Research Paper

Accounting Flexibility and Earnings Management: Evidence from Quoted Real Sector Firms in Nigeria

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Abstract: *We ascertain the extent to which management use of accounting flexibility (estimates, fair values and judgment and discretion) are associated with earnings management by listed companies in Nigeria. Based on the study objectives, an ex post facto descriptive design was adopted; descriptive statistics, multiple linear regressions and independent t-tests were used to analyse data and ascertain the association of accounting flexibility elements with the absolute discretionary accrual values (used as proxy for earnings management). The study found that there is a positive significant relationship between the use of estimates and earnings management. The relationship between judgment and discretion in the annual reports was found to be insignificantly positive with earnings management. It was also found that there was inverse insignificant relationship between the use of fair values and earnings management. The study concluded that flexibility in accounting exists because circumstances and conditions across companies and industries vary. It is recommended therefore, that corporate regulators continue to ensure that every reporting entity fully discloses the critical estimates and judgments (including fair value estimations) that underlie its financial reporting. This is absolutely necessary if users are to assess how flexibility in accounting has been invoked in the published financial statements.*
Keywords: *Accounting flexibility, earnings management, estimates, judgement, fair value*

I. INTRODUCTION

Existing literature provides evidence that managers strategically intervene in the financial reporting process to report their desired earnings numbers (Burgstahler & Dichev, 1997). Managers can intentionally intervene in the financial reporting process either through flexibilities contained in the accounting standards or by structuring the real operating transactions in a manner that can alter the true income. A vast body of literature exists in accounting to justify why management does this (Bens, Nagar, & Wong, 2003; Hribar, Jenkins, & Johnson, 2006; Taylor & Xu, 2012, among others). Since accruals management does not consume cash, it is less costly and presumably preferable to manipulation of the underlying business activities. One way of managing accrual is through flexibilities enshrined in the principles-based accounting standards.

Principles-based accounting standards, such as the International Financial Reporting Standards (IFRS) and the now discarded Nigerian Statements of Accounting Standards (SAS) allow financial statement preparers significant latitude, flexibility or "subjectivity" in the recording of transactions, and the preparation and presentation of financial statements. Flexibility in accounting is based on the idea that as a company changes, its accounting should also to able to change and to adapt to its needs, operations and management. In other words, as explained by Mulford and Comiskey (2002), flexibility in accounting is a mechanism to cope with changing circumstances and variations in the conditions across companies and between industries. However, for a long time, firms have been known to exploit accounting flexibility to engage in earnings management (Smith, 1992; Palepu, Bernard & Healy, 1996; Levitt, 1998; Mulford & Comiskey, 2002; David. 2004; Chaoenwong & Jiroporn, 2009; Yu, Du & Sun, 2006).

We investigate the association between accounting flexibility and earnings management practice by listed manufacturing companies in Nigeria. Accounting flexibility in this study is estimated through the content analysis of the following words (1) estimates, (2) fair values, (3) judgment and discretion. Limited studies have used some implied measures of accounting flexibility but to the best of our knowledge there are no studies that use this direct measure of accounting flexibility thereby making our study unique methodologically. The rest of the paper is structured as follows: literature review where the concept of accounting flexibility was operationalised along with empirical studies, the section is followed by the methodology and results of the analysis. Finally, section 5 summarises and concludes the paper.

II. LITERATURE REVIEW

Accounting flexibility is defined and measured in this paper in terms of: (1) the use of estimates, (2) the use of multiple measurements, particularly fair value, and (3) the use of judgment and discretion in recognising and measuring assets, liabilities, revenues and expenses. Evidence abound in the literature that accounting flexibility is pervasive. For instance, Mulford and Comiskey, (2002) posit after a survey of accounting practice in the U.S. that "for valid reasons, flexibility in financial reporting exists. It will and should remain as long as circumstances and conditions across companies and industries vary" (p.26). They however caution that the existence of flexibility in the choice and application of accounting policies should not result in misleading financial statements but instead, it should be employed to provide a fair presentation of financial results and financial position.

