

Board Attributes and Corporate Social Responsibility Performance of Listed Cement Companies in Nigeria

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Abstract

This study examines the impact of board attributes on corporate social responsibility performance of Listed Cement Companies in Nigeria. The data were collected from annual reports and accounts of the sampled companies for the period of twelve years from 2004 to 2014. Data were analyzed by means of descriptive statistics to provide summary statistics for the variables. Ordinary Least Square (OLS) and Generalized Least Square (GLS) regression were used in testing the study hypotheses using STATA software version 12.00. A panel data regression technique is employed since the data has both time series and cross sectional attributes. The study finds that board attributes have significant impact on corporate social responsibility performance in the listed cement companies in Nigeria. Thus, Board size has significant positive impact and managerial ownership has significant negative impact, and board composition have insignificant positive impact on the corporate social responsibility performance. The study concludes that board attributes have a very strong explanatory power on the variations of corporate social responsibility performance in the Nigerian listed cement companies. The study recommends that to promote good relationship with host communities through CSR and its related disclosure, the Nigerian listed cement companies' owners should ensure competent board sizes are put in place. Any increase in the board size should constitute the increase in the number of non-executive directors.

Keyword: Corporate Social Responsibility Performance, board attributes, Nigeria.

1. Introduction

Companies operate with the aim of maximizing shareholders wealth. As a result of this, a number of companies' activities and operations may cause nuisance and damages to the societal and environmental condition of the host communities in which they operate. Companies should make effort to safeguard societal and environmental conditions of the communities, since by operating in the communities, companies make financial gains. It is logical for the companies to use part of these financial gains to compensate the communities. Communities evaluate the performance of companies in relation to discharge of social and environmental responsibilities by making reference to companies CSR. Wood (1991) defines corporate social responsibility performance (CSR) as the extent to which a firm meets the performance expectations of important stakeholders. While Hassan (2007) describes CSR as discernible outcomes arrived at by systematic and scientific evaluation of firms' social responsibilities, programs and policies, showing the extent of the firms' social and environmental responsiveness. The voluntary and philanthropic nature of CSR makes companies' boards in Nigeria reluctant on engaging and reporting fully about their companies CSR, unlike developed countries where there are many pressure groups that pressurize companies to engage and report on CSR. In Nigeria few of such groups exist, this adds to companies' reluctance on engaging and reporting their CSR activities.

On the other hand, consumers, employees and communities in Nigeria are becoming increasingly well-informed about the adverse impacts of business activities on their lives and their future generations and the need for companies to invest more on CSR and fully report on it increase. This has been indicated by emergence of militant groups, and other negative responses from the society which may take the form of refusal to patronize the firm's products, vandalization of firm's assets, and refusal to invest in the firm.

The principal objective of the Board is to ensure that the company is properly managed. It is the responsibility of the Board to oversee the effective performance of the Management in order to protect and enhance shareholder value and to meet the company's obligations to its employees and other stakeholders. (SEC code of CG, 2011). The boards of directors are responsible for the development of sustainable business strategies, supervision of the firms' assets, formulation of strategic policies and decision that will help in the maximum realization of the firms' objectives. Also, the board is responsible for crucial decision in relation to the firms CSR policies, as well as, maintaining social relationship with the key stakeholders in business, as a means of sustaining business (Sabo, 2015). In view of this companies are expected to engage and report their social and environmental performances to their stakeholders. This study measured board attributes with three attributes namely, board size, board composition and managerial ownership. Board size is the number of members in a company's board of directors. It refers to the total number of directors (executive and non-executive) sitting on the board. Board composition is as the proportion of outside directors to the total number of the board and managerial ownership as the percentage of shares claimed by board members.

The Nigerian cement companies occupy a strategic position in the Nigerian economy and contribute greatly towards the development of the country. The cement manufacturing companies with most of their plant in

Nigerian communities are the 4th largest carbon dioxide emitter in Nigeria after gas flaring, liquid fuels and gaseous fuel combustions (Earthtrends, 2003). Their operations affect social and health status of host communities. Communities around Nigerian cement factories like Shagamu and Ewekoro area cry out over cement dust pollution from cement factories, which affect their health, calling on the companies to reduce the dust emission to zero level, as well as a higher share of the company's profit, more employment opportunities for their children and more empowerment programmes for the unemployed among them. All these require intervention of the company's management. A number of studies have been conducted on impact of board attributes on CSRP, but they were conducted mostly in other countries not Nigeria, for instance, Jian and Lee (2015) Ducassy and Montandrau (2015), Ballesteros, Ariza and Sa'nchez (2015), Li Sun, (2015) and Jian and Lee, (2015), Ali and Atan (2013), Jo, and Harjoto, (2012), Zhang, (2012), Esa, and Ghazali, (2012), Khan, (2010), Dunn and Sainty (2009) and Hannifa, and Cooke, (2005) who find board attributes to have significant impact on CSRP.

