The Impact of Board Diversity on earnings Management of Aforementioned Non-Financial Companies in Nigeria

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ABSTRACT

The focus of this study is to examine the relationship between corporate board diversity (foreign board membership diversity) and earnings management of non-financial companies in Nigeria. The literature revealed that there is a knowledge gap on the study of the relationship between foreign board membership diversity and earnings management of non-financial companies. The population used is forty eight (48) while the final sample size of this study is twenty five (25). The statistical tools used for the study are descriptive statistics, hausman effect and panel data multiple regressions (fixed and random effect regression) was used to analyze the causal relationship between foreign board membership diversity and earnings management. The result shows a negative and significant relationship exists between foreign board membership diversity and earnings management among all the non-financial firms in Nigeria. Earnings management is more prevalent in firms with foreign member in their board of directors and corporate boards comprising of more independent directors and more female directors whereas earnings management is more prevalent and more severe when the board comprises of more directors with more stock holdings or ownership. The result is recommended for academic purposes and to companies/firms to support their decision making system.

Keywords: Foreign Board Membership Diversity; Earnings Management; Non-Finance; Firms; corporate governance; Regression

I. BACKGROUND TO THE STUDY

Board diversity as an aspect of corporate governance has gained attraction among researchers and practitioners of corporate finance. Although much research has been devoted to corporate governance, few studies exist on board diversity especially on its relationship with earnings management across countries. The current study sought to examine the effect of board diversity on earnings management among listed non-financial firms. Roles of boards of directors have been major pillars of corporate governance over the last two decades (Tricker & Tricker, 2015). A proportion of scholars express their views that different board of directors affect organizational performance resulting indifferent orientations. Board members’ gender, age, education and experience in the industry are some of the most common attributes of boards of directors (Letting, Aosa & Machuki, 2012).

There is evidence of managers engaging in earnings management through accrual manipulation which has been shown in many different contexts, for many different accruals, and in response to many managerial incentives (Fan, Barua, Cready & Thomas: 2010). In addition, accrual management involves potential accounting fraud that brings about litigation risk to the firm. A second channel through which earnings could be manipulated is real activities management, such as providing discounts to customers to temporarily increase sales and cutting research and development expense (Gunny, 2005; Roychowdhury, 2006). In the case of real activities management, managers can offer temporary price discounts to increase sales, cut discretionary expenditures such as research and development and advertising, or overproduce to reduce cost of goods sold (Roychowdhury, 2006). However, real activities manipulation sacrifices firms’ future economic benefits, even though this approach introduces less litigation risk to the firm. It was as a result of looking for a way to manage earnings, that board of directors as an organ of the firm is instituted to ensure good corporate governance. OECD (2004) noted that the board of directors is a legal requirement in most countries of the world and one of the essential prerequisites of good
corporate governance of firms. The board of directors of a firm comprises people of different ethnicity and gender (male and female) charged with the responsibilities of monitoring and controlling management and ensuring credible reporting of earnings in the interest of diverse shareholders and other stakeholders. When the board of directors of a firm is not well constituted, the firm becomes vulnerable to earnings malpractice on the part of those charged with the management of the cooperation or entity (Siam, Laili, & Khairi, 2014).

Earnings management practices do not only give false reflection of the firm’s financial performance but bring about less dependable reported accounting numbers which consequently reduces investors confidence in the financial reports for the purpose of decision making. Nevertheless, accounting earnings are more realistic and of higher quality when managers’ opportunistic behaviour is checked and reduced using monitoring systems like the board (Liu, Harris & Omar, 2013).

1.3: Objectives of the Study
The main objective of this study is to evaluate the effect of foreign board membership diversity on earnings management of quoted non-financial firms in Nigeria.

1.4: Research Questions
The following research question was addressed:
I. How does foreign board membership diversity affect earnings management of quoted non-financial firms in Nigeria?

1.5: Hypothesis
The following null hypothesis was formulated from the research question above.
I. Foreign board membership diversity has no significant effect on earnings management of quoted non-financial firms in Nigeria.

