ABSTRACT

The research work aims to investigate the effect of ownership diversity on earnings management of listed non-financial firms in Nigeria. Several reviewed works was revealed in the study of this work, specifically on earnings management and ownership diversity. The research founds that no literature has studied the effect of ownership diversity and earnings management of the listed non-financial firms in Nigeria. This research makes use of secondary data as its main source of data collection. The method of data analysis applied is Hausman effect test and panel data regression. The result shows that ownership diversity has positive and significant effect on earnings management of non-financial firms in Nigeria which was statistically significant at 1% level of significance.

Keywords: Earnings management; ownership diversity; non-financial firms; significance; corporate governance and banking.
1. BACKGROUND TO THE STUDY

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 [1]. 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 [2,3]. 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 [3]. 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 [4] 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 [5]. 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 [6]. However, this practice leads to inaccurate information about the non-financial firms. This study sets to explore the relationship which exists between corporate board diversity (foreign board member diversity, female gender diversity, age diversity, expertise diversity, ownership diversity, resource diversity and board independence) on the earnings management. The main objective of this study is to investigate the effect of ownership diversity on earnings management of listed non-financial firms in Nigeria.

1.1 Research Question

The research question was to address:

i. Does ownership diversity affects earnings management of quoted non-financial firms in Nigeria?

1.2 Research Hypothesis

The null hypothesis was formulated from the research question above.

i. There is no significant effect between ownership diversity and earnings management of quoted non-financial firms in Nigeria.

2. LITERATURE REVIEW

2.1 Ownership Diversity

Ownership diversity is a measure of diversity and existence of large shareholders in a firm. Fan and Wong (2002) measured different types of ownership structures, including concentrated-level, associated-pyramidal, and cross-holding structures. Major shareholders have a conflict of interest with minority shareholders, as they are more likely to prevent disclosure of proprietary information to the minority or the public, and are also likely to manipulate the reporting of earnings to cover self-interest behavior. The problems of lower earnings quality, more earnings management and less informativeness are not because of poor accounting standards. Rather, these problems are largely due to poor corporate structure, one of the elements of corporate governance. Agency theory states that less concentrated ownership may have incentives for the managers to manipulate the financial numbers for their personal benefit in order to get more earning-based bonuses and less pressure from other shareholders. Past studies have shown that concentrated or block ownership can increase the monitoring effectiveness of the board [7]. Board ownership can restrict the opportunistic behavior of management. On the other hand, the board ownership may be ineffective in prompting insiders to make valuable decisions in their own interest, which may result in increased classification shifting practices [8]. Therefore, the presence of shareholders owning a large block of shares in a company provides an
additional monitoring mechanism that may deter opportunistic earnings management. They empirically support this view by finding that large equity holders have incentives to bear the fixed costs of collecting information and to engage in monitoring management. In contrast, Roodposhti and Chashmi [9] opined that ownership leads to weaker incentives to monitor management. In situations where shareholders hold low stakes in the firm, shareholders have little or no incentive to monitor managers because monitoring costs will exceed the gains of monitoring managers. Roodposhti and Chashmi [10] further suggested that ownership concentration may negatively affect the value of the firm, because large shareholders have the capacity to abuse their position of dominant control at the expense of minority shareholders. Gulzar and Wang [7] argued that larger shareholders are recognized by minority shareholders as a signal of a better monitoring environment. Building on the agency framework developed by Jensen and Meckling [11], the existence of large shareholders is expected to lower opportunistic earnings management. If higher ownership concentration increases monitoring over management, higher ownership concentration should decrease management’s capacity to alter accounting earnings and increase the reliability earnings. Once managers have no incentive to manage earnings opportunistically, they act according to the interest of shareholders, and thus ownership concentration should not have an impact on shareholders’ perception of accounting earnings.

