistic of 4.41 and a probability value of 0.160.

Conclusion and Policy Implications

The broad objective of the study is to investigate the relationship between board composition and financial statement fraud. A financial statement is expected to reflect the company's true position at any point in time so as to enable the public make informed decisions on their investments. Based on the empirical analysis of the study, the findings were summarized as follows:

1. The study found a positive and statistically significant relationship between board composition and the dependent variable of financial statement fraud. The implication of the result is that the composition of the board of the selected listed companies has the likelihood to increase financial statement fraud.
2. The result shows that the size of the board of the selected sample firms has the tendency to increase financial statement fraud, even though the extent is not statistically significant.
3. The relationship between female gender composition and financial statement fraud was positive though statistically insignificant at the *5%* level. It shows that the presence of female board members is not likely to reduce financial statement frauds of the sampled companies.

Against the backdrop of empirical findings, the following recommendations were advanced: Management should ensure the inclusion of more outside independent directors on the board, so as to increase the board's effectiveness and unbias monitoring so as to prevent or cut down financial statement fraud.

The average board size of the sampled companies under study is nine (9) directors. And the result of the pooled and panel logit regression was positive though statistically insignificant. The implication is that the average board size of nine (9) directors has the likelihood to increase fmancial statement fraud. This reason may be ascribed to poor monitoring due to small number of members. Therefore, we are advocating for increased membership of boards. Average board size has the advantage of increased monitoring, diversity and tendency to work with different committees which will no doubt reduce the likelihood for financial statement fraud. Small boards are more cohesive and easier to reach consensus especially if the firm's environment is not complex.

We recommend increased female gender practice in the corporate boards of Nigerian listed companies. The result of our analysis shows that the average female gender composition is 0.738338 with a minimum of 0.000000 and a maximum of 4.000000. This represents, less female representation, increased female representation increases the diligence of the board. reduces the tendency for risky activities. Female gender in a board has positive impact on board performance through better attendance records and increases the desire to join monitoring committees charged with transparent reporting in order to detect financial statement fraud. Increasing the number of females in a board will, no doubt, collectively reduce the likelihood for falsified financial statement. We expect increase female representation to reduce the likelihood of financial statement fraud based on the theory of critical mass (Brownell, 2009a).

References

Abbott. L., Park, Y. & Parker, S. (2000). The effect of audit committee activity and independence on corporate fraud. *Managerial Finance, 26(1), 55* – 67.

Abdul, M., & Tsui, J. S. (2001). An analysis of Hong Kong auditors' perceptions of the importance of selected red flag factors in risk assessment. *Journal of Business Ethics, 32(1),* 263 – 274.

Adams, R. B., & Ferreira, D. (2009).Women in the boardroom and their impact on governance and performance *Journal of Financial Economics,* 94(2), 291 – 309.

Alaryan, L. A. (2015). The relationship between board characteristics and manipulation in the financial statement in Jordan.*BasicResearch Journal of Business Management and Accounts*, 4(8), 206 – 210.

American Institute of Certified Public Accountants National Commission on Fraudulent Financial Reporting (AICPA) (1988).Report of the National Commission on Fraudulent Financial Reporting. New York, NY. AICPA.

Archambeault, D. S. (2000).The relation between corporate governance strength and fraudulent financial reporting. Ph.D Thesis, The University of Alabama.

Aygun, M., Ic, S., &Arvas, M. A. (2010). Corporate governance and earnings management:
An investigation on Turkish capital market. Second International Symposium on Sustainable Development (ISSD 2010), 8 – 9 June, in Sarajevo, Bosnia and Herzegovina.

Beasley, M. (1996).An empirical analysis of the relation between the board of director composition and financial statement *fraud .The Accounting Review, 71(4),* 443 — *465.*

Beasley, M. S., Carcello, J. V., & Hermanson, D. R. (1999). Fraudulent financial reporting: 1987 – 1997. An analysis of US public companies.Committee of Sponsoring Organizations of the Treadway Commission.

