
Determinants of Financial Statement Fraud Likelihood in Listed Firms

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Abstract

This study examines the nexus between financial statement fraud and corporate governance elements using panel data collected from firms under the agricultural sector of the Nigeria stock exchange between 2013 and 2017 financial year. Longitudinal design and binary logit regression technique were employed in analyzing the data. The result reveal that about 52% of financial statement fraud likelihood can be attributable to corporate governance variables in quoted agricultural companies in the Nigeria Stock Exchange. The findings reveal that agricultural companies should improve the effectiveness of their board audit committee, increase the number of corporate governance members with accounting and or financial knowledge and independence.

Keyword: Board Size, Board Independence, Board Effectiveness, Board Audit Committee, Financial Statement Fraud Likelihood

1. Introduction

The corporate scandal in recent years has become the news of the day, following the cases of Enron, Worldcom, Global Crossing, Halliburton, Parmalat, Lehman Brothers, Tyco, Global Crossing etc. These scandals increased global concerns about fraud, wiping out billions of dollars of shareholder value and led to the erosion of investors and public confidence in the financial market and accounting reports (Brody & Pacini 2006). Fraud has been associated with human organisation from recorded history. The eradication of which has remained elusive in most parts of human society and civilization. It is an act of deception intended for personal gain or to cause a loss to another party. The Nigeria private sector is not immune to the fraud cancer, the recent financial statement fraud outburst following the banks fraud cases that lead to the sack of over five Chief Executive Officers, stock value manipulation by Cadbury are many but few cases. Financial statement fraud thrives in Nigeria due to the current economic conditions,

weak law enforcement, pre-emptive measures, and uncertainty (Egbunike & Ezeabasili 2013). These factors have contributed to an environment that is very conducive for fraudulent activities. The separation of control and ownership increases the need for effective monitoring and control over management in order to protect the interest of investors on the one hand and stakeholders on the other (Fama & Jensen, 1983). Investor and stakeholder interests are usually protected using corporate governance system (Ramaswary, 2005). Corporate governance system ensures that company policies are enforced, goals are met, performance is monitored, adequate disclosures are made, effective internal control system are adhered to, procedures and independence, ethical standards, and quality control standards are followed. By performing these roles, effective corporate governance system is guaranteed while the incidence of financial statement fraud likelihood is extinguished. Weele (2011) argues that not all fraud may be due to weak corporate governance. In the case where a firm is viewed as better performing, not only will the stock price rise, its rating by analysts will grow as well, and the firm is able to get better lending terms. This way the firm will be able to attract cheaper financing and ultimately raise shareholder value. Corporate governance has as a main objective to act in the shareholders' best interest and to maximize shareholder value. Therefore, even though corporate governance is a mechanism in controlling management not to act in their best interest, the kind of fraud that raises shareholder value may not be caught by strong corporate governance. On the other hand, fraud that is harmful to existing shareholders, since it benefits managers at the expense of shareholder value, for example, should be caught by strong corporate governance, since harmful actions are not in the shareholders' best interest. Hence, this paper sets-out to study the relationship between fraud incentives and several corporate governance factors.

Corporate fraud has significant financial and non-financial impacts on businesses. The repercussions of corporate fraud affect not only the companies and their shareholders, but also employment, social stability and the public at large. Among those that suffer from corporate fraud are those that rely on published information to assess company performance and make investment decisions, such as stockholders and the general public. The serious consequences of corporate fraud have prompted strong control and monitoring mechanisms to be enacted, with the goal of overseeing corporate and management activities.