The first of the flexibility elements is estimates. According to David (2004), numbers on the financial statements are altered through accounting estimates which can be used to inflate, deflate or smooth the earnings. Instances in which estimates could be used to manage earnings are many: (i) estimate sales after taking into account discounts or returns; (ii) predict customers' bad debts; and (iii) change the estimate of inventory cost that will be obsolete before it can be sold. If accounting estimates are used to alter earnings, then the number of accounting estimates allowed in the standards is important; similarly, the number of times the word "estimate" is mentioned in published financial statements is important. Accounting standards require or allow accounting estimates; when an electronic key word search for the word "estimate" (and its derivatives: "estimated", "estimating", and "estimations") is conducted on a digital copy of the International Financial Reporting Standards (IFRS), more than two thousand "hits" are obtained. So important and pervasive are estimates in accounting that Mulford and Comiskey, (2002:24) observe that "To a significant extent, financial statements are a collection of estimates"; which by their nature, pose the risk that they (the estimates) create opportunities to manage earnings (Raubenheimer, 2008).

The next flexibility element is accounting measurement basis. Generally, the historical cost is the main accounting convention for financial reporting. However, IFRS permits the revaluation of intangible assets, property, plant and equipment (PPE), investment property and inventories in certain industries. IFRS also requires the measurement at fair value of certain categories of financial instruments and certain biological assets. Other measurement bases allowed are current costs, realisable value, and present value. In particular, the IFRS' principle on accounting measurements, among others, is that a single measurement basis for all assets and liabilities may not provide the most relevant information for users of financial statements. Healy and Wahlen (1999) buttress this point further by arguing that for financial reports to convey useful information about managers' performance, accounting standards must permit managers judgment to use their knowledge about the business and its opportunities to select reporting methods, estimates, and disclosures that match the firms' business economics, potentially increasing the value of accounting as a form of communication. However, since auditing is imperfect, management's flexibility in using alternative measurements creates opportunities for earnings management. Furthermore, measuring accounting elements in different ways complicates the interpretation of accounting summary amounts such as the income and the financial position statements (Barth, 2006). As if to create more opportunities for adapting or varying accounting numbers, the IFRS (in its Conceptual Framework) recognizes that accounting measurements are estimates, judgments and models, and makes bold to say: "To a large extent, financial statements that conform to IFRS are based on estimates, judgments and models rather than exact depictions of reality." (Chapter 1: The objective of general purpose financial reporting Objective 11).

Seeing that accounting measurements and estimates are a "gray" area, David (2004) suggests that executives have tremendous opportunity to alter the accounting numbers presented in financial statements. We set fair values as representing the "gray area" accounting measurement basis; which Benson (2006) reported had been abused by Enron through exaggerated Level Three estimates to manage earnings fraudulently. The extent to which a firm's assets/liabilities are estimated at "fair value" is indicative of that firm's invocation of allowed measurement flexibility.

Accounting standards or accounting in general have traditionally provided management with latitude to exercise judgment and discretion in areas such as expected lives and salvaging values of long-term assets, obligations for pension benefits and other post-employment benefits, deferred taxes, and losses from bad debt and asset impairments. Similarly, management has discretions in accounting policy choices, such as inventory measurement (Neill, Pourciau & Schaefer, 1995); revenue recognition (Bowen, Davis & Rajgopal, 2002); fair value estimates (Mazza, Hunton & McEwen, 2009); and other choices, like straight-line versus accelerated depreciation, expected life of assets et cetera. Hoy and Hughes (2012) calls this "the management approach". More recently, standards have permitted managers to exercise increased levels of discretion with respect to how information in published financial statements is portrayed. For example, the classification of financial assets and financial liabilities at fair value through the income statement is largely dependent on managerial choices in the

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expected use, measurement, and evaluation of these assets and liabilities (IFRS 9: Financial Instruments; and IAS 39: Financial Instruments; Recognition and Measurement). Therefore, reference to "judgement and discretion" in a firm's published financial statements measures the extent to which judgments and discretion flexibility have been invoked by the reporting firm.