Most of the studies conducted in Nigeria on board characteristics and CSRP in the Nigerian companies reveal a mixed result. For instance, Hamid, (2012) examines the impact of CG (board attributes) on CSRP of four companies in the Nigerian petroleum marketing companies for a period of eight years (2005 – 2012). The multiple regression result shows that CG does not have significant impact on CSRP. Sabo (2015) studied the impact of board characteristics on CSR disclosure of 6 food product companies listed in the Nigerian stock exchange. The results indicate that that board size have significant positive impact on CSR disclosure. To the best of the researcher knowledge Nigerian studies did not give attention on the impact of board attributes on CSRP in the listed cement companies in Nigeria. Consequently, there is the need to examine the impact of board attributes on CSRP in Nigerian cement companies. Thus, there is the need for research of impact of board attributes on CSRP of Nigerian cement companies. This study is carried out to fill this gap for the Nigerian cement companies.

Thus, aim of this study is to measure the impact of board characteristics on the CSRP of Nigerian listed cement companies. A null hypothesis states that board attributes do not have impact on CSRP in the listed Nigerian cement companies. The remaining part of the paper is structured as: literature review in section two, methodology is section three, result and discussion is presented in section four and section five presents the conclusions, limitations and suggestions for further research of the paper.

2. Literature Review

This section present the empirical findings of the relationship between individual board attributes and corporate social responsibility performance.

2.1 Board Size and Corporate Social Responsibility Performance

Board size is the number of members in a company's board of directors. It refers to the total number of directors (executive and non-executive) sitting on the board. There are conflicting plans regarding the proper or ideal size of the board of directors in an organization by different authors. At a point when the board is too enormous, singular directors may feel obliged about heartily partaking in board decisions with little feeling of particular responsibility. At a point when the board is excessively small, the directors will be unable to settle on compelling choices and may confront some level of trouble in working inside time stipulations. The Lincka, Nettera, and Yang's (2008) study found that the usual board size is eight persons. Li (1994) found that the normal cut off of board size be around eight executives. The Nigerian 2003 code of CG provides that the board should comprise of a mix of Executive and Non-Executive Directors headed by a Chairman of the Board. However, they should not exceed 15 persons or be less than 5 persons in total. The code prescribes that the size ought to reflect the board viability. As long as the board permits each part to take an interest willingly and give viable options, the number of components is not applicable in measuring the adequacy of the board. Kajola, (2008) discovered that a higher board size enables bigger companies to keep up more contact with their environment.

A number of scholars examined the relationship between board size and CSRP. Sabo (2015) studied the impact of board characteristics on CSR disclosure of 6 food product companies listed in the Nigerian stock exchange. The study's regression results indicate that board size is positive and significantly related to CSR disclosure. Ballesteros, Ariza and Sa'nchez (2015) used a sample of 575 non-financial listed companies from different European countries for the period 2003–2009. The study shows that board size is significant and positively related to the CSRP of the companies. Ali and Atan (2013) studied the relationship between CG and CSR of 120 Malasian and global companies, CSR was measured using CSR disclosure index, and the study's regression shows that board size has positive and significant relationship with CSR. Esa and Ghazali (2012) studied annual reports of 27 Malaysian government linked companies for two years (2005 and 2007) using content analysis. The multiple regression result shows that board's size is positively associated with the extent of CSR disclosure. Walls, Berrone and Phan (2012), in their study of US companies, the regression result shows board size to have positive relationship with CSR. Siregar and Bachtiar (2010) studied a sample of 87 public

firms listed in the Indonesian Stock Exchange in 2003; they used content analysis on six areas, namely, environment, energy, labour, product, community and others. The regression result shows positive relationship between board's size and the extent of CSR disclosure. The result of this study indicates that large boards encourage CSR better than smaller ones. Said, Zainuddin and Haron (2009) suggested a negative relationship between a board's size and the extent of CSR disclosure, as the large board's size leads to ineffective coordination in communication and decision-making; however, in their study of 150 Malaysian public listed companies, the hierarchical regression analysis results show a positive relation. Similarly, a study of four listed petroleum marketing companies in Nigeria by Hamid (2012) shows that board size has positive but insignificant relationship with CSR performance through the use of multiple regressions analysis.

In contrast, Giannarakis (2014) used a sample of 100 U.S companies from the Fortune 500 lists for 2011. The environmental, social disclosure score calculated by Bloomberg was used as a proxy for the extent of CSR disclosure. A multiple linear regression shows that board's size is negative and insignificantly related to the extent of CSR disclosure. Cheng and Courtenay (2006) did not find board size to be a significant variable influencing voluntary disclosure on companies from the Singapore stock Exchange.

