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# CASH FLOW AND REAL ACTIVITIES MANIPULATIONS AMONG QUOTED COMPANIES IN NIGERIA

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**Abstract**

The study examined the prevalence of cash flow manipulations as a form of real activities manipulations in the quoted companies in Nigeria between 2002 and 2012. The study makes use of 71 quoted companies in Nigeria and cash flow from operations model is specified as function of current sales and change in current sales. The residual of the estimated cash flow model is the abnormal cash flow which represents the proxy for real activities manipulations. The method of analysis adopted is the pool regression model. The estimated model shows that both sales and current sales levels of the firms are very important determining factor of cash flow and hence the low levels of abnormal cash flow which signifies prevalence of real activities manipulations in among the quoted companies in Nigeria. It is therefore recommended that relevant bodies like the audit committee will have to pay more attention to the cash flow process of these quoted firms since the study has shown that cash flow from operations of these firms are highly subjected to manipulations.

**Key Words**: Cash flow, Real Activities Manipulations, Firms

## INTRODUCTION

Various reforms, review and enactments of Acts and codes of corporate governance have taken place in Nigeria in the past decades. Some of these are the Companies and Allied Matters Act (1990) reviewed and amended in 2004; the Investment and Securities Act (2007); the Financial Reporting Council Act 2011; the Securities and Exchange Commission (SEC) Code of corporate governance (2003) reviewed in 2011; the Central Bank of Nigeria (CBN) Code of Corporate Governance for Nigerian Banks post consolidation 2006, reviewed in 2010; the National Pension Commission (PENCOM) Code of Corporate Governance for Pension Fund Administrators 2008; and the National Insurance Commission (NAICOM) Code of Corporate Governance for Insurance Industries 2009.

In spite of all these measures corporate failures and fraudulent financial reporting still abound in Nigeria. For example, in June 2006, the SEC was worried about "overstatements" in Cadbury (Nig) Plc's financial accounts. The auditors that investigated the manipulations discovered that the irregularity which had existed for many years was between ₦13billion and ₦16billion. Cadbury was penalized by SEC with a fine of one hundred thousand naira (₦100,000.00) in the first instance and a penalty of five thousand naira (₦5,000.00) per day from 30 June 2002 when the manipulations started to 14 December 2006; and both the Managing Director, Mr. Bunmi Oni

and the Finance Director, Mr. Ayo Akadiri, were dismissed from the company (Adeyemi, 2007; Citizen, 2009; Uwuigbe, 2009).

The Afribank Nigeria Plc corporate scandal is closely related to that of Cadbury (Nig) Plc. Its financial statements revealed high profits in the midst of accusations of gross manipulations. (Mmadu & Akomolafe, 2010).

Other cases of alleged corporate failures subsequent to 2003 SEC introduction of code of corporate governance in Nigeria include Ile-Oluji cocoa products, Standard Printing and publishing company, African Petroleum Company, Lever Brothers (Nig) Plc and Union Dicon Salt (Bakre, 2007; Otusanya & Lauwo, 2010).

Fraudulent financial reporting has dire consequences for the economy of any nation; its effect on the investing public and even the wider society can never be over-emphasized. Colossal amount of money are lost yearly by investors as a result of corporate fraud and eventual collapse (Okaro, Okafor, & Ofoegbu, 2009). Bakre (2007), revealed that Nigerian investors have lost several billions of naira due to falsification and deliberate manipulations of accounts by corporate entities. For example the Cadbury (Nig) Plc. saga affected the price of its share which nose-dived from an all-time high of ₦65.52 in December 2005 to ₦8.65 as at October 2009. As a consequence of the manipulated accounts, the holding company, Cadbury Schweppes Plc, had to make a provision of £15million as impairment of the goodwill held in respect of Cadbury Nigeria plc in 2006 (Solanke, 2007).

