



IS BOARD SIZE AND FINANCIAL LEVERAGE DETERMINANTS OF EARNINGS MANAGEMENT?

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Abstract: - This study looks at the factors that influence earnings management practices of financial institutions listed on the Ghana Stock Exchange from the period 2010-2018. The study adopted quantitative design, as data on Total Accrual, firm size, firm age, leverage, auditor size, and firm age were sourced from published annual report of nine (9) financial institutions listed on Ghana Stock Exchange from 2008 – 2018. Results from the regression model under a 5% significance level reveal that Board size and financial leverage are the factors influencing earnings management practice amongst listed financial institutions. Results from the correlation model also document a negative correlation between Auditor side, Financial Leverage and Earnings management while Board size, Firm size, and Firm age reveal a positive correlation with earnings management. The study therefore recommends that, the regulatory bodies of financial institutions ensure that listed firms are once in a while audited by the big four (4) audit firms. An independent committee should be set to performance an oversight responsibility for the board of directors.

Keywords: Earnings, Board size and financial leverage

Introduction: This research seeks to find out whether board size and financial leverage are determinants of earnings management practices among financial institutions listed on the Ghana Stock Exchange. In recent years earnings management has emerged as one of the greatest

challenges of current business scenario. The cost of brushing off this crucial area of study has resulted in two of the greatest recession ever; one in Asia (1997) and the sub-prime crisis (2007 originated in USA and latter affected the entire world, the effect of the sub-prime crisis has still not receded and most countries are still trying to recover from the shock. Earnings management practice has led to the loss of about 30,000 jobs in the case of Worldcom where manager inflated asset figures by as much as \$11 billion leading to a further loss of \$180 billion for investors, a similar case happened in Enron

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where investors lost \$74 billion and thousands employees lost their retirement, in AIG there were massive accounting fraud to the tune of \$3.9 billion. This has led to a rise to increase attention towards earnings management. Countries are also striving to come out with better policies and measures to curtail such harmful practices. Kaur *et al.*... (2016).

The interference of managers on accounting information was also referred to as “cosmetic accounting” or “accounting manipulation”. Lanouar (2018). Eilifsen (2010) noted that the public have lost confidence in the quality and credibility of published financial statements of firms due to the major corruptions and scandals practiced by auditors, investors, and regulators over the years. Some serious earnings management causes bankruptcies; as in the cases of Enron and Worldcom in US Schilit(2010). Most managers have several reason why they manage earnings either to report consistent incomes year after year, to maximize performance so as to attract investors, in an attempt to receive a zero return in other to avoid the payment of tax or as a way to increase shareholders wealth on paper in other to attract more investors. This is majorly done through the manipulation of items such as loan loss accounts, incorrect write offs and provisions of debt accounts on the balance sheet and income statements and by taking advantages of some loopholes in the accounting laws to mislead some stakeholders (Jones (2011); Mahjoub and Miloudi (2016); Wu (2016); Bashir (2017).

A research by (Miloudi, 2015) documented that investors perceive the earnings of unsuccessful firms as less credible and place less values on them but put significantly higher values on the reported earnings of successful firms. This in turns give insiders the incentives to interfere in reported earnings to attract more investors and to gain the stock exchange’s approval. Earnings management as a manager’s purposeful intervention in external financial reporting process with the intent to appropriate personal gain as referenced by Miloudi (2015). This

definition depicts that the concept of earnings management occurs as a result of managers’ opportunistic behavior. Healy and Wahlen (1999), defines earnings management as the alteration of firms’ reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes. Accounting earnings are increasingly very essential in the valuation of companies, as a result many valuation methods use earnings to value stock. This put together with analyst forecast gives managers the chance to manage earnings overtime. (Bernard 1995; Ketola 2009). Managed earnings can give the notion of an improved profitability, better margins of successful restructuring (Ketola, 2009). In the same vein, earnings management provides security to managers because it displays for better results even during difficult times of the firm and the economy. Hence this occurs to executives to maximize their profit and maintain their jobs. The use of earnings management as correcting tool forecast by managers limit losses that can be generated (kasznik, 1999). firms in countries with developed equity markets, dispersed ownership structures, strong investor rights, and legal enforcement engage in less earnings management (C. Leuz *et al* 2012).

The cost of ignoring such critical issue resulted to the collapse of seven (7) major banks in Ghana, with lots of its citizens losing their jobs and compensation benefits. Due to some gaining their license with a suspicious and unrealistic capital(Bank of Ghana 2018).Hence this has drawn the attention of countries to find better way to curtail such a practice amongst businesses.