2.2 Board Composition and Corporate Social Responsibility Performance

A board is generally composed of both inside and outside members. Inside members are selected from among the executive officers of a firm, while, outside directors are members whose only affiliation with the firm is their directorship. Board composition is defined as the proportion of outside directors to the total number of the board thereby making a distinction between executive and non-executive members (Hossain & Reaz, 2007). Tricker (1984) found that non-executive directors are used as check and balance mechanism to ensure the interests both of the owners and other stakeholders. Agency theory recommends that a more significant extent of outside directors will monitor any self-interested activities by management along these lines and will minimize the agency costs (Fernandez, Romero & Ruiz, 2012 and Bear, Rahman & Post, 2010). On the one hand, the role of non-executive directors is vital for the formation of CSR policy as they review and refine the strategic initiative (Hill, 1995; Stiles, 2001). The Nigerian 2003 and 2011 code of CG provides that members of the board should comprise a mix of executive and non-executive directors, headed by a Chairman who should be a non-executive director. The majority of Board members should be non-executive directors, at least one (1) of whom should be an independent director.

Studies that examined the relationship between board composition and CSR discovered mixed results. A study of 41 French companies by Ducassy & Montandrou (2015) shows that board composition is positive and significantly related to CSR. In Nigeria, a study of seven Nigerian petroleum marketing companies by Abdurrahman, (2014) on impact of CG on CSR disclosure shows that there is positive and significant relationship between board composition and CSR disclosure. Jo and Harjoto (2012) conducted a study on the Causal Effect of CG on CSR in the US using a sample of 3000 firms based on KLD CSR disclosure index. The study indicates a positive significant relationship between board composition and CSR. Kock, Santalo and Diestre (2012) in their study on CG and the environment in the US show positive significant relationship between board composition and Environmental performance that is part of CSR. Khan (2010) demonstrated that non-executive directors have a positive significant impact on explaining the level of CSR disclosure in his study of 30 private commercial banks listed on Bangladesh Dhaka Stock Exchange for a Period of 2007-2008. Dunn and Sainy (2009) in their study with sample of 104 Canadian firms reveals positive significant relationship between board composition and CSR. Barako and Brown (2008) in their study of "Corporate Social Reporting and Board Representation: Evidence from the Kenyan Banking Sector", where CSR was measured with disclosure index, the regression result shows positive significant association between board composition and CSR.

Betty and Wang (1998) examined the relationship between board diversity and CSR of 98 US companies using expenditure on CSR as a proxy of CSR. The regression result indicates positive significant relationship between board composition and CSR. Similarly, Ballestros *et al.*, (2015) and Ali and Atan (2013) study indicate positive significant impact of board composition on CSR. While Sabo (2015), Lahouel, Peretti and Autissier (2014) and Said *et al.*, (2009) result shows positive insignificant impact of board composition on CSR.

Contrary, Jian and Lee (2015) conducted a study of 1680 US firms, where CSR was measured with KLD index and multiple regressions were used. The study documented a negative and significant relationship between board composition and CSR. Khan, Muttaking and Siddiqui (2012) studied impact of CG on CSR of companies in Bangladesh, the study used CSR disclosure index in measuring CSR. The regression result reveals significant negative impact of board composition on CSR. Esa and Ghazali, (2012) studied annual report of 27 Malaysian government linked companies. The multiple regressions result indicated that Malaysian government linked companies in which there were larger proportion of independent directors disclosed CSR less than the others. Haniffa and Cooke (2005) predicted that non-executive directors pressured companies to disclosure initiatives for legitimacy purposes; however, using a sample of 139 Malaysian companies, the multiple regressions result

shows a negative and significant relationship between the proportion of non-executive directors and the extent of CSR disclosure. While Zhang (2012) collected data from a sample of 475 publicly traded companies in South Korea between the years 2007 and 2008, found the proportion of outside directors negative and insignificantly associated with CSR. Similarly, Hossain and Reaz (2007) study of 38 listed banking companies in Bombay Stock Exchange and the National Stock Exchange for a Period of 2002-2003. The CSR disclosure index for each company was based on a dichotomous and weighted approach for 65 CSR items information which was categorized into nine CSR disclosure dimensions. The regressions show an insignificant relationship between the proportion of non- executive directors and CSR disclosure. The studies of Hamid (2012); Giannarakis (2014) and Janggu *et al.*, (2014) show negative and insignificant relationship between board composition and CSR.

2.3 Managerial Ownership and Corporate Social Responsibility Performance

Managerial ownership, Management ownership, Directors' ownership or Insiders ownership is the degree of shares claimed by board members, and this incorporates their deemed interest. It also refers to the percentage of ordinary shares held by the CEO and executive directors, and includes their deemed interests.