Previously, various empirical studies examined the mechanisms of governance and financial statement fraud likelihood over the years, but, to our knowledge, none of those studies has focused its attention on the impact of the governance mechanisms on financial statement fraud likelihood in agricultural sector in Nigeria. We argue that the corporate governance mechanisms cannot be analyzed singularly. Some mechanisms, that are apparently unrelated, can be connected, directly or indirectly and, in our opinion, they can impact differently on the fraud occurrence and on the fraud likelihood. Hence, we carried out a deeper and more complex study of different corporate governance mechanisms using interaction approach in order to determine the combination of corporate governance mechanisms that has strong impact on the financial statement fraud likelihood in firms in the agricultural sector of the Nigeria stock exchange. The specific objectives of the study are:

- i.** To ascertain the extent to which board size impact on financial statement fraud likelihood among quoted agricultural companies in Nigeria.
- ii.** To evaluate the extent to which board audit committee impact on financial statement fraud likelihood among quoted agricultural companies in Nigeria.
- iii.** To determine the extent to which board independence impact on financial statement fraud likelihood among quoted agricultural companies in Nigeria.

- iv. To examine the extent to which board financial expertise impact on financial statement fraud likelihood among quoted agricultural companies in Nigeria.

The remainder of this paper is organized as follows. Section 2 reviews of related literature, section 3 lays out the analytical framework and econometric model, section 4 covers analyses results and section 5 focuses on conclusion and recommendations.

2 Review of Related Literature

Corporate Governance

Corporate governance consists of various sets of legal and institutional mechanisms aimed of safeguarding the interests of corporate shareholders and of reducing agency costs attributable to the separation of ownership (shareholders) from control (managers and/or controlling shareholders). One of the most important elements in any corporate governance system is its ability to provide shareholders with information about the activities and the operations of the company, and legal rules that establish management and board responsibilities as well as the penalties for irresponsible behaviour. By separating ownership from operational management, corporate governance systems provide a set of mechanisms designed to supervise insider managers effectively, and to resolve problems with agencies (Shleifer & Vishny, 1997; Kumar & Sivaramakrishnan, 2008; Jackling & Johl, 2009). The main issue in corporate governance is how management serves the long term interests of shareholders and other stakeholders, as well as overseeing the duties of the inside and outside directors (Fama & Jensen, 1983). However, recent corporate misconduct has been highlighted to be one of the reasons to prevent fraudulent financial reporting. This infers that effective corporate governance structure has a positive impact in reducing such incidences. Nevertheless, prior studies provide mixed evidence (e.g. Beasley, 1996; Law, 2012; Uadiale, 2012). Psaros (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 1985 to 1998. Empirical results provided support that non-fraudulent firms are prone to had significantly higher proportion of independent directors on their boards than fraudulent firms. Cloninger and Waller (2000) investigated whether securities firms experience any significant beta shifts upon initial disclosure of alleged corporate fraud. Empirical tests identified evidence consistent with the theory that agents engage in illegal activity in an attempt to increase share price.

Board Size and Financial statement fraud likelihood

By separating ownership from operational management, corporate governance systems provide a set of mechanisms designed to supervise insider managers effectively, and to resolve problems with agencies (Jackling & Johl, 2009). Alzoubi and Selamat (2012) argue that boards of directors are important catalyst as they are responsible for not only setting organisational goals and strategies, but aligning them with the interests of shareholders. They further posit that boards of directors ensure transparency and credibility of the published financial statements. This is consistent with the argument suggested by Fama and Jensen (1983) who indicated that boards of directors possess the ultimate power in decision making since they possess the highest level of control in any organisation. Lipton and Lorsch (1992) and Jensen (1993) observed that when corporate boards expand beyond seven or eight members, they are less likely to function effectively as a curb on management. In line with this, Alzoubi and Selamat, (2012) believe that smaller boards are more effective because they are easy to manage and the directors can have effective communication among them whilst potential misunderstandings are reduced. Larger boards are claimed to be less effective due to the need for larger coordination as well as process problems which can lead to less effective monitoring functions (Andres, Azofra & Lopez, 2005). However, Vafeas (2005) argues that too small and

too large board sizes are expected to be ineffective. This is based on the argument that less responsibility is taken by a large board and too much obligation is carried out by a small board. Consequently it is hypothesized in the null form that *board size have no significant impact on financial statement fraud likelihood*.