2.2 Ownership Diversity and Earnings Management

Ownership diversity and earnings management are correlated with earnings informativeness and earnings quality. Prior studies have documented that ownership diversity can influence firm earnings quality [12,13]. Firms with higher dispersed ownership can reduce earnings management because no majority can control the operation of firms, insiders cannot enjoy private benefits from controlling firms and their interests can align with other owners. Koh [14] examined firms in Australian with respect to their reaction between managerial ownership and earnings management practice. He discovered a positive relationship between managerial ownership and earnings management. This result is consistent with the view that high managerial ownership encourages managerial accruals discretion. Park and Shin [15] however failed to find empirical support of the association between earnings management and board independence in Canada where the ownership structure is highly concentrated. Ikechukwu [16] examined the managerial ownership effect on earnings management and found that earnings management is significantly positive within intermediate regions of ownership, which suggested that the entrenchment effect is dominant in these regions. Leuz, Nanda and Wysocki [17] indicate that earnings management appears to be lower in firms with dispersed ownership, which can reduce insiders’ incentive to conceal classification shifting practices [16]; [18]. Sánchez-Ballesta and García-Meca [19] provide evidence that a lower level of insider ownership is associated with less earnings management which is consistent with previous studies. In contrast, Beasley et al. [20] indicate an entrenchment effect with concentrated ownership. In such cases, managers are more likely to manipulate earnings to cover their entrenchment behavior. These firms are under ineffective corporate board mechanisms, including the boards of directors, the composition of boards, and financial expertise control over the firms. Fan and Wong (2002) provided evidence that East Asian earnings informativeness measured by earnings return relation is related to ownership structure. Bowen et al. [21], Davidson et al. [22] and Sánchez-Ballesta and García-Meca [19] found no significant association between board ownership and earnings management. Hwang and Kim [23] observe that increase in ownership is literally useful in depriving of managerial misconduct and thereby boosting earnings quality. Block holders benefit from temporarily inflated share prices through overstatement of earnings around seasoned equity offerings [24]. Jiang, Petroni and Wang [25] find that foreign ownership highly corresponds to earnings timeliness. Similarly, Jaggi and Leung [26] reported similar findings for Hong Kong listed companies where family ownership and control is common. In terms of ownership concentration which is synonymous to board ownership, Chaharsoughi and Abdul Rahman [27] did not find a significant association between ownership concentration and earnings management. However, Gulzar and Wang [7] found that ownership concentration has a significant positive effect on earnings management, while Abed, Al-Attar and Suwaidan [28], Rahmat, Iskandar and Saleh, [29], Liu and Lu [30] found that ownership concentration has a negative impact on earnings management. Most of the studies used ownership concentration by shareholders [31,32], while a few studies used only institutional ownership concentration [33,34].
Roodposhti and Chashmi (2003) found that different categories of ownership concentration are related to different levels of opportunistic earnings management. Hosam et al. [18] determined the relationship between earnings management and ownership structure for a sample of Jordanian industrial firms listed in Amman stock exchange between 2001 and 2005 using Generalized Method of Moment (GMM). In their study, earnings management is measured by discretionary accruals and three types of ownership were studied which are; insiders, institutions and block-holders. They found a positive and significant relationship between insiders’ ownership and earnings management. Their finding also indicates that neither institutions nor block-holders have significant influences on earnings management. Liu, Harris and Omar [6] investigated the effect of ownership structure on earnings management of 10 commercial banks in Nigeria for five solid years spanning 2006 to 2010. They used pooled regression design to analyze their data and documented a positive relationship between block ownership and earnings management. Based on the confounding effect of this variable on earnings management and an apparent absence of studies from Sub-Sahara African perspective, the current study does not intend to propose any sign, rather the research hypothesis is drawn up in the null form as: there is no significant relation between ownership diversity and earnings management ($H_0$).

2.3 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 as a country was selected because it has one of the largest and most active stock markets in Sub-Sahara 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.

2.4 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 the case country from 2009-2018.

2.5 Population of the Study

The population to be used in this study will be a total of 70 non-financial firms quoted on the Stock Exchange of Nigeria. The population of non-financial firms quoted was 70 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.

2.6 Sample Size and Sampling Techniques

The firms included in the sample will be selected using purposive sampling method after considering all these factors. Thus, after all these filtration processes, we will apply statistical formula to arrive at our sample size. Statistically, our sample size was chosen using Yaro Yamemi Formula stated as follows:

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

Where

- \( n \) = Sample size,
- \( N \) = Total population,
- \( e \) = error term or significant level (10%)

\[
    n = \frac{70}{1+70(0.10)^2} = 41.17
\]

\[ n = 41 \text{ firms} \]

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 forty-one (41) firms but there are 16 companies that do not have the completeness of the data and they were filtered as follows:
Sample Selection and Filtration

41 firms
Less: Industry-years with number of observations < 10/Newly listed firms 7
Less: Number of missing observations for variables in the models 5
Less: Companies that have been delisted 4
Final Sample Size 25

Table 1. Summary of quoted non-financial firms across sub-Sahara Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of quoted non-financial firms/Population</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>70</td>
<td>Nigeria Stock Exchange (NSE)</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td></td>
</tr>
</tbody>
</table>

Source: Stock Exchange of respective countries 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>70</td>
<td>25</td>
<td>Nigeria Stock Exchange (NSE)</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

Source: Stock Exchange of respective countries from Nigeria

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. The study used judgmental sampling techniques to choose 25 companies from the case country considering the least number of non-financial firms in Nigeria.