Accounting practitioners maintain that the use of judgment and subjectivity in accounting is important, desirable, and indispensable in recognising and reporting economic transactions and events (Parfect, 2000). Similarly, Levitt (1998) observe that flexibility in accounting allows it to keep pace with business innovations. This occurs in areas such as the timing of accruals, manipulation of the cost base of assets acquired individually and in business combinations, the modification of depreciation schedules, revenue recognition, inventories, stock options, lease expenses, fair value estimates, and changes in accounting policies (Nelson, Elliott, & Tarpley, 2003; Libby & Seybert, 2009).

Furthermore, accounting flexibility with the use of professional judgement creates opportunity for abuse by financial statement preparers and accommodation of the abuse by auditors. It can also result in more pressure on preparers to use, and auditors to accept, "aggressive accounting treatments" (Senogles & Glowka, 2013; Healy & Wahlen, 1999). In other words, accounting flexibility gives management ample opportunity to manage earnings, even to manage the earnings aggressively. This view is not shared by accounting practitioners like Parfet (2000) who believes that as long as the financial reporting supply chain actors (Board of directors, particularly audit committees, financial statement preparers and management and external auditors) are professionally competent and observe clear corporate governance codes and ethical responsibilities, abusive earnings management will not occur.

III. RESEARCH METHODS

3.1 Sample Selection

Based on the study objectives, an ex post facto descriptive design was adopted. The population for the study consisted of 79 firms listed in the real sectors on the main board of the Nigerian Stock Exchange as at 31st December, 2014. Firms exhibiting the following characteristics were excluded from the sample: (i) firms with negative equity; (ii) firms with insufficient data to compute discretionary accruals, and (iii) firms whose total or absolute discretionary accruals are equal or greater than 100% of lagged total assets. This sample selection procedure yielded a sample size of 48 firms for the period 2009 – 2014.

3.2 Variables Employed in the Study

Earnings management, measured by the magnitude of absolute discretionary accruals is the dependent variable in the study. The independent variables in the study are the three elements of accounting flexibility: (i) estimates (EST) (ii) fair value (FVAL) and (iii) judgment and discretion JUDG). These were measured by the natural logarithm of the number of times the accounting flexibility words; "estimates", "fair value", "judgment and discretion" are used in the sample firms' annual reports. To control for differences in earnings management incentives, firm size (SIZE); which itself is a proxy for political attention (Watts & Zimmerman, 1990) is measured as the logarithm of the firms' total assets, was incorporated into the regression model.

3.3 Estimation of discretionary accruals

We assume that earnings management is a strategic management discretion over accounting numbers whereby earnings are managed to over-value, smoothen, or under-value earnings relative to their "unmanaged" levels (Watts & Zimmerman, 1990; Evans & Sridhar, 1996; Fields, Lys & Vincent (2001).

The aggregate total accruals cash flow approach was adopted in this study because it is the primary approach to measuring opportunistic earnings management (McNichols, 2000). Under this approach, total accruals (TA_{it}) are calculated as earnings before interest and taxes ($EBIT_{it}$) minus the operating cash flows from continuing operations (CFO_{it}):

$$TA_{it} = EBIT_{it} - CFO_{it} \dotfill (1)$$

Where
TA_{it} represents total accruals for industry i in time t,
$EBIT_{it}$ represents earnings before interest and taxes, and
CFO_{it} denotes operating cash flows from continuing operations
Following Peasnell, Pope and Young (2000), the cross-sectional modified Jones model was used to estimate non-discretionary accruals in the study. The model is stated as follows:

$$[NDA]_{it} = \square_1[1/A_{t-1}]_{it} + \square_2[\Delta ADJREV_t/A_{t-1}]_{it} + \square_3[PPE_1/A_{t-1}]_{it} + \varepsilon_{it} \dotfill (2)$$

Where
NDA_t = Non-discretionary accruals for industry i in time t
$\Delta ADJREV_t = \Delta REV_t - \Delta REC_t$