Board audit committee and financial statement fraud likelihood

As the board audit committee is really important in an organisation, the new corporate governance code requires public companies to establish independent audit committees in order to help organisations in enhancing the independence and integrity of the financial statement. The study by Coram, Ferguson and Moroney (2006) opine that effective board audit committee is a tool for preventing earnings management in organisations. According to Huang and Thiruvadi (2010), in ensuring the effectiveness of board audit committees towards enhancing the quality of financial statements, such committees should consists of not less than three members and majority of them must be appointed from a group of independent non-executive directors. If the committee has insufficient directors, it might influence their effectiveness due to the shortage of directors in fulfilling their duties (Vafeas, 2005). This is based on the argument that an independent audit committee is able to provide unbiased assessment and judgment as well as effectively monitor management. In addition to independence, the committee should ideally meet frequently and exercise professional care in their work. Previous studies provide evidence that organisations whose audit committees have frequent meetings, experience less earnings management prevalence (e.g. Abbott, Parker & Peters, 2004; Xie, Davidson & DaDalt, 2003). Another valuable characteristic for effective monitoring by board audit committees is the financial know-how of members. With regard to this, the study of Alzoubi and Selamat (2012) find that board audit committees' financial capability increase their monitoring capability and in turn increase the quality of financial statements. Based on this argument, the null hypothesis is stated that *audit committee s have no significant impact on financial statement fraud likelihood*.

Board independence and financial statement fraud likelihood

An independent board is expected to be unbiased in fulfilling their responsibilities (Hashim 2012). Lack of independency in the board may lead to agency problems as the members in the board may not act in the best interest of shareholders (Fama & Jensen 1983). A study conducted by Abdullah (2006) found that board independence has a positive and significant relationship with earnings management but the result showed that board independence is not sufficient enough to explain the pattern of the of financial report fraud. He believe that the result may be due to the maturity level of the board in Malaysia, because the recognition of board function in Malaysia was still at the initial stage at that time. As the independent director is not involved in day to day operation, it is believed that the independent director will not be subjected to any pressure by the internal organisation of the company. Therefore they are more likely to act independently and act in the shareholders' interest. It is really important for an organisation to have a majority of independent non-executive directors on the board in order for them to scrutinize the management's role (Siladi, 2006). Besides that, there is also empirical evidence (e.g. Sharma, 2004; Xie et al., 2003) that support the proportion of independent non-executive directors in the board is associated with the likelihood of earnings management. In line with this argument, the study of Alves (2011) Crutchley, Jensen and Marshall, (2007) provides evidence that in order to prevent earnings management the composition of the board of directors facilitates effective corporate governance towards reducing the agency problem hence boosting financial information quality. In addition, Siladi (2006) opine that a balanced board creates effective monitoring of management. Based on the foregoing argument, the third null

hypothesis states that *board independence have no significant impact on financial statement fraud likelihood.*

Board member financial expertise and financial statement fraud likelihood

Siti and Nazhi (2011) believe that the presence of an expert on the board may ensure quality reporting of a firm. Hence, Boards, especially those with financial experts, will tend to perform an important monitoring function that will ensure the quality of financial reporting. Prior studies like Klein, (2002); Carcello, Hollingsworth, Klein & Neal (2006), Abbott et al. (2004) find a significant negative relationship between the presence of a member of board with financial expertise and the incidence of financial statement fraud, meaning that inclusion of a financial expert in the board improves quality monitoring and firm value. Logically, having more experts in finance, accounting, and auditing on board may help improve the overall internal control mechanism of a firm. Board members financial expertise is found to be negatively related to internal control weaknesses, whereas internal control weaknesses are positively related to level of financial statement fraud (e.g. Krishnan, 2005). Consequently, the fourth null hypothesis states that *board members financial expertise has no significant impact on financial statement fraud likelihood.*

Managerial Hegemony Theory

Managerial hegemony theory is focused on the level of managers’ domineering power over companies (Tuttle & Dillard, 2007). The theory holds that managers legitimize their power by selecting cronies and associates who are passive participants in the governance processes and will never question decisions and actions. Directors are considered to be inferior as they continue to rely on management with regard to obtaining and analyzing relevant information and insights about the company and its industry. In sum, their existence displays as the symbolic role rather than managing outcomes for the organisational changes and management oversight.