The severity of manipulations in Spring Bank Plc in 2008 led to the removal of 13 members of its board with the approval of the Central Bank of Nigeria (CBN). This was an acknowledgement of the bank's liquidity problem and gradual erosion of its shareholders' fund. Also in 2009, the Nigerian 'Capital Market Report' revealed that because of poor corporate governance, the Nigerian Capital Market was ranked among the worst in 2008 (Aina and Adejugbe, 2011).

However, real activities manipulation is an action taken by management, which is contrary to normal business operation with the motive to mislead stakeholders and the investing public. This opportunistic action of management is the effect of agency conflicts. Various empirical studies have assessed the prevalence of real activities manipulations in Nigeria but with different conclusions. The reason for the diverse conclusions might not be unconnected with the fact that what constitute real activities manipulations is enormous and there is the need to split it to sub units to be able to examine its prevalence in the real sector of the Nigerian economy. According to Roychowdhury (2006), there are many aspects to real activity manipulations which range from cash flow manipulations to discretionary expenses manipulation and production cost manipulations among others.

To be able to assess the prevalence of real activities manipulation in Nigerian quoted companies, this study focuses on cash flow manipulations alone. This will give the audit committee a guide on where to beam their search light when investigating real activities manipulations in among quoted companies in Nigeria.

## LITERATURE REVIEW

Roychowdhury (2006) conducted a study of earnings management through real activities manipulation and empirically came up with methods to detect real activities manipulation via cash flow from operation, production costs, and discretionary expenses variables that captured

the effect of real operation suggested to be better than of accruals by Dechow, Kothari and Watts (1998) and others to derive normal levels of cash flow from operation using multiple regression. The study span from 1987 – 2001 with the primary aiming zero target as is more important at the annual level due to the seasonality in business. The cross-sectional analysis reveals that these activities are less prevalent in the presence of sophisticated investors, and concluded that the activities do not contribute to long –run value of a firm.

Amy (2007) study evidence on the tradeoff between real manipulation and accruals manipulation and examined whether managers use real and accrual manipulation as substitutes in managing earnings for a sample of law suit within 1992 – 2003 using model of Roychowdhury (2005). The finding reveals that managers determine real manipulation before accruals manipulation in broad sample, while managers use real and accruals manipulation as substitute in the small sample.

Visvanathan (2008) examines corporate governance and real earnings management considering the role corporate governance (board characteristics) play in restraining real earnings management for a period of 1996 – 2002, and the study finds limited support for some of the factors that have been found to be efficient in constraining real earnings management, having a high proportion of independent directors appear to be helpful in limiting this type of earnings management.
Wenxia and Kim ( 2007) studied board takeover protection and real earnings management in Canada and the association between board and the level of real activity using logistic regression for a period of 2004 – 2006. They find a significant positive association between board independence (outside directors) and abnormal cutting of research and development cost.

Zang (2007) examine earnings management behavior around seasoned equity offering focusing on both real activities and accrual- based manipulation and how this behavior varies over time. They used modified Jones model of 1991 for measuring accruals – manipulation and used model of Roychowdhury (2006) and Zang (2007) for measuring real activities manipulation `practice of firms under study. They find that the passage of Sarbanes – Oxley Act has made accrual – based earnings management costlier to the firms and concluded that firms have substitution from accrual – based to real earnings management after the passage of Sarbanes Oxley- Act.

## METHODOLOGY

### Research design

The research makes use of secondary data approach that includes seventy-one quoted companies in Nigeria the breakdown of the research design is as follows:

### Population of the Study

The study has all the listed companies on the NSE as at 31st December 2009 as its population. This study will use 'Filtering' a non-probability sampling method to select the sample size as only the listed companies on the Nigerian Stock Exchange from the year 2000 up to 2009, and having the required data of interest for the study are considered. It is important to state that firms that delist from the NSE during this period are also excluded because it will not have the sufficient data required for this study. Fifteen 9 years of data (2000-2009) is necessary and required for all the sampled companies to be relevant.