ΔREV_t = revenues in year t less revenues in year t-1
ΔREC_t = receivables in year t less receivables in year t-1
PPE_t = property, plant and equipment in year t
A_{t-1} = lagged total assets

Consistent with previous research, all variables have been scaled by lagged total assets to reduce heteroscedasticity. ε_t is included as an error term. Estimates of the specific parameters, α_1, α_2 and α_3 are generated using firms matched on year (t) and industry classification (i). For each industry-year grouping, estimates of the specific parameters were calculated using the following regression:

$$[TA_t/A_{t-1}]_{it} = \square_1[1/A_{t-1}]_{it} + \square_2[\Delta ADJREV_t/A_{t-1}]_{it} + \square_3[PPE_t/A_{t-1}]_{it} \dots\dots\dots\dots (3)$$

The discretionary accruals (DA_t) were then calculated as (**Model 3 – 2**) as follows:

$$[DA]_{it} = [TA_t/A_{t-1}]_{it} - [NDA]_{it} \quad \dots\dots\dots\dots\dots\dots (4)$$

One of the problems with these models (1 – 4 above) has been the occurrence of extreme financial performance of firms which is wrongly attributed to earnings management, leading to the commission of a type 1 error. Kasznik, (1999) and Kothari, Leone, and Wasley, (2005), among others, mention performance matching as a possible solution to overcome the type 1 error. However, because Kothari et al. (2005) find that performance matching reduces the power of the tests, thereby increasing the possibility of Type 2 errors; it is not considered necessary in this paper.

As an alternative control for performance, Jeter and Shivakumar (1999) suggest that cash flow from operations be included in the regression model because doing so increases precision to the model. Kasznik (1999) includes the change in operating cash flows not only as an explanatory variable to the Modified Jones model but also to increase the power to detect earnings management, especially at lower levels of earnings manipulation. Therefore, the change in cash flows was added to the modified Jones model as a driver of the accrual process following Kasznik (1999). This model, referred to as the Kasznik-model, is expressed as:

$$[NDA]_{it} = \square_1[1/A_{t-1}]_{it} + \square_2[\Delta ADJREV_t/A_{t-1}]_{it} + \square_3[PPE_t/A_{t-1}]_{it} +$$
$$\square_4[\Delta CFO_t/A_{t-1}]_{it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots (5)$$

Where
ΔCFO_t = change in cash flows from operations
For each industry-year grouping, estimates of the specific parameters $\square_1$, $\square_2$, $\square_3$, and $\square_4$ were calculated using the following regression

$$[TA_t/A_{t-1}]_{it} = \square_1[1/A_{t-1}]_{it} + \square_2[\Delta ADJREV_t/A_{t-1}]_{it} + \square_3[PPE_t/A_{t-1}]_{it} + \square_4[\Delta CFO_t/A_{t-1}]_{it} + \varepsilon_{it} \dots\dots\dots\dots(6)$$

Equation 6 can be further explained as

$$[TA/A_{t-1}]_{it} = \underbrace{\square_1[1/a_{t-1}]_{it} + \square_2[\square ADJREV/A_{t-1}]_{it} + \square_3[PPE/A_{t-1}]_{it} + \square_4[\square CFO/A_{t-1}]_{it}}_{\text{Non-discretionary Accruals}} + \underbrace{\square_{it}}_{\text{Discretionary accruals}} \quad \dots (6)$$

In other words, the error term, ξ_t, is the estimate of the discretionary accruals; or as the difference between total accruals and non-discretionary accruals indicated in Model 4.