2.1: Corporate Board Diversity
Board Diversity According to Wang and Huynh (2013) stands for a fraction of women, racial minorities and ethnicity on the board. Board diversity concerning the age distribution, physical impaired, gender and education qualifications and other forms of board diversity have sparked debate worldwide for some time now. Campaigns are being carried on by various organizations with the quest of increasing the number of people from different ethnic divide, number of women, racial orientation and different age groups in the corporate governance diversity standards metrics and networking for development. Number of women in the corporate boards has been increasing steadily since 2008; this is according to Chanavat and Ramsden, (2013). The corporate board diversity ranged from ethnic minority representation, gender and the diversity in terms of skills of the boards’ members, this was according to Owen (2018) whereas Murimuthu (2008) defined the diverse group as female African American, Asian and Hispanic which was in agreement with the examination made by Freeman. The corporate boards make a decision on the directors’ attributes, diverse perspective, experience and skills that mostly suit the company. The key attributes for the board of directors should focus on the accounting or finance, international markets management experience or business, the knowledge based on customer experience, women and other minorities that are underrepresented on the board (Owen, 2018). A wide range of issues affecting the firm or organization can be well addressed by the board that contain an almost proportional mix of diverse set of functional expertise, educational qualifications, industry experiences, ethnic and gender mix. Diversity is defined as separation, variability and disparity among members from the same unit, this is in accordance with the view of Harrison and Klein (2007). In other words, diversity represents variation in kind and category particularly on information, experience and knowledge among the members of a unit and lastly, disparity stands for the difference in the social assets of resources such as status.

3.1: Research Design:
This study is ex-post facto in nature since it investigated the effects of independent variables on the dependent variable after occurrence and is most suitable for cost-effect studies. That is to say that data were collected after the event or phenomenon under investigation has taken place, which is why it is called ex-post facto. Thus, ex post facto or causal-comparative research design was used to describe the effects of corporate board on classification shifting of non-financial firms in Nigeriabys using existing data from financial statements of the quoted firms which cannot be manipulated or altered by the researcher. In addition to ex-post facto research design, the study also used correlation research design by employing both descriptive and inferential statistics using panel regression analysis.

3.2: Area of Study:
The study will cover all the selected listed non-financial firms in Nigeria within the period of ten years from 2009 to 2018. The investigation period ends at December 2018 due to lack of data...
availability in 2019 as the most recent year during the time of this study, Nigeria was selected because they have the largest and most active stock markets in Sub-Saharan Africa. Non-financial firms will be chosen because of their uniqueness in financial reporting disclosure requirements. The start of 2009 is chosen because this period is generally considered as the heart of the financial crisis in which the first severe sub-prime losses were realized. However still after 2009, many firms were still struggling for their existence.

3.3: Sources of Data:
This study will utilize secondary data as the main source of information and such data was sourced from the annual report and accounts of the various firms from 2009 to 2018 while historical detail concerning the sampled firms will be derived from Stock Exchange fact Book of Nigeria from 2009-2018.

3.4: Population of the Study:
The population to be used in this study will be a total of 470 non-financial firms quoted on the Stock Exchange of Nigeria. The population of non-financial firms quoted in Nigeria was 48 firms in Nigeria. This is arrived at after setting that a firm must meet the criterion of being listed on their respective Stock Exchange (SE) within 2009-2018 and should not have been delisted within the period as well as having information on the variables.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of firms/Population</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>48</td>
<td>Nigeria Stock Exchange (NSE)</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

Source: Nigeria Stock Exchange

3.5: Sample size and sampling techniques:
The firms included in the sample will be selected using purposive sampling method after considering all these factors. Thus, the sampled firms will be filtered as follows; data from specialized industries (financial institutions) such as banks and insurance companies as well as other financial services were excluded from the datasets because the financial reporting requirements are different in those industries. They are subject to some unique regulations and the accruals behaviour is different compared to other firms. Also diversified financials and real estate firms will be left out as such firms generally do not generate any sales revenue. This indicates that their accruals generating process differ significantly and they require specific accounting rules and requirements, including, the minimum capital requirements and specific regulations governing financial services companies. Moreover, government linked corporations was excluded since the firms in these industries are highly regulated. Finally, firms without corporate board diversity and firms of which their corporate board existence cannot be determined will be left out. Therefore, after all these filtration processes, we will apply statistical formula to arrive at our sample size. Statistically, our sample size was chosen using Yaro Yameni Formula stated as follows:

\[ n = \frac{N}{1 + N(e)^2} \]

Where \( n \) = Sample size \( N \) = Total population

\[ e = \text{error term or significant level (10\%)} \]
\[ n = \frac{48}{1 + 48(.10)^2} \]
\[ n = 48 \]
\[ 1.48 \]
\[ n = 32.43 \]
\[ n = 32 \text{ firms} \]

Note that 10% level of significance level was utilized as the maximum bench mark acceptable in management sciences. In addition, the sample also excluded newly quoted companies that did not exist as at beginning of 2008 i.e. newly quoted companies with missing data points were left out as this will result in missing data for the period being studied. Also, newly listed firms are excluded due to inadequate data to estimate expected core earnings. Based on consideration of sampling, the size of sample in this study is eight-two (32) firms but there are 7 companies that do not have the completeness of the data and they were filtered as follows:

Sample Selection and Filtration

32 firms

Less: Industry-years with number of observations < 10/Newly listed firms

\[ 2 \]

Less: Number of missing observations for variables in the models

2

Less: Companies that have been delisted

3
Therefore only 25 firms are with sufficient information and were finally selected to be sample of this study. Note that 25 firms were selected based on complete availability of data. The sample selection covers only audited annual report of 25 firms for the year 2009 to 2018 which is considered as the current sample size for this study. We used judgmental sampling techniques to choose 25 companies from each country considering the least number of non-financial firms in Nigeria. Again, to enable us compare the countries specific results, we selected 25 companies from Nigeria.