The agency theory predicts that the principal-agent problem between managers and shareholders arises when managers hold little equity in the corporation. This will lead managers to engage in an opportunistic behavior (Jensen & Meckling, 1976). When the managerial proprietorship falls, outside shareholders will increase monitoring the conduct of directors (Jensen & Meckling, 1976). To reduce the expense of monitoring by outside shareholders, the director will increase voluntary disclosure. In this way, voluntary disclosure is an option to monitoring. And CSR disclosure is part of voluntary disclosure, therefore, to reduce expense of monitoring by outside shareholders where managerial ownership decreases, managers will increase their CSR commitment and its respective disclosure.

Prior empirical studies show that managerial ownership is negatively related to CSR (Jian & Lee 2015, Janggu *et al.*, 2014, and Khan *et al.*, (2012). Similarly, McGuire, Dow and Ibrahim (2012) in their study of a sample of 473 firms in the US for which social performance data were measured with KLD index for the year 2000. The regression result shows negative relationship between insider ownership and CSR. Barnea and Rubin (2010) examined the relationship between managerial ownership and CSR of US companies. The study regression result shows a negative significant relationship. Mohd Ghazali (2007) used data of 87 Malaysian companies to examine the impact of ownership structure CSR. He measured CSR with CSR disclosure index and the study regression result shows negative significant relationship between managerial ownership and CSR. Guan Yeik (2006) examined the relationship between managerial ownership and CSR; he finds that managerial ownership was negative and significantly related to CSR disclosure in Malaysian public listed companies. In his study, he finds that managerial ownership level of 45 percent and above will influence the corporation to have lower social disclosure. While McGuire, Dow & Argeydey (2003) examined relationship between CEO Incentives and CSR of 374 US companies. Managerial ownership is one of the variables of the study and CSR was measured with KLD index. The regression analysis indicates negative relationship between managerial ownership and CSR.

In contrast some studies find that the extent of shareholding by management is positively associated with the CSR (Abdurrahman 2014, Kock *et al.*, 2012, Said *et al.*, 2009, Johnson & Greening 1999 and Betty & Wang, 1998). Similarly, Gamerschlag, Möller & Verbeeten (2010) examined the determinants of voluntary CSR disclosure in 130 German companies. The study measured CSR with CSR disclosure index and regression analysis result shows significant positive relationship between managerial ownership and CSR. Nazli and Mohd (2007) analyze the ownership structures of Malaysian firms to see whether these structures affect the CSR revelation. The research evaluated whether possession fixation, director ownership or government possession affect corporate social responsibility disclosure. The study results demonstrate that two ownership variables, director possession and the governmental ownership, affected the CSR disclosure of Malaysian firms. Coffey and Wang (1998) found that managerial control is positively related to charitable giving.

3. Theoretical Framework

3.1 Agency theory

The agency theory by Alchian and Demsetz (1972) was further developed by Jensen and Meckling (1976) which has been the workhorse of management theorists for the past four decades. The agency theory is based on the principal agent relationships. The separation of ownership from management in modern corporations provides the context for the functioning of the agency theory. In modern corporations, the shareholders (principals) are widely dispersed and they are not normally involved in the day to day operations and management of their companies rather they hire managers (agent) to manage the corporation on behalf of them (Habbash, 2010). The agents are appointed to manage the day to day operations of the corporation. The separation of ownership and controlling rights results in conflicts of interest between agent and principal. To solve this problem or to align the conflicting interests of managers and owners the company incurs controlling costs including incentives given to

managers.

Shareholders monitor and control managers through their representatives such as board of directors. Boards of directors are considered as an important device to protect shareholders from being exploited by managers and help to effectively control managers when they try to maximize their self-interest at the expense of the company's profitability. Fama and Jensen (1983) argue that in order to minimize agency problem that emanates from the separation of ownership and control, the corporations need to have mechanisms that enables them to separate the authority of decision management from decision control. This would reduce agency costs and ensure maximization of shareholders wealth by effectively controlling the power and self-centered decisions of management. The agency theory provides a basis for the governance of firms through various internal and external mechanisms. Corporate governance mechanisms are designed to align the interest of owners and managers, constrained the opportunistic behaviors of managers and protect shareholder interests, generally to solve agency problem (Habbash, 2010).

Corporate governance is a mechanism through which shareholders are assured that managers will act in their best interests and it limits agency problems. Agency theory suggests that there are a number of mechanisms to reduce the agency problem in the company such as choosing appropriate board composition (in terms of size, gender, experience and competence) (Tandelilin, Kaaro & Mahadwartha, 2007). Agency theory resolves agency problems through monitoring management activities, controlling self-centered behaviors of management and inspecting the financial reporting process (Habbash, 2010). From this agency theory view point, corporate governance improves corporate social responsibility disclosure.