Beneish, M. (1999).The detection of earnings manipulation.Financial *Analysts Journal, 6(1),* 24 – 36.

Berle, A., & Means, G. (1932).*The modern corporation and private properly.*New York: Macmillan Publishing Co.

Bernardi, R., Bosco, S., & Vassill, R. (2006). Does female representation on boards of directors associate with fortune's 100 best companies to work for list? *Business & Society, 45(2), 235* – 248.

Bourke, N. M. (2007). Are attributes of corporate governance related to the incidence of fraudulent financial reporting .Waikato University.

Bourne, A. C. (2008).Predictability of fraudulent financial reporting.DBA Thesis, Anderson University.

Bowen, R. M., Rajgopal, S., & Venkatachalam, M. (2008).Accounting discretion, corporate governance and firm *performance. Contemporary Accounting Research, 25(2),* 351 – *405.*

Brammer, S., Millington, A., & Pavelin, S. (2009). Corporate reputation and woman on the board .*British Journal of Management, 72(2),* 22 – 25.

Brennan, N., &MeCafferty, J. (1997). Corporate governance practices in Irish companies. *Irish Business and Administrative Research, 18(1),* 116 – 135.

Brownell, C. (2009a). PKR's Plan for *women.http://www.thenutgraph.com/pkrs-plan-forwomen* (accesed on 16th July).

Buriamin, S., Johari, N. A., & Abdul Rauf, F. H. (2012).Board diversity and discretionary *accruals. African Journal of Business Management,* 6(20), 8496 – 8503.

Carpenter, M., Geletkanycz, M., & Sanders, W. (2004). Upper echelons research revisited: Antecedents, elements, and consequences of top management team composition. *Journal of Management, 30(6),* 747 – 778.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm *value. The Financial Review, 38(1),* 33 – 53.

Chen, G., Firth, M., Gao, D. N., & Rui, O. M. (2006). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance, 12(3),* 424 – 48.

D'onza, G., & Lamboglia, R. (2012). The relation between the corporate governance characteristics and financial statement frauds: An empirical analysis of Italian listed companies. Department of Business Administration, University of Pisa.

Dimitropoulos, P. (2011). Corporate governance and earnings management in the European football *industry. European Sport Management Quarterly, 11(5),* 495 – 523.

Doyle, J., Ge, W., & McVay, S. (2007).Determinants of weaknesses in internal control over financial reporting. Journal *of Accounting Economics,* doi: 10.1016/j.jacceco.2006. 10.003.

Dutta, P., & Bose, S. (2006). Gender diversity in the board room and fmancial performance of commercial banks: Evidence from Bangladesh. *The Cost and Management, 34(6),* 70 – 74.

Fama.E F... & Jensen. M. C. (1983).Separation of ownership and *control. Journal of Law and Economics,* 26(June), 301 – *325.*

Fodio, M. I., Ibikunle, J., & Oba, V. C. (2013). Corporate governance mechanisms and reported earnings quality in listed Nigerian insurance firms. *International Journal of Finance and Accounting, 2(5),* 279 – 286.

France, M., & Carney, D. (2002). Why corporate are tough to nail. In business week.

Guizar, M., & Wang, Z. (2011). Corporate governance characteristics and earnings management: Empirical evidence from Chinese listed firms. *International Journal of Accounting and Financial Reporting, 1(1),* 133 – *151.*

Heiman-Hoffluan, V. B., Morgan, K. P., & Patton, J. M. (1996). The warning signs of fraudulent financial reporting. *Journal of Accountancy, 10(1), 75 – 77.*

Herald, Weekend (2003). A ray of sunshine and HIH Largesse: The chief executive bestowed travel, lavish parties and watches. Weekend Herald.

Hermalin, B., & Weisbach, M. (1988).The determinants of board composition. Journal *of Economics, 19(4), 589* – 606.