Earnings management practice produces less reliable accounting earnings that do not reflect a firm’s financial performance. Earnings management is likely to reduce the quality of reported earnings and its usefulness for investor’s decisions, thus reducing investors’ confidence in the financial reports (Ruiz, 2016). Accordingly, it is argued that managers and controlling owners have incentives to manage

reported earnings in order to mask true firm's performance and to conceal their private control benefits from outsiders. For example, insiders can use their financial reporting discretion to overstate earnings and conceal unfavorable earnings realizations (i.e., losses) that would prompt outsider interference. Insiders can also use their accounting discretion to create reserves for future periods by understating earnings in years of good performance, effectively making reported earnings less variable than the firm's true economic performance. In essence, insiders mask their private control benefits and hence reduce the likelihood of outside intervention by managing the level and variability of reported earnings. In Ghana, there is no, if any, then less research work on earnings management and the factors that influence its practices amongst firms bringing about less sufficient understanding to providing practical solutions to the question; what influence the practice of earnings management in Ghana. Although, efforts have been made to promote effective corporate governance through certain steps such as the formation of the institute of direction and the national accounting standards. In an attempt by the exchange commission and securities to promote effective corporate governance a corporate code of governance to serve as a yardstick for corporate practices has been developed. In spite of all this measure to help strengthen corporate governance there is still the lack of factual evidence to support or suggest what factors actually influence earnings management in Ghana, therefore this research attempts to understand the question; what are the determinants of earnings management amongst listed financial institutions on the GSE and how manager manipulate earnings.

Literature Review

Determinants of Earnings Management:

The increasingly higher rate at which earnings management is being used by insiders has generated the following questions: What are the determinants of earnings management? A research into the academic literature revealed

some of the determinants of earnings managements; board size, firm size, auditor's size, management independence, year of listing (firm age) and financial leverage (Shakir, 2007).

Board Size: Board size refers to the total number of directors on the board of each sample firm which is inclusive of the CEO and Chairman for each accounting year. This includes outside directors, executive directors and non-executive directors (Shakir, 2007). Motivations to manage outcomes may sometimes be induced by factors relating to the company's board. Companies can indeed experiences hardships when it is weak in its performance. But because it had already planned its targets and announced incomes differently from those anticipated, managers thus the board can choose to manipulate earnings upward to save their reputations, and their jobs (Sun *et al.*, 2013), and may even be rewarded to also increase their chances in and on the job market (Fortin *at al.*, 2011). Ashiq and Weining (2015) studied earnings management in the early years of the executive's service and affirmed that new managers thus newly selected board increase the result to improve their ability in the market. Most executives indulge in earnings management so as not to disappoint shareholders and for shareholders to see them as performing their maximum best. This incentive to manage earnings is also justified by insider's desires to save and maintain the company's good reputation by trying to realize their commitments to stakeholders.

Earnings management may be influenced by various factors which are associated with company itself and the board. According to Mard (2003) there are four main objectives that can incite to managers to manipulate earnings.

Firm Size: Firm size deals with the number of resources owned by a firm or company. The size of a company or firm can be represented by total assets, number of sales, average sales, and average total assets. Asset size is considered as the most appropriate means by which firms are measured (Makaryanawati, 2003; Atu 2016).

Suwito and Herawaty (2005) as cited by Wuryani (2012) define the size of a company as a large-scale in which small ones can be classified according to a variety of ways. This includes total assets, market value of shares, and others. Wuryani (2012) revealed in her work that bigger companies engage greatly in income smoothing or creative accounting than smaller companies. This is done because of the greater political cost associated with bigger companies. Political costs erupt due to the high possibility of the company performance being by the media and consumers. Larger attention from analysts and more recognizable than the smaller firms. This is as a result of concerns such as the high profit fluctuations that will attract attention and deliver unexpected impact. In this case, managers increase their companies' earnings by manipulating achieved results to avoid negative impacts that may occur and to maintain the company's reputation.

Auditor Size: Atu (2016) consider that auditors plays an important role in reducing opportunistic behaviours of management that may result in creative accounting. Watt and Zimmerman 1990; Atu 2016 again argue that auditors incur cost from entering contract with audit clients, and so will ensure that clients disclose as much information as possible in their annual reports.