Agency theory is the theory underpinning this study, as the study variables were identified with the aim of examining the relationships between board attributes and CSR. Board structure has relied heavily on the concepts of agency theory, focusing on the controlling function of the board (Habbash, 2010). The board attributes considered in this research include board size, board composition and managerial ownership.

4. Methodology

The population of the study is 4 cement companies quoted on the Nigerian stock exchange namely Lafarge WAPCO plc, Ashaka cement plc, Cement Company of Northern Nigeria plc and Dangote plc. Data availability leads the researcher to utilized three (3) Lafarge WAPCO plc, Ashaka cement plc, Cement Company of Northern Nigeria plc companies as the sample size. Dangote cement plc was excluded on the ground that the company was listed in 2010 the financial statements for some period of the study was not available. For the purpose of this study, secondary method of data collection through annual reports and accounts of the sampled companies for eleven (11) years covering a period of 2004-2014 was utilized. The panel data analysis was employed in this study as it has advantage over others on reducing the collinearity among independent variables and increasing the degree of freedom (Baltagi, 2008). Descriptive statistics and Ordinary least squares regression were used for the analysis result in finding relationship between dependent CSRP and independent variables (Board attribute) of the study. CSRP was measured using content analysis of disclosed social and environmental information in companies' annual account and reports through disclosure index of 21 items. This CSRP was calculated using the dichotomous, which an item in the study instrument scores one (1) if revealed, and zeros (0) if not revealed. However, no punishment is forced if the item is viewed as insignificant. To guarantee that judgment of appropriateness is not biased, companies' annual report and account was read before making decision. The scores for every item were then added and determine the final score for the company. The instrument used comprised of (21) corporate social disclosure items (see Appendix). The methodology to scoring final was added and weighted. To account Board attributes three independent variables were used: Board size, Board composition and Managerial ownership. The relation between CSRP and Board attributes is express in the following regression model:

$$CSR = \beta_0 + \beta_1 BS_{it} + \beta_2 BC_{it} + \beta_3 MO_{it} + \varepsilon_{it}$$

Where: CSR = Corporate Social Responsibility;

BS_{it} = Board size for all Entities over the Time period measured by number of directors in the board

BC_{it} = Represent Board composition for every Entity over the Time period measured by non-executive directors divided by total number of directors

MO_{it} = Represent Managerial ownership for every Entity over the time period measured the rate or percentage (%) of shares held by board members as stated in the statement of financial position of the firm

ε_{it} = Error Term for all Companies over time period

$\beta_1 - \beta_3$ = partial derivatives or the gradient of the independent variable

i = Firm

t = time

5. Results and Discussions

5.1 Descriptive Statistic

Table I presents descriptive statistics which provide, mean, standard deviation, minimum and maximum of both

dependent and independent variable.

Table I Descriptive Statistics

Variables	Obs	Mean	Std.Dev	Min	Max
Corporate Social Responsibility Performance Disclosure Index (%)	33	0.7417	0.1696	0.4762	1
Board Size (Number)	33	11.2121	1.6537	8	15
Board Composition (%)	33	0.8377	0.0491	0.7273	0.9167
Managerial Ownership (%)	33	0.0009	0.0005	0.0001	0.0022

Source: Annual Reports of the sampled Companies (2004-2014), using STATA Output

Table I shows that Corporate Social Responsibility Performance Disclosure Index for the sampled cement companies in Nigeria shows an average disclosure index of about 0.7417. This means that Nigerian cement companies' disclosure of information on CSR is about 74.17%. This shows a high level of CSR disclosure in the companies, with a minimum disclosure level of 47.62% and maximum disclosure level of 100%. The standard deviation of 0.1696 indicates that there is no significant variation in CSR disclosure between the sampled cement companies during the period of the study. The implication of this is that it shows there are strong CSR disclosures in the annual report and account of listed cement companies in Nigeria.

The mean of the board size is about 11 members with minimum of 8 members and maximum of 15 members, the standard deviation of 1.6537 shows that, there is significant variation about the board size of the sampled cement companies. In addition the result shows that the average of the proportion of non executive directors on the board is about 83.77%, which ranges from 72.73% to 91.67%. This indicates that non executive director constitute a significant proportion of the board and also shows that on the average only 16.23% of the board members are executive directors. The standard deviation of 0.0491 indicates that there is no much significant variation in the composition of membership of the board among the sampled cement companies in Nigeria.

As indicated in the Table I on average directors own only 0.09% of the aggregate shares of the companies. This shows that majority (99.91%) of the companies' shareholders are outsiders, who are not directors. The standard deviation of 0.0005 signifies that managerial shareholding among the directors of the companies is not much diverse, as shown by the minimum managerial ownership of 0.01% and maximum managerial shareholding of about 0.22% among the companies. This shows that there is very low shareholding by management of listed cement companies in Nigeria.

5.2 Regression Result

Table II presents result of regression analysis of the variables of the study.