3. METHOD OF DATA ANALYSIS

The information relating to the features of ownership diversity was used as dependent variables and earnings management was used as dependent variable. Hausman effect test and Panel data regression (fixed and random effect regression) will be used to analyze the causal relationship between ownership diversity and earnings management.

3.1 Hausman Effect Test

The summarized result of regression analysis is presented in Table 4. 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

$H_0$ – random effect is more preferable than fixed effect

$H_1$ – fixed effect is more preferable to random effect

When chi-square probability value is less than 5% – rejects $H_0$ and accepts $H_1$ ($P \leq 0.05$)

When chi-square probability value is greater than 5% – accepts $H_0$ and rejects $H_1$. ($P \geq 0.05$)

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.

The Hausman test result in Table 3 shows a chi-square statistics value of 9.5318 and probability value 0.3422, 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.

The Nigeria model regression Table 4 shows the panel least square regression result of selected non financial firms in Nigeria. As shown in Table 4, 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 the Table 4, 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 (ownership diversity). 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

Table 3. Nigeria correlated random effects with 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>9.53178</td>
<td>1</td>
<td>0.34218</td>
</tr>
</tbody>
</table>

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

Table 4. Nigeria specifics regression analysis

Cross-section random effects test equation:
Dependent Variable: ENMGT
Method: Panel Least Squares
Date: 06/24/21   Time: 06:54
Sample: 2009 2018
Periods included: 10
Cross-sections included: 25
Total panel (balanced) observations: 250

<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>OWNDV</td>
<td>0.160872</td>
<td>0.049826</td>
<td>3.228699</td>
<td>0.0014</td>
</tr>
</tbody>
</table>

Effects Specification

Cross-section fixed (dummy variables)

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

Source: Researcher’s summary of Nigeria Regression result (2021)
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, it provide the below specific analysis for each of the independent variables as follows:

\[ H_0: \text{There is no significant effect between ownership diversity and earnings management of quoted non-financial firms in Nigeria.} \]

Based on t-statistics values of ownership diversity and its coefficient value, the result showed that ownership diversity has a weak positive coefficient value of 0.1608, and a P-value of 0.0014. The analysis result from the model indicates that ownership diversity has weak positive influence on earnings management of firms in Nigeria. The positive influence on earnings management suggests that earnings management is more likely to occur when both dependent and independent members own stock of the firm. Our positive result finding supports Zalata and Roberts [35], Gulzar and Wang [7]. Yang and Krishnans’s [36] argument that non-executives directors’ holding more stock are more likely to collude with management and become reluctant to challenge them while our result contradicts the view that stock ownership minimizes agency problems by helping to align directors’ interests with shareholders’ interests as documented by the following prior studies by Kim, Sungyeon and Yang, [37] that found negative relation between ownership and earnings management while our finding also negates the finding of Gulzar and Wang [7] who found no evidence to support the existence of ownership as a tool for earnings management. Meanwhile, the probability value from the model revealed that ownership diversity has statistically significant effect on earnings management which was statistically significant at 1% level of significance. As a result of this statistically significant effect documented, we therefore reject the null hypothesis and conclude that ownership diversity has significant effect on earnings management of non-financial firms in Nigeria which was statistically significant at 1% level of significance.

4. SUMMARY OF FINDINGS

Based on a sample of 25 quoted non-financial firms selected from Nigeria, for ten fiscal year from 2009-2018 and using seven measures of corporate board diversity as reported on overall regression result. Specifically, the study found that:

1. Ownership diversity has positive and significant effect on earnings management of non-financial firms in Nigeria which was statistically significant at 1% level of significance.

5. CONCLUSION

This study was to investigate the effects and the relation between ownership diversity and earnings management. The use of data from non-financial firms listed on the stock exchange in Nigeria was applied to examine how earnings management can be curbed by ownership diversity. The results discovered that the probability value from the model revealed that ownership diversity has statistically significant effect on earnings management which was statistically significant at 1% level of significance. Finally, the study recommends that the ownership diversification should be encouraged since it helps to mitigate earnings management of non-financial firms in Nigeria.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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