Auditor size can be defined as the resources available to the audit committee or auditors. Lin *et al.*, (2006), Jensen (1993), Yermack (1996) and Soliman and Ragab (2010) revealed that auditor size can affect its decision. Bedard *et al.*, (2004) argue that the larger the auditor size the more likely it is to discover and resolve potential problems in the financial reporting process because it is likely to provide the necessary strength and diversity of views and expertise to ensure effective monitoring and reporting process thus firms by the big(4) audit firms are less likely to have the motivation to manage earnings, on the other hand the smaller the auditor size the more likely it is unable to uncover and resolve earnings manipulation due to the number of work load that might be

presented to them. Hence, the presence of big (4) audit firms deters firms from earnings manipulation, the explanation is that, larger Audit firm or auditor size are very much particular about their reputation; Larger auditors have more incentives to be accurate and consistent because they have more client to lose if their reports are found not credible, accurate and consistent, in addition. Large Auditors are more accurate because they have greater wealth that is exposed to risk in case of any ligations (Atu 2016).

Years of Listing (Firm Age): Firm ageshows the number of years a firm has existed after listing (Alexander and Hengky, 2017). According to Bassiouny *et al.*, (2016) as cited in Alexander and Hengky (2017). A company that has been listed for a longer period of time is less likely to manage earnings as compared to a newly listed company, this because the older companies are well known firms with greater values in the market and as such, they would want to avoid bad reputation. Also, older companies are very much abreast with the rules and codes that govern their practices on the other hand new companies would want to prove to the stock market that it performing and thus has *met all* requirements in the and the general public as well as to attract more investors. Old firms might have also improved on it financial reporting practices over time (Alsaed, 2006) and also try to enhance their reputation and image in the market (Akhatarruddin, 2005) so the older the firm the less likely it is for it to manipulate earnings and the newer the firm the higher it is for it to manipulate earnings (Sara Wahi, 2016).

Financial Leverage: Financial leverage is the amount of debt that an entity uses to buy more assets. Leverage is employed to avoid using too much equity to fund operations. An excessive amount of financial leverage increases the risk of failure, since it becomes difficult. According to a research by Burgstahler and Dichev (1997) and DeGeorge, Patel, and Zechhauser (1999) reveal that firms do not normally report losses because investors would always want to see

positive earnings. When a firm is highly leveraged, it has to face the strict scrutiny of lenders and its spending are often restricted due to the careful watch of its lenders (Ardison *et al.*, 2008). Due to this it is most likely that firms with higher leverage ratios have higher motivations to manage earnings since they are required to provide their lenders with good outcomes so they will refinance firm debts. Consequently, highly Leveraged firms manage cash flow from operations to avoid reporting losses (Roy chowdhury, 2006; Ardison *et al.*, 2008).

Empirical Review: Swastika (2013) investigated the factors affecting earnings management. The factors include the number of members in management board, independence of management board, firm size, and auditor size. The results show that the first two factors have positive relationships with earnings manipulation, whereas other remaining factors have negative relationships.

Ahmad *et al.* (2011) used the model of Jones (1991) for identifying earnings management of 250 listed firms in Malaysian Stock Exchange for the period from 1990 to 2000. The results show evidence of earnings management on the side of listed firms, especially in the early years listed and in the period of financial crisis. Factors relating to environmental control and firm size also affect considerably on having earnings management.

Omar and Meryem (2012) employed the model of Dechow *et al.* (1995) for detecting earnings management behaviors of 42 listed firms in Maroc Stock Exchange for the period from 2001 to 2007. The results show that earnings management exist in the listed years and the level of earnings management after the first year is higher than that after the following first years. The reason is that in the first year of listing, having earnings management produces a good image of listing and a convenient way to sell stocks. After the first year listing, the demand of mobilizing capital is lower and more control is conducted so earnings management is reduced.

Rahmani *et al.* (2013) used the model of Jones (1991) for investigating the affecting level of firm size and capital structure on earnings management. Data were collected from 75 listed firms for the period from 2006 to 2010. Asset is a proxy of firm size, financial leverage is a proxy of capital structure and accrual is a surrogate of earnings management. The results concluded that capital structure has a negative relationship with earnings management.

Nguyen (2012; Hung 2018) conducted a research on earnings management in four different types of firms including stock firms, partnership firms, limited firms and state owned firms. According to the research different practices of earnings management exist in different types of firms. For the joint stock firms, the incentives to increase profits is higher than understating profit because mobilizing capitals from outsiders is more important than saving corporate income tax and also because this type of firms sells stocks reducing profit is key to reducing income tax expenses. The remaining types of firms do not sell stocks so reducing profits is conducted for reducing income tax expenses.