Table II Regression Result

VARIABLES	OLS		RE		VIF
	Coef.	P> t	Coef.	P> t	
Constant	-54.8518	0.178	-54.8518	0.168	
Board Size	8.5083	0.000*	8.5083	0.000*	1.16
Board Composition	47.2303	0.239	47.2303	0.229	1.15
Managerial Ownership	-6665.8240	0.085***	-6665.8240	0.075***	1.00
R squared	0.6753				
Adj. R squared	0.6417				
F Value	20.11				
Sign	0.0000				
R Squared:					
Within			0.4180		
Between			0.8155		
Overall			0.6753		
rho			0		

Source: Annual Report and Accounts Data of Nigerian Cement Companies. *, **, *** indicate 1%, 5% and 10% significant level

The results of the analysis and the discussions of the results are presented in conjunction with Multicollinearity Test using Variance Inflation Factor(VIF) in table II. In a circumstance whereby the (VIF) is more than 10, it means that the variables are highly interrelated which incite a multicollinearity problem (Greene, 2008). Along these lines, the multicollinearity test using (VIF) as displayed in table II finds the non-existence of multicollinearity problem because (VIF) for every independent variable is less than the threshold value of 10, likewise the mean VIF value is reported as 1.10 (see Appendix) far less than 10. Accordingly, the study concludes that there is no issue of multicollinearity among the independent variables. Therefore, each variable is proved to be independent in explaining the dependent variable.

Table II shows the OLS and RE regression results of the study where CSR is proxies with CSR

disclosure index and the independent variables (board size, board composition and managerial ownership). To check whether the variability of error terms is constant or not, a test for heteroskedasticity was conducted. The heteroskedasticity test performed revealed the absence of heteroskedasticity and existence of homoskedasticity. In order to examine whether endogeneity exist, which could potentially lead to biased coefficient, a Hausman specification test to make the choice between Fixed Effect (FE) and Random Effect (RE) regression was performed. This test is necessary considering that there is a trade-off between the efficiency of the random effect and the consistency of the fixed approach. The test also determines whether the estimates of the coefficients, taken as a group, are significantly different in the two regressions. If any variables are dropped in the fixed effects regression, they are excluded from the test. The Hausman test revealed RE is more efficient as evident by the p- value of 0.3317 which is insignificant (see Appendix). For the purpose of selecting the most fitting model between random effect and OLS, Breusch and Pagan Lagrangian multiplier (LM) test was conducted and the test revealed a probability value of 1.0000 which is not significant (see Appendix). Thus, the test perfectly suggests that OLS is the most efficient and appropriate. Table II presents the regression results of OLS and RE.

The OLS and RE results reveal the R^2 and the overall R^2 of (0.6753) which is the multiple coefficient of determination gives the proportion or percentage of the total variation in the dependent variable explained by the independent variables jointly. This signifies that board size, board composition, board meeting and managerial ownership jointly explain 67.53% variations in CSR disclosure of listed Nigerian cement companies, while the remaining 32.47% of the total variation in the CSR disclosure was caused by factors not explained by the model.

The regression results as shown in table II indicate that board size is positive and significantly related to CSR at 1% level of significance in both OLS and RE estimations. The implication of this is that an increase in board size, other independent variables remain constant increases the level of CSR in Nigerian cement company significantly. This finding is consistent with the findings of Ballesteros *et al.*, (2015), Janggu *et al.*, (2014), Ali and Atan (2013), Esa and Ghazali (2012), Walls, Berrone, & Phan, (2012), Siregar and Bachtiar (2010) and Said *et al.* (2009). It is argues by Kajola (2008) that higher board size enables bigger companies to keep up more contacts with its environment. Also smaller boards provide a greater room for CEO domination of board, while larger boards allow for representation of different mind in the firm. This makes larger boards more beneficial in improving CSR. The finding of the study is in contrast with findings of Cheng and Courtenay (2006) and Giannarakis (2014), Abdurrahman (2014) which show that board's size has negative relationship with CSR.

Board composition is positive and insignificantly related to CSR in both OLS and RE estimations. Therefore, an increase in the independent director on the board leads to an insignificant increase in the level of CSR of listed cement companies in Nigeria. This finding is consistent with the findings of Sabo (2015), Lahouel *et al.*, (2014), Janggu *et al.*, (2014), Hamid (2012) and Said *et al.*, (2009). But it contradicts the findings of Giannarakis (2014) and Lu Zhang (2012) their result discover that there is negative relationship between board composition and CSR of firms.