Table 2: Final Sample Size Selection

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of quoted non-financial firms/Population</th>
<th>Sample Size</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>48</td>
<td>25</td>
<td>Nigeria Stock Exchange (NSE)</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

Source: Stock Exchange of respective countries from Sub-Saharan Africa

3.6. Method of data Analysis:

The information relating to the features of board membership diversity was used as independent variables and earnings management was used as dependent variable. Descriptive statistics, Pearson correlation matrix and Panel data multiple regressions (fixed and random effect regression) will be used to analyze the causal relationship between corporate board diversity and earnings management.

3.7. Data and variables description

The study will use board membership diversity as independent variable while earnings management was used as dependent variable.

**Decision Rule:** When the probability value is less than 5% – rejects null hypothesis (H0) and accepts alternate hypothesis (H1) but when probability value is greater than 5% – accepts H0 and rejects H1 all at 5% level of significance.

4.1: Hausman Effect Test

The summarized result of regression analysis is presented below. However, the study takes into cognizance the non homogeneity nature of the Nigerian firms as well, hence the need for testing its effect on the data. This necessitated the use of Hausman effect test to ascertain which effect to explain. That is whether fixed effect or random effect is to be used in interpreting the regression result or to ascertain that which is best to be adopted in the study since our data is a panel data with complete information. Below is the summary of the Hausman test result, details of the result was presented in table 3.

**Hausman Effect Test: Decision rule**

H0 – random effect is more preferable than fixed effect
H1 – fixed effect is more preferable to random effect

When chi-square probability value is less than 5% – rejects H0 and accepts H1 (P≤ 0.05)
When chi-square probability value is greater than 5% – accepts H0 and rejects H1, (P≥ 0.05)

Hausman test is used to decide between fixed effect model or random effect model. When the Chi square (Prob) value is greater than 5%, you interpret random effect and said that random effect is more preferred to fixed effect but when it is less than 5%, you interpret fixed effect and said that fixed effect is more preferred to random effect.

Table 3: Nigeria Correlated Random Effects - Hausman Test

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>9.444574</td>
<td>7</td>
<td>0.2223</td>
</tr>
</tbody>
</table>

Source: Researcher’s summary of Hausman effect analysis result (2021)

The Hausman test result above shows a chi-square statistics value of 9.445 and probability value 0.2223, this means that there is no homogeneity in the collection of the firms’ data. Since the Chi-square (Prob) value is more than 5%, hence we accept the random effect and interpret its regression while the fixed effect is rejected. Hausman test shows that the random-effects estimation (REM) method is more appropriate than the fixed effects (FEM) for all non-financial sectors.
in Nigeria; hence the results from REM is presented and interpreted. Therefore, the study use the random effect to correct the problem of homogeneity in the data used for the study; the random effect regression result is presented in table 4 below.

**Table 4: Nigeria Specifics Regression Analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>41.15765</td>
<td>18.58256</td>
<td>2.214853</td>
<td>0.0278</td>
</tr>
<tr>
<td>FBMD</td>
<td>-20.51439</td>
<td>7.525221</td>
<td>-2.726085</td>
<td>0.0069</td>
</tr>
</tbody>
</table>

**Effects Specification**

| R-squared | 0.449039 | Mean dependent var | 19.63340 |
| Adjusted R-squared | 0.370692 | S.D. dependent var | 17.82492 |
| S.E. of regression | 14.14032 | Akaike info criterion | 8.254972 |
| Sum squared resid | 43588.80 | Schwarz criterion | 8.705719 |
| Log likelihood | -999.8715 | Hannan-Quinn criter. | 8.436384 |
| F-statistic | 5.731372 | Durbin-Watson stat | 1.754767 |
| Prob(F-statistic) | 0.000000 |

**Source:** Researcher’s summary of Nigeria Regression result (2021)

The Nigeria model regression table 4 above shows the panel least square regression result of selected non financial firms in Nigeria. As shown in table 4 above, the F-statistics of 5.731 and their P-value of 0.000 showed that all our regression models are generally significant and well specified. The dramatic change in earnings management practices of non-financial firms could not have been dictated by corresponding dynasties in corporate board diversity. This model implies that all our independent variables were very crucial and relevant for curtailing earnings management practices. The result also revealed that the R-squared value of 0.449 which is equivalent to 44.9%, indicates that the independent variables explained about 44.9% of the systematic variation in the earnings management practices of 25 quoted non-financial firms selected from Nigeria over the ten (10) years period observed while the remaining 55.1% is explained outside the unspecified variables thereby captured by the error term, thus, exogenously explained.