3.4 Final Regression and Model Variables

As indicated earlier, earnings can be managed downwards, upwards, or to smoothen the reported earnings. The study therefore, uses the absolute value of discretionary accruals to proxy for earnings management in the final regression. In this final regression, accounting flexibility measures, i.e., estimates, fair values, and judgment and discretion were included to ascertain their association with the level of earnings management. In order to control for differences in earnings management incentives in the final regression, the firms' size was included. The study examined the trend in the level of earnings management over time with the following regression:

$$ABS\_DA_t = \square_0 + \square_1 EST_t + \square_2 FAIR + \square_3 JUDGD + \square_4 SIZE + \varepsilon_t \dots\dots\dots\dots (7)$$

where

ABS_DA_t = absolute value of discretionary accruals in year t, scaled by lagged total assets estimated by the Kasznik Model.
EST = Estimates
FAIR = Fair Values
JUDGD = Judgment and Discretion
SIZE = natural logarithm of total assets

IV. DATA ANALYSIS AND RESULTS

Descriptive statistics in Table 1 presents an overview of the main features of the variables in Equation 7. According to the table, Estimates (EST) are the most important variable in the study; having the highest distribution and mean, followed by "Fair Value" (FVAL). Relative to EST and FVAL, Judgment and Discretion (JUDG) is of lesser importance in terms of distribution and mean. In terms of dispersion, the whole data set is over-dispersed and/or over tailed. For Estimates and Fair Value, the standard deviations are higher than their means. The dispersions of Judgment and Discretion and even the control variable firm size are equally spread out (co-efficient of variation (COV) 63.5% & 72.2% respectively), albeit to a lesser extent compared to Estimates and Fair Value.

Table 1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EST	288	1	272	44.51	45.174
JUDG	288	0	18	4.44	2.819
FVAL	288	0	123	23.22	29.545
logSIZE	288	7.5332	11.9933	1.0311	.7445
Valid N (listwise)	288				

It should be noted that the study period spanned two accounting standard regimes in Nigeria. Financial statements were prepared under the now discarded Nigerian SAS regime for the period 2009 – 2011; financial statements were prepared under the IFRS regime in the 2012 – 2014 period. While the SAS and the IFRS are both supposed to be "principles-based"; accounting flexibilities under the former standard regime were limited. For example, under the SAS regime, there was no provision for valuation of assets and liabilities at fair value; neither was there any provision for different measurement bases in financial statements. Furthermore, compared to the IFRS, the SAS were incomplete; there were gaps in many areas of accounting, including disclosure requirements. Under these circumstances, measurement of flexibility by word count in financial statement was very low (1 or 0). In the IFRS period, accounting flexibility was invoked pervasively resulting into very high flexibility measures. Taken together, the standard deviation values for Estimates and Fair Values are higher than mean values. The same circumstances explain the high coefficient of variation values regarding Judgment and discretion.

Table 2 shows the co-linearity test results of interrelationships between the independent and control variables (Pearson's Correlations). The signalled relationships and the co-linearity statistics (the tolerance and VIF) are all within acceptable limits; this confirms the independence of the variables and absence of bias in the regression results.

Table 2: Pearson's Correlations Outcomes

	Ln EST	LnJUDG	LnFVAL	LogSIZE	Collinearity Statistics	
					Tolerance	VIF
Ln EST	1.0				.861	1.161
Ln JUDG	-0.188* (.001)	1.0			.814	1.228
Ln FVAL	0.234* (.000)	0.312* (.000)	1.0		.812	1.231
Log SIZE	-0.051 (389)	0.154* (.009)	0.021 (.725)	1.0	.972	1.029

*Significant at 95%

Table 3 shows that there is a positive relationship between the use of estimates as well as judgment and discretion in the annual reports and earnings management. The relationship is significant (t = 9.415, df = 283, p = 0.000) with respect to Estimates; but not significant regarding Judgment and Discretion (t = 1.170, df = 283, p = 0,243). The results signal inverse insignificant relationship between the size of the firm (t = - 0.741, df = 283, p = 0.459) as well as the use of Fair Value (t = 1.146, df = 283, p = 0.253).