Dang,(2015); Hung,(2018), & Huynh,(2012) concluded that joint stock firms have higher levels of earnings manipulation in the early years of listing and profits are overstated in the years of tax exemption. Nguyen (2014) found that in the year of issuing more stocks, profits are overstated for selling more stocks and shares in the listed firms on Vietnam Stock Exchange. The higher the firm size is, the higher earnings management is and audit quality of financial statements has no effect on earnings management. (Tran, 2014) revealed the decreasing levels of factors affecting earnings management as independence of board of directors (accounting for 61.7%), the firm size (15.53%), followed by auditors (14.56%) and financial leverage (8.74%).

Giap (2014) found that the role of chair of management board, the increased number of members in management board, the increased

ownership of board of directors, and cash flow from operating activities have negative relationships with earnings management. In short, researchers conducted in the Vietnamese context investigated the behaviors of earnings management in the first year of listing (Nguyen, 2012) or in the following first years of issuing supplemental stocks (Nguyen, 2014; Nguyen, 2017).

Methodology: A quantitative research design was used to undertake this research. The population of the study was 13 financial institutions on the Ghana Stock Exchange. The industry consists of thirteen (13) financial firms quoted on the Ghana stock exchange. These firms include: Access bank plc, agricultural development bank plc, Calbank plc, Ecobank Ghana plc, Ecobank Transnational incorporation plc, Enterprise Group plc, Ghana Commercial bank plc, Mega African capital plc, Republic bank plc, SIC insurance plc, societe generale plc, standard chartered plc, trust bank plc.

The sample size consists of firms that have data readily available for the period of study which is 2008-2018. Therefore, this would serve as a yard stick on which conclusions would be drawn for the study as well as companies listed on the Ghana Stock Exchange. Consequently, only 9 firms representing 69% of the total population was used for the research using purposive and judgmental sampling. The sampled firms were selected based on the three categories namely it should be a firm listed on the Ghana stock exchange, it should be a financial institutions and it should have published its financial statement on the Ghana stock exchange website for the number of years under consideration.

Regression Model Specification: A regression model was used to conclude on the determinants of earnings management. Because of the presence of more than one predictor variable, a multivariate regression analysis was suitable. The model is as indicated;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Where Y-dependent variable (Earning Management)

X₁-Board size (Bodsize)

X₂-Firm size (Firmsize)

X₃-Auditor size (AudSize)

X₄- Years of Listing (Firmage)

X₅-Financial Leverage (FinLev)

ε- Is the error term

Dependent variable: The dependent variable used for the study is earnings management measured by total accruals method. The measure of the total accruals (Earnings management tool) used in this study was as applied previously in studies by Iraya, Mwangi and Muchoki (2015); Jesus and Emma (2013); Garane (2017) based on the Dechow et al... (1995) total accrual model as follows:

$$\text{Total Accrual} = (\text{CA} - \text{Cash}) - (\text{CL} - \text{STD} - \text{TP}) - \text{DEP}$$

Where,

CA=changes in current assets

Cash=changes in cash / cash equivalents

CL= changes in current liabilities

STD=changes in short term debt included in the current liabilities

TP=changes in income taxes payable

DEP= depreciation and amortization expense

Discussion of Results: In this study the researchers discuss descriptive analysis and then move on to discuss the result emanating from the regression analysis.

Descriptive Result

Table 1: Descriptive Statistics

Variable	obs	Mean	Standard deviation	Minimum value	Maximum value
TA	81	-1.6598	7.9177	-9.5874	9.6841
Firmage	81	12.3457	6.3446	1	24
BodSize	81	10.2592	2.0358	7	15
FirmSize	81	9.001	0.7540	7.3247	10.8897
FinLev	81	0.7937	0.2322	0.0222	0.9310
AudSize	81	0.8395	0.3694	0	1

Source: Author's computation using StataIC 12
The table above shows the statistics of variables conducted, and it shows 81 observations for each variable. The results for the statistics were rounded up to four decimal places. The mean for the variables ranged from 12.3467 to -1.6598 of which firm size had the highest mean of 12.3467 and financial leverage had the lowest mean of 0.7937. The standard deviation of the earnings management is 7.9177 meaning that the earnings

of the various financial institutions are widely dispersed resulting from the standard deviation being higher than the central point of tendency or the mean. The board size of the various sample size had a standard deviation of 10.2592. The ages of the firm after listing had a standard deviation of 6.3446 and firm size had a standard deviation of 0.7540. It was observed that board size, firm age and firm size are wide dispersed from the average point resulting from the standard deviation being higher than the average. On the other hand Auditor size had a standard deviation of 0.3694, financial leverage had a standard deviation of 0.2322. This indicates that Auditor size and financial leverage

are not widely dispersed but clustered around its mean resulting from a standard deviation lower than the central point of focus. Hence, it was observed that three (3) of the variables are widely dispersed from the central point of focus whilst two of the variables are clustered around the central point of tendency.