3.0 Methodology

This study used panel data based on longitudinal design. Binary logit regression technique was employed in analyzing the data collected from annual reports of agricultural firms quoted in the Nigeria stock exchange between 2013 and 2017. The extent of fraudulent financial reporting is measured by the Beneish M-score model. Beneish M-score model that was developed by Beneish (1999) to estimate the probability of financial statement manipulation. If the predictive M-score is greater than -2.22, it indicates a red flag meaning that there is a possibility of manipulation occurring in the organisation, or it could also indicate a strong likelihood of the firm being a manipulator. The predictive M-score was calculated for the various companies over the years covered by the study. The score of “1” was given if the companies had red flags indicating that there was a possibility of financial statement fraud and “0” if otherwise. The definition and measurement of variables used in this study are listed in table 1. In addition to the independent variables, this study also used two control variables in order to enhance the relationship between the independent and dependent variables. The control variables used are performance and size of the organisations.

Model specification

We express a functional relationship between board size, board independence, audit committee effectiveness, board members financial expertise, firm performance, firm size and fraud likelihood as

FRAUD=f(BOARDS,AUDCOM,BODIND, BODFE) equation 1

Equation 1 can be transformed into econometric model as

$$\text{FRAUD}_{it} = \beta_0 + \beta_1 \text{BOARDS}_{it} + \beta_2 \text{AUDCOM}_{it} + \beta_3 \text{BODIND}_{it} + \beta_4 \text{BODFE}_{it} + \beta_5 \text{FSIZE}_{it} + \beta_6 \text{ROA}_{it} + \mu \dots \dots \dots \text{equation 2}$$

Where: FRAUD = Fraud likelihood; BOARDS = Board size; AUDCOM = Audit committee effectiveness; BODIND = Board independence; BODFE = Board members financial expertise, FSIZE = Firm size and ROA= Firm performance. β_0 is the constant, $\beta_1, \beta_2, \beta_3, \beta_4,$ are the coefficient of the explanatory variables for the model. μ is the error term that captures the stochastic variables in the model. $i =$ is the collection of the firms. t is the time factor.

4. Data Analyses and Interpretation

In analyzing the data, the study adopted the binary logit regressions to identify the possible impact of corporate governance on financial statement fraud likelihood of quoted agricultural companies in Nigeria. Descriptive and correlation analyses were also carried out.

Descriptive statistics

The descriptive statistics show the mean for each variable, maximum and minimum value, standard deviation and the normality test (Jarque-Bera statistics). These are provided in Table 4.1.

Table 4.1: Descriptive statistics

	FRAUD	BOARDS	AUDCOM	BODIND	BODFE
Mean	0.76	6.68	6.12	0.47	0.51
Maximum	1.00	8.00	8.00	0.60	0.75
Minimum	0.00	5.00	4.00	0.33	0.33
Std. Dev.	0.44	0.95	1.36	0.15	0.14
Jarque-Bera	6.46	7.93	9.91	6.62	2.31
Probability	0.04	0.01	0.00	0.03	0.31

Source: Researchers’ summary of result

The results provide some insight into the nature of corporate governance of the quoted agricultural companies under study. First, we observe that within the study period the companies had similar board size between five and eight members. 50% of the sampled companies have board members that possess financial know-how. Second, majority of the board members are not independent directors. Third, on the average, most of the agricultural firms’ audit committee size meets an average of 6 times annually. Lastly, the Jarque–Bera (JB.) which test for normality or existence of outliers or extreme value among the variables shows that all the variables are normally distributed except board members financial expertise.