Table 3: Regression results

	Intercept	EST	JUDG	FVAL	SIZE
Parameter	-0.061	0.049	0.010	-0.003	-0.004
t-statistics	1.013	9.415	1.170	1.146	-0.741
p-value	0.312	0.000*	0.243	0.253	0.459

$F = 23.848$; $R^2 = 25.2\%$; Adjusted $R^2 = 24.2\%$

*Significant at 95%

The positive relationships between Estimates and Judgment and Discretion and earnings management; and the negative relationship between Firm Size and earnings management are largely expected. However, the inverse relationship between valuation of assets and liabilities at fair value in financial statements of firms is both expected and unexpected. The large number of allowed accounting estimates in the standards and the nature of estimates, being subject to judgment and conditions of uncertainty, pose a risk that they would be used to management earnings (Raubenheimer, 2008). Judgment and discretion arises out of the necessity for managers to choose an accounting policy from among several alternative accounting bases (inventory management, depreciation bases, consolidation policies, et cetera). Extant literature (Nelson et al., 2002; Nelson, 2003; Segovia & Arnold, 2006) indicate that the association of judgment and discretion on the amount of earnings management included in financial reports is small and statistically insignificant. Regarding the effect of firm size on earnings management; the political cost hypothesis states that larger companies are more likely to prefer to minimise earnings. This is because of the potential for government scrutiny to increase as the firms get larger and more successful (Watts & Zimmerman, 1990; Young, 1999).

Results of empirical studies addressing the relationship between valuations at fair value and earnings management are mixed. On the one hand, because fair value incorporates market information into financial statements; fair values are, as a result, more informative and useful for contracting with lenders, managers, and other parties. Based on this argument, increased use of fair value in financial statements is seen to reduce the level of and need for earnings management (Watts, 2006; Muller, Reidl & Sellhorn, 2008; Fiecther, 2011; Fortin, 2005; Hanselman, 2009; Schipper, 2005). On the other hand, the IFRS prescribes the valuation of assets and liabilities at fair value and the use of impairment tests. The consequence of these prescriptions is that earnings may become more volatile and thus less predictable (an unwanted situation, Graham, Harvey & Rajgopal, 2005). Companies will, therefore, have the incentive to increase discretionary accruals, (i.e., earnings management activities) to counter the increased volatility of earnings caused by implementing fair value accounting. Based on this argument, a positive relationship between the use of fair values and earnings management is expected (Bens & Heltzer, 2004; Whelan, 2004; Liang & Wen, 2006; Ramana, 2013, 2008; Benston, 2006). Moreover, for assets and liabilities that have no observable market prices, fair values must be estimated. In Nigeria, apart from listed securities, most assets and liabilities do not have observable or known prices. Thus, professional judgment is required in valuing most of the assets and liabilities in the statement of financial position at fair value; which increases subjectivity and the possibilities of managing earnings. In the current study, the regression results signal an inverse insignificant relationship between valuations at fair values in financial statements and earnings management.

V. SUMMARY AND CONCLUSIONS

In this study, we ascertained the extent to which accounting flexibility elements are associated with earnings management by listed companies in Nigeria. We assumed that earnings management is a strategic management discretion over accounting numbers whereby earnings are managed to over-value, smoothen, or under-value earnings relative to their "unmanaged" levels (Watts & Zimmerman, 1990; Evans & Sridhar, 1996; Fields, Lys & Vincent (2001). The study employed descriptive statistics, multiple linear regressions and independent t-tests to analyse data and ascertain the association of accounting flexibility elements with the absolute discretionary accrual values (used as proxy for earnings management). The study found that there is a positive relationship between the use of estimates as well as judgment and discretion in the annual reports and earnings management. The relationship between the use of Estimates and absolute discretionary accruals is significant. However, the relationship earnings management is positive but not significant with respect to Judgment and Discretion. The results signal that there is an inverse non-significant relationship between the size of the firm as well as the valuation of assets and liabilities at of Fair Value with earnings management. As noted earlier, flexibility in accounting exists because circumstances and conditions across companies and industries

vary. This explains why accounting standards permit managers to exercise judgment in the preparation and presentation of financial statements. Managers can then use their knowledge about the business and its opportunities to select reporting methods, estimates, and disclosures that match the firms' business economics, potentially increasing the value of accounting as a form of communication. Therefore, in order for users to assess the extent to which accounting flexibility is invoked in published financial statements, regulators should continue to require each reporting entity to fully disclose the critical estimates and judgments (including fair value estimations) that underlie its financial reporting.

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