Regression Result: The study also used a multivariate regression analysis to establish whether auditor size, board size, financial leverage, firm size, and firm age has an impact or influence the practice earnings management of listed financial institutions on the Ghana Stock exchange for the period under study.

Table 2: Regression Result

Dependent Variable: Total Accrual				
Variables	Coefficient	Standard error	T	P> t
AUD size	-3.4286	2.6341	-1.30	0.197
BOD size	1.4302	0.5480	2.61	0.011
Finlev	-12.7443	5.4796	-2.33	0.023
Firm size	0.4538	1.5832	0.29	0.775
Firm age	-0.1480	0.1618	0.36	0.363
Constant	-5.596	11.6380	-0.43	-28.7809

Source: Author's computation using StataIC 12 $R^2 = 0.1114$

The regression analysis presented below in table 2 reveals the linear relationship between five (5) variables and aimed at measuring the value of the dependent variable. The dependent variable is total accrual. From the table, the expected signs of the coefficient were achieved.

BodSIZE is statistically significant at 5% level of significance with a coefficient of 1.4302, this indicate that BodSize has a positive influence on earnings management. This is related to the literature of swastika (2013) where he discovered a positive impact between board size and earnings management. The estimation also reveals a negative but a significant impact of financial leverage on earnings management with a coefficient of -12.7443 implying that an increase in financial leverage will result in a decrease in earnings management. Surprisingly, this study is consistent with (Rahmani *et al* 2013) found a negative relation between financial leverage and earnings management.

Furthermore, Auditor size is statistically not significant at a 5% level of significance with a coefficient of -3.4286, indicating that an increase in auditor size will result in a fall in earnings management. Also, firm age is not statistically significant to earnings management with a coefficient of -0.1480 implying that an increase in firm age will result in a decrease in earnings management. Hence firm age has a negative impact on earnings management. In the same vein, firm size has a positive influence on earnings management with a coefficient of 0.4538, but it is not statistically significant. A study that support a positive significance between firm size and earnings management (Ahmad *et al* 2011).

R^2 , which is the coefficient of determination, is the proportion of variance in the dependent variables that is explained by the model. The existence of the r-square in the model provides an in-depth explanation to the dependent

variables total accrual, by the independent variables. Table 4.2.1 shows R^2 of 0.1114 which when multiplied by 100 displays the extent to which the independent variable accounts for dependent variable. Thus, the total percentage variance in the dependent variable that is connected with or detailed by the independent variables is measured by 11.4 percent in the

model. Thus, averagely, the independent variables explain or determine 11 percent of the dependent variable, total accrual.

Correlation Matrix: The pairwise correlation matrix was carried out to check whether the predictor variables are highly correlated with each other. The table above shows the results on the variables from the correlation matrix.

Table 3: Correlation Results

TA	AUDSIZE	BODSIZE	FINLEV	FIRMSIZE	FIRMAGE	
TA	1.000					
AUDSIZE	-0.045	1.000				
BODSIZE	0.1892	0.1391	0.1391	1.000		
FINLEV	-0.1016	-0.1940	0.4527	1.000		
FIRMSIZE	0.0180	0.2279	0.5116	0.5512	1.000	
FIRMAGE	0.0345	0.1573	0.0772	-0.4293	-0.2459	1.000

Source: Author's computation using Stata IC 12

From Table 3 the results showed a negative association between auditor size, financial leverage and earnings management, this means that an increase in auditor size and financial leverage factors will cause earnings management to also reduce. This finding of this literature on Auditor size is not strange because it agrees with (Bedard *et al* 2004), whilst financial leverage contrast sharply with (Ardison *et al* 2008). The result on the other hand, revealed that board size, firm size and firm age factors had a positive association with earnings management. This means that board size, firm size and firm age are moving in the same direction with earnings management, this stands to reason that as board size, firm size and firm age factors increases, earnings management will also increase. Also, from table two above, it can be seen that, the linear relationship between the variables are weak. The result on Board size and firm age agrees with (Sun *et al* 2013).

6Conclusion

From the study board size and financial leverage had a positive impact on earnings management which intends that an increase in board size and financial leverage will result in an increase in earnings management. Auditor size, firm size, and firm age was seen to have a negative relationship with earnings management

at a 5% level of significance. The research also revealed a negative correlation between Auditor size, financial leverage and earnings management. Firm age, firm size and board size had a positive association with earnings management.

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