Correlation Analysis

Table 4.2 Pearson correlation matrix

	FRAUD	BOARDS	AUDCOM	BODIND	BODFE
FRAUD	1.00				
BOARDS	0.01	1.00			
AUDCOM	0.26	-0.26	1.00		
BODIND	-0.11	-0.41	0.60	1.00	
BODFE	0.04	0.07	-0.02	0.37	1.00

Source: Researchers summary of E-view 8 correlation analysis

The use of correlation matrix is to check for multi-collinearity and to explore the relationship between each explanatory variable and the dependent variable. The correlation analysis show

that there exists positive relationship between financial statement fraud likelihood and audit committee effectiveness, board members financial expertise, board size, but negatively related with board independence. Finally, no two explanatory variables were perfectly correlated thus multi-collinearity among the variables does not exist.

Regression Analysis

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	29.22	5.40	5.41	0.00
BOARDS	0.06	1.37	0.05	0.96
AUDCOM	4.99	0.90	5.57	0.00
BODIND	11.14	5.13	2.17	0.03
BODFE	5.30	2.03	2.61	0.02
FSIZE	6.47	2.32	2.79	0.01
ROA	0.72	0.53	1.37	0.17
McFadden R-squared	0.53	Mean dependent var	0.76	
LR statistic	14.66	Avg. log likelihood	2.26	
Prob(LR statistic)	0.023			

Source: Researchers summary of binary logit regression Analysis from E-view 8

The result of McFadden R-squared value indicates that 53.22% changes in the financial statement fraud likelihood of agricultural companies can be attributable to the changes in the corporate governance variables used in the study. The Probability (LR statistic) of 0.02 indicates that the model is well specified at 5%. The results of the independent variables reveal that board size have positive coefficient value of 0.06 but corresponding p -value = 0.96 is not statistically significant at 5% indicating that board size have no significant impact on financial statement fraud likelihood. Audit committee have positive coefficient value of 4.99 and corresponding p -value = 0.00 is significant at 5% indicating that audit committee have significant impact on financial statement fraud likelihood. Board independence have positive coefficient value of 11.14 with corresponding p -value = 0.03 is significant at 5% indicating that board independence have significant impact on financial statement fraud likelihood. Board members financial expertise have positive coefficient value of 5.30 with corresponding p -value = 0.02 is significant at 5% indicating that board members financial expertise have significant impact on financial statement fraud likelihood. The results from the control variables reveal that while firm size is statistically significant at 5% with p -value = 0.01 indicating that firm size have significant impact on financial statement fraud likelihood, firm performance proxy by return on assets have no significant impact on financial statement fraud likelihood with p -value = 0.17.

5. Conclusion and Recommendation

The results of our study show that 53.22% of financial statement fraud likelihood can be attributable to corporate governance variables used in the study. The study recommends that directors of agricultural companies should improve the effectiveness of their audit committee by increasing the number of members' financial knowledge. Also independence of board members is essential for corporate governance to thrive.