In table 4 above, we observed from the Panel least Square regression that the R-squared adjusted value was 0.3706 which means that about 37.1% approximately of the predictive power in the dependent variable was jointly explained by the independent variables. This implies that dependent variable (Earnings management) in Nigeria firms cannot be 100 percent explained by all the variables used in this study. The unexplained part of the dependent variable can be attributed to exclusion of very important independent variables that can explain the dependent variable but are outside the scope of this study. The F-Statistic value of 5.73 and its associated P-value of 0.000 shows that the regression model on the overall is statistically significant at 1% level, this means that the regression model is valid and can be used for statistical inference. Moreover, the Durbin Watson statistic of 1.754 showed that the model is well spread since the value is approximately 2 and that there have not been self or auto correlation problem and that error are independent of each other. In testing our hypotheses, we provide the below specific analysis for each of the independent variables as follows:

**H01:** Board membership diversity has no significant effect on earnings management of quoted non-financial firms in Nigeria.

Nigeria specifics regression result above established that board membership diversity hada statistically significant effect on earnings management \(\beta_1 = -20.51, p = 0.0069<\alpha = 0.05\). The value \(\beta_1\) was negative showing that board membership diversity has a negative causal effect relationship with earnings management of listed non-financial firms in Nigeria hence when number of foreign board members increases by one unit, earnings management decreases by 20.51 units. By implication, this suggests that additional foreign member in the board will lead to a decrease in
earnings manipulation by local directors as he/she will apply his international experience and wisdom to kick against certain manipulations and thereby reducing earnings manipulation drastically. The t-value of -2.72 reveals that board membership diversity has a strong effect on earnings management mitigation of selected firms and its effect is statistically strong enough to curtail the earnings management practices hence a significant effect was documented. The probability value of 0.0069 further confirms that the effect of board membership diversity on earnings management in Nigeria is statistically significant at 1% level of significance. As a result of this significant result documented, this thesis therefore rejects our first null hypothesis (Hₐ) and conclude that board membership diversity has significant effect on earnings management practices of non-financial firms in Nigeria which was statistically significant at 1% level of significance.

5.1: Summary of findings:
Based on a sample of 75 quoted non-financial firms selected from Nigeria for ten fiscal year from 2009-2018 and using seven measures of foreign board membership diversity (BMD) as reported on overall regression result. Specifically, the study found that:
I. Foreign board membership diversity was negatively and insignificantly related to earnings management having reported a negative coefficient value of -9.30 and t-statistic value of -1.57.

II. CONCLUSION
The main purpose of this study was to examine the relation between corporate board diversity and earnings management. Previous studies have supported that corporate board diversity effectively controls managers’ earnings management. It examined how earnings management can be curbed by corporate board diversity, using data from non-financial firms listed on the stock exchange of Nigeria. We considered the following corporate board diversity attributes: foreign board membership diversity. It focused on the role of corporate board diversity to examine how high quality or well diversified corporate boards are able to constrain earnings management of firms in Nigeria. The results revealed that earnings management is less prevalent in firms with foreign member in their board of directors and corporate boards comprising of more independent directors and more female directors whereas earnings management is more prevalent and more severe when the board comprises of more directors with more stock holdings or ownership. Furthermore, our results discovered that board characterized by more financial expert members and more directors that were independent of the management lead to lower levels of earnings manipulation. This supports the view that board members that are independent and with financial expertise are most effective in mitigating earnings management. The study also shows that presence of female’s directors in the board plays a significant role in reducing earnings management by preventing the opportunistic behavior of managers. Finally, we concluded that more of a negative and significant relationship exists between corporate board diversity and earnings management among all the non-financial firms in Nigeria. Moreover, the board should not only stop the negative management pursuit that may lead to corporate scandals or failures but also ensure that corporation is acting on opportunities that improve the value and wealth of all stakeholders. To understand the function of the board, it should be recognized that boards consist of a team of individuals, who integrate their competencies and capabilities that collectively represent the pool of social capital for their corporation that is contributed towards performing the governance function. So in this view, shareholders can be protected from earnings manipulations by making the corporate board system more diversified and stronger in their respective firms.

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