**Sampling and Sources of Data**

The sample for this study is derived from the companies that were quoted on the NSE from 2002 to 2012. The study concentrates on nonfinancial companies, since financial institutions due to their peculiarity operate in highly regulated industry that have a separate accounting policy, corporate governance codes and regulatory agencies. Companies that do not have all the required data necessary for this study within the relevant period are also excluded.

**Model specification**

Following previous studies on real activities manipulation (Roychowdhury, 2006; Sanjaya et al., 2008;) this study examines real activities manipulation in form of sales manipulation, which also referred to as cash flow manipulations. Sales manipulation- means that managers attempt to momentarily boost sales during the year by issuing a more relaxed credit terms or price rebate;
Using price discounts to boost sales results in reduced margins. As margins decline, the cash inflow per sale becomes lower. Similarly, offering more lenient credit terms like lower interest rates (zero-percent financing) leads to lower cash inflow. Thus, sales manipulation activities are associated with reduced current-period operational cash-flows than is real as a result of the sales level. Our first measure of real activities manipulations is abnormal cash-flows from operations ($ACFO_{it}$), which are estimated using the following regression.

$$CFO_{i,t}/TA_{i,t-1} = \alpha(1/TA_{i,t-1}) + \beta_1(SL_{i,t}/TA_{i,t-1}) + \beta_2(\Delta SL_{i,t}/TA_{i,t-1}) + \varepsilon_{i,t} \quad \_.....(1)$$

Where:

$CFO_{i,t}$ = cash-flows from operations for firm i at period t.

$TA_{i,t-1}$ = the total assets for firm i at the end of prior year.

$SL_{i,t}$ = sales for firm i at year t.

$\Delta SL_{i,t}$ = the change in sales of firm i in year t.

After the estimation of parameters in equation (1), abnormal cash flow ($ACFO_{i,t}$) is measured as the residual value of equation (1). Since the signed value of abnormal cash flows from operations decreases with sales manipulation, a high value of $ACFO_{i,t}$ indicates low real activities manipulations.

**Estimating techniques**

**Pool linear regression Model**

The study employed multiple regressions for the purpose of quantitative data analysis, using panel data model to examine the prevalence of abnormal cash flow as a form of real activities manipulation of listed firms on NSE. The study use the static panel data model of estimation and the Stata statistical package as an analytical tool to achieve the objective of the study.

**Robustness Tests**

In line with Ujunwa (2008); Sangosanya (2011), and in other to make our finding robust the pool OLS is subjected to some diagnostic tests to verify the validity of our results especially the parameter estimates.

**Serial Correlation**

Situation where residuals are correlated across time is referred to as serial correlation. Disregarding serial correlation where it actually existed causes consistent but inefficient estimates and biased standard errors. Significant inference of independent variables may be incorrect under conditions of serial correlation (Jager, 2008).

When using panel data, it is always reasonable to suspect that the errors $\varepsilon_{it}$ of a person *i* are correlated over time (*autocorrelation*). Therefore, the Durbin-Watson test is going to be performed to test for serial correlation. If serial correlation is present, Newey-West standard error adjustment will be used to correct for serial autocorrelation.

**Heteroscedasticity**

Equally important is the need to test whether errors have constant variance, i.e. the assumption of homoskedasticity, or else statistical inference becomes unreliable, even if the coefficients are unbiased. If Heteroscedasticity is found to be present, one could then use the Newey-West (1987) standard error adjustment.

**Source of data**

Secondary data are used in the study and are sourced from the libraries of NSE and SEC, the archive of Independent Shareholders' Association of Nigeria (ISAN) and the head offices of the companies where necessary.

## RESULTS AND DISCUSSIONS

The regression model in equation 1 is estimated and the residual is also estimated to ascertain the prevalence of cash flow manipulations among the quoted companies in Nigeria. The residual from the estimated model represents abnormal cash flow which is