Hiliman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependency role of corporate directors: Strategic adoption of board composition in response to environmental change. *Journal of Management Studies, 3* 7(2), 235 —*255.*

Jaggi, B., Leung, S., & Gul, F. (2009). Family control, board independence and earnings management: Evidence based on Hong Kong firms. *Journal of Accounting and Public Policy, 28(4),* 281 – 300.

Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics (October), 3(4):305-360.*

Jensen, M. C. (1993). The modern industrial revolution, exist, and the failure of internal control systems. *Journal of Finance, 48(3),* 831 – 880.

Julizaerma, M. K., &Sori, Z. M. (2012).Gender diversity in the boardroom and firm performance of Malaysian public listed companies. Procedia-Social and Behavioural Sciences, *65(10),* 1077-1085.

Kajola, S. O. (2008). Corporate governance and firm performance: The case of Nigerian listed firms. *European Journal of Economics, Finance and Administrative Science,* 14(1), 16 – 28.

Lipton, M., & Lorsch, J. W. (1992).A modest proposal for improved corporate governance.Business *Lawyer, 48(1), 59*— 77.

Loebbecke, J. K., Eining, M. M., & Willingham, J. J. (1989). Auditors experience with material irregularities: Frequency nature and detectability. *Auditing: A Journal of Practice and Theory,* 9 (Fall), 1-28.

Moradi, M., Salehi, M., Bighi, *S.* J., &Najari, M. (2012). A study of relationship board characteristics and earnings management: Iranian scenario. *Universal of Management and Social Sciences,* 2(3), 12-29.

Nelsen, S., &Huse, M. (2010). The contribution of women on board of directors: Go beyond the surface. *Corporate Governance: An international Review,* 18(2) 136 – 148.

Nugroho, B., &E,ko, U. (2011).Board characteristics and earnings management. Journal of *Administrative Science and Organization, 18,* 1 – 10.

Pearce, A., & Zahra, S. (1992). Board composition from a strategic contingency *perspective. Journal of Management Studies, 29(4),* 411 – 438.

Perry, T., & Shivdasani, A. (2005). Do boards affect performance? Evidence from corporate *restructuring. Journal of Business, p8(4).* 1403 – 1431,

Pugliese, A., & Wenstop, P. Z. (2007).Board member contribution to strategic decision making in small firms *Journal of Management and Governance, 11(4),* 383-404.

Ripley, A. (2008). Equal time, time Europe, 162(11), www.tirne.com time Europe magazine.

Romney, B. M., Albrecht, W. S., & Cherrington, D. J. (1980).Auditors and the detection *of fraud. The Journal of Accountancy,* 4(3), 63 – 69.

Roxas, M. L., &Stoneback, J. Y. (2004).The importance of gender across cultures in ethical *decision-making. Journal of Business Ethics, 50,* 149 – 165.

Sanbeh, C. (2010). Financial accounting disclosure and corporate governance in Malaysia.DBA Thesis, Victoria University.

Seamer, M. P. (2000). Board composition and the incidence of management perpetrated fraud. *Working Paper. The* University of New South, Wales.

Shivclasani, A., & Yermack, D. (1999). CEO involvement in the selection of new board members: An empirical analysis. *Journal of Finance, 5(45),* 1829 – 1853.

Singh, V., Terjesen, S., &Vhmicombe, S. (2008). Newly appointed directors in the boardroom: How do women and men differ? *European Management Journal,* 26(1). 48 – 58.

Smaili, N., & Labelle, R. *(2009). Preventing and detecting accounting irregularities: The role of corporate governance.* University of Quebec.

Veithouse.B..&Kandosan, Y. (2007). Ethics in practice rat are managers really doing? *Journal of Business Ethics,* 70(l), 151 – 163.

Ye, K., Zhang. R. & Rezaee, Z. (2010). Does top executive gender diversity affect earnings quality? A large sample analysis of Chinese listed firms. *Advances in Accounting,* 26(1), 47 – 54.

Yu, F. (2008).Corporate governance and earnings management.*Journal of Financial Economics.*DOI: 10.1016/j.jfineco.2007.05.008.