In both OLS and RE estimations, the regression results as shown in table II indicate that managerial ownership is negative and significant at 10% with CSR of quoted cement companies in Nigeria. It implies that an increase in managerial share ownership by one more unit, other independent variables remaining constant decreases the CSR disclosure significantly. The results suggest that the variation in the extent of CSR disclosure in the annual reports of the Nigerian listed cement companies is explained by the managerial ownership. The finding is in agreement with that of Jian and Lee (2015), Khan *et al.*, (2012), Barnea and Rubin (2010) and Mohd Ghazali (2007). The result contradicts the findings of Gamerschlag *et al.*, (2010), Said *et al.*, (2009) and Johnson and Greening (1999) that found a positive relationship between managerial ownership and CSR disclosure.

In summary the board size is found to be positive and significantly associated with CSR of listed Nigerian cement companies. The results of the regression reveal that board composition is insignificant and positively related with CSR of listed Nigerian cement companies. Furthermore, managerial ownership is found to be negative and significantly associated with CSR disclosure of the Nigerian listed cement companies. Moreover, table II presents in the companies regression equation which is given by:
$$CSR_{P1} = -54.8518 + 8.5083BS + 47.2303BC - 6665.8240MO$$

In view of the results reported for the overall test of significance of F value of 20.11 at 1% level of significance shows that board characteristics are significant in influencing the extent of CSR in the Nigerian listed cement companies. This therefore, provides evidence for the rejection of hypothesis the study.

6. Conclusions and Recommendations

Board attributes (board size, board composition and managerial ownership) have a very strong explanatory power on the variations of CSR disclosure in the Nigerian listed cement companies. Thus, board size and the number of non-executive directors on the board are important devices that promote CSR reporting. This is because, the non-executive directors are free from managerial influence and capable of monitoring and

controlling the exuberance of the executive directors, thereby protecting and defending the interests of the shareholders and other stakeholders. This enables them to encourage companies to engage and report on CSR. Furthermore, CSR disclosure in the Nigerian listed cement companies decreases as the number of shares held by management. Therefore, managerial ownership reduces the extent of CSRP. The implication of this is that, it shows the variation in the extent of CSRP disclosure in the annual reports of the Nigerian listed cement companies is explained by board attributes.

The study recommends that to promote good relationship with host communities through CSR and its related disclosure, the Nigerian listed cement companies owners should ensure that board size of 15 members are put in place. Since larger boards allow for representation of different minds in a company, this improves consideration of all companies' stakeholders. Any increase in the board size to a maximum of 15 members should constitute the increase in the number of non executive directors. Furthermore, outside shareholders should increase their effort to protect the interests of all stakeholders by monitoring the managers' behaviour against possible self-interest, which will discourage the influence of managerial ownership.

Finally, the results of this study is limited to the data collected from the reports of listed cement companies in Nigeria and as such could not be generalize for entire Nigerian firms. Future studies should look at a larger sample and inter sector analysis to give a wider picture of the scope and content of CSRP from Nigeria by considering other board attribute as independent variables in the model.

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Appendix

Table 1 CSR checklist

-
1. COMMUNITY INVOLVEMENT
 - a. Youth empowerment and Poverty alleviation
 - b. Infrastructure development
 - c. Provision of health care
 - d. Sport /Arts and Culture
 - e. Education involvement
 - f. Philanthropic and charitable gifts
 - g. Agricultural aid
 2. ENVIRONMENTAL
 - a. Environmental protection policies
 - b. Pollution prevention
 - c. Emissions reduction
 3. EMPLOYEE INFORMATION
 - a. Employment of local communities
 - b. Employee relations
 - c. Discussion of employees' welfare
 - d. Number of employees
 - e. Health & safety standards
 - f. Employee benefits and recognition
 - g. Employee training
 - h. Employment of Handicaps
 4. PRODUCT INFORMATION
 - a. Improvement in product quality
 - b. Customer awards
 - c. Information on product safety
-

Source: Developed by the researcher

Table 2 Population of the Study

S/NO	NAME OF COMPANY	YEAR LISTED
1	Larfarge Wapco Plc	1979
2	Ashaka Cement Plc	1990
3	Cement Company of Northern Nigeria Plc	1993
4	Dangote Cement Plc	2010

Source: NSE Web site.

RESULT FROM STATA VERSION 12

. regress csrdi bs bc mo

```

Source |      SS       df       MS      Number of obs =   33
-----+-----
Model | 6218.28329    3 2072.7611      F( 3, 29) = 20.11
Residual | 2989.42671   29 103.08368      Prob > F   = 0.0000
-----+-----
Total | 9207.71001   32 287.740938      R-squared   = 0.6753
                                           Adj R-squared = 0.6417
                                           Root MSE   = 10.153
    
```

```

-----+-----
csrdi |      Coef.   Std. Err.      t    P>|t|   [95% Conf. Interval]
-----+-----
bs | 8.508279   1.167083    7.29  0.000   6.121326   10.89523
bc | 47.23025  39.29228    1.20  0.239  -33.13148   127.592
mo | -6665.824 3742.121   -1.78  0.085  -14319.32   987.6724
_cons | -54.85184 39.77999   -1.38  0.178  -136.2111   26.50738
    
```