References

- Abbott, L.J., Parker, S., & Peters, G.F. (2004). Audit committee characteristics and restatements. *Auditing: Journal of Practice and Theory*, 23(1), 69-89.
- Abdullah, S.N. (2006). Characteristics of board of directors and audit committees. *Akauntan Nasional*, 14(10), 18-21.
- Alves, S.M.G. (2011). The effect of the board structure on earnings management: evidence from Portugal. *Journal of financial reporting and accounting*, 9, 141-160.
- Alzoubi, E.S., & Selamat, M.H. (2012). The effectiveness of corporate governance mechanisms on constraining earning management: Literature review and proposed framework. *International journal of global business*, 5(1), 17-35.
- Andres, P.D., Azofra, V., & Lopez, F. (2005). Corporate boards in OECD countries: size, composition, functioning and effectiveness. *Corporate governance: an international review*, 13(2), 197-210.
- Beasley, M.S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The accounting review*, 71(4), 433- 465.
- Beneish, M. D. (1999). The detection of earnings manipulation. *Financial Analysts Journal*, 24-36.
- Carcello, J., Hollingsworth, C., Klein, A. & Neal, T. (2006). Audit committee financial expertise, competing governance mechanisms, and earnings management. Working paper, University of Tennessee.
- Cloninger, D.O., & Waller E. (2000). Corporate Fraud, Systematic Risk, and Shareholder Enrichment, *Journal of socio-economics*. 29: 189-201.
- Coram, P., Ferguson, C., & Moroney, R. (2006). The importance of internal audit in fraud detection. *Research Journal*.
- Crutchley, C.E., Jensen, M., & Marshall, B. (2007). Climate for scandal: corporate environments that contribute to accounting fraud. *The Financial Review*, 43, 53-73.
- Egbunike, P.A., & Ezeabasili, V. (2013). Application of computed financial ratios in fraud detection modeling: A study of selected banks in Nigeria. *Asian Economic and Financial Review Journal*, 3(11), 14-18.
- Fama, E.F., & Jensen, M.C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26, 301-325.
- Hashim, U. (2012). Firm characteristics and financial reporting quality of quoted manufacturing firms in Nigeria. PhD Accounting and Finance Thesis Submitted to the School of Post Graduate Studies, Ahmadu Bello University, Zaria. (unpublished).
- Hogan, C., & Wilkens, M. (2008). Evidence on the audit risk model: Do auditors increase audit effort in the presences of internal control deficiencies? *Contemporary Accounting Research* 25(1), 219-242.
- Huang, H.W., & Thiruvadi, S. (2010). Audit committee characteristic and corporate fraud. *International Journal of Public Information Systems*, 71-82.
- Jackling, B., & Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies, corporate governance: *An International Revised*. 17: 492-509.
- Jensen, M. (1993). Modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance*, 48(3), 831-880.
- Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33(2), 375-400.
- Krishnan, J. (2005). Audit committee quality and internal control: An Empirical Analysis. *The Accounting Review*, 80(2), 649-675.
- Kumar, P., & Sivaramakrishnan, K. (2008). Who monitors the monitor? The effect of board independence on executive compensation and firm value, *Revised Finance Studies*, 21, 1371-1401.

- Law, P. (2012). Corporate governance and no fraud occurrence in organisations Hong Kong evidence. *Managerial Auditing Journal*, 26(6), 501-518.
- Lipton, M., & Lorsch, J.W. (1992). A modest proposal for improved corporate governance. *The Business Lawyer*, 48, 59-77.
- Pсарos, S.M.J. (2000) Board composition and the incidence of management perpetrated fraud. Working Paper, The University of New South Wales.
- Ramaswary, V. (2005).Corporate governance and the forensic accountant. *The CPA Journal*, 75(3: Accounting and Tax Periodical), 68.
- Sharma, V. D. (2004). Board of director characteristics, institutional ownership, and fraud: Evidence from Australia. *Auditing: A Journal of Practice and Theory*, 23(2), 105-117.
- Shleifer, A., & Vishny, R. (1997). A survey of corporate governance. *Journal Finance*. 52: 117-142.
- Siladi, B. (2006). The role of non-executive directors in corporate governance: An evaluation. Faculty of Business and Enterprise, Swinburne University of Technology.
- Siti, N. S., & Aminul, I. (2012). The determinants of audit timeliness: Evidence from Malaysia. *Journal of Applied Sciences Research*, 8(7), 3314-3322.
- Tuttle, B. & Dillard, J. (2007). Beyond competition: Institutional isomorphism in U.S. accounting research. *Accounting Horizons*, 21(4), 387-410.
- Uadiale, O. M. (2012). Earnings management and corporate governance in Nigeria. *Research Journal of Finance and Accounting*, 3(3), 1-10.
- Vafeas, N. (2005). Audit committees, boards and the quality of reported earnings. *Contemporary Accounting Research*, 22(4), 1093-1122.
- Weele, S.A. (2011). Corporate governance and fraud incentives. Master thesis department accountancy, faculty of economics and business studies, Tilburg University. 470922
- Xie, B., Davidson, W. & DaDalt, P. (2003). Earnings management and corporate governance: the role of the board and the audit committee. *Journal of Corporate Finance*, 9(3), 295-316.