. estat vif

```

Variable |      VIF      1/VIF
-----+-----
bs | 1.16  0.864775
bc | 1.15  0.866329
mo | 1.00  0.996484
-----+-----
Mean VIF | 1.10
    
```

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance
 Variables: fitted values of csrdi

chi2(1) = 1.47
 Prob > chi2 = 0.2250

. tsset companyid year

panel variable: companyid (strongly balanced)
 time variable: year, 2004 to 2014
 delta: 1 unit

. xtreg csrdi bs bc mo, re

```

Random-effects GLS regression      Number of obs   =   33
Group variable: companyid          Number of groups =    3
    
```

```

R-sq:  within = 0.4180      Obs per group: min =   11
      between = 0.8155          avg   =   11.0
      overall = 0.6753          max   =   11
    
```

Wald chi2(3) = 60.32
 Prob > chi2 = 0.0000
 corr(u_i, X) = 0 (assumed)

csrdi	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
bs	8.508279	1.167083	7.29	0.000	6.220838	10.79572
bc	47.23025	39.29228	1.20	0.229	-29.7812	124.2417
mo	-6665.824	3742.121	-1.78	0.075	-14000.25	668.598
_cons	-54.85184	39.77999	-1.38	0.168	-132.8192	23.11552

sigma_u	0					
sigma_e	7.120152					
rho	0 (fraction of variance due to u_i)					

. estimate store random

. xtreg csrdi bs bc mo, fe

Fixed-effects (within) regression Number of obs = 33
 Group variable: companyid Number of groups = 3

R-sq: within = 0.5067 Obs per group: min = 11
 between = 0.7076 avg = 11.0
 overall = 0.6075 max = 11

F(3,27) = 9.24
 Prob > F = 0.0002
 corr(u_i, Xb) = 0.3921

csrdi	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
bs	5.562388	1.645399	3.38	0.002	2.186308	8.938468
bc	80.2078	30.69916	2.61	0.014	17.21833	143.1973
mo	-8442.169	2682.815	-3.15	0.004	-13946.85	-2937.488
_cons	-47.86499	37.84272	-1.26	0.217	-125.5118	29.78187

sigma_u	10.981763					
sigma_e	7.120152					
rho	.70404061 (fraction of variance due to u_i)					

F test that all u_i=0: F(2, 27) = 15.98 Prob > F = 0.0000

. estimate store fixed

. hausman fixed random

--- Coefficients ---				
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
bs	5.562388	8.508279	-2.945891	1.159851
bc	80.2078	47.23025	32.97755	.
mo	-8442.169	-6665.824	-1776.345	.

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$\begin{aligned} \text{chi2}(3) &= (b-B)[(V_b-V_B)^{-1}](b-B) \\ &= 3.42 \\ \text{Prob}>\text{chi2} &= 0.3317 \\ &(\text{V}_b\text{-V}_B \text{ is not positive definite}) \end{aligned}$$

. xttest0

last estimates not xtreg, re
 r(301);

. xtreg csrdi bs bc mo, re

Random-effects GLS regression Number of obs = 33
 Group variable: companyid Number of groups = 3

R-sq: within = 0.4180 Obs per group: min = 11
 between = 0.8155 avg = 11.0
 overall = 0.6753 max = 11

Wald chi2(3) = 60.32
 corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

csrdi	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
bs	8.508279	1.167083	7.29	0.000	6.220838	10.79572
bc	47.23025	39.29228	1.20	0.229	-29.7812	124.2417
mo	-6665.824	3742.121	-1.78	0.075	-14000.25	668.598
_cons	-54.85184	39.77999	-1.38	0.168	-132.8192	23.11552
sigma_u	0					
sigma_e	7.120152					
rho	0 (fraction of variance due to u_i)					

. xttest0

Breusch and Pagan Lagrangian multiplier test for random effects

$$\text{csrdi}[\text{companyid},t] = Xb + u[\text{companyid}] + e[\text{companyid},t]$$

Estimated results:

	Var	sd = sqrt(Var)
csrdi	287.7409	16.96293
e	50.69656	7.120152
u	0	0

Test: Var(u) = 0

$$\begin{aligned} \text{chibar2}(01) &= 0.00 \\ \text{Prob} > \text{chibar2} &= 1.0000 \end{aligned}$$

. summarize csrdi bs bc mo

Variable	Obs	Mean	Std. Dev.	Min	Max
csrdi	33	74.1703	16.96293	47.619	100
bs	33	11.21212	1.653738	8	15
bc	33	.837703	.0490762	.7273	.9167
mo	33	.0008909	.0004805	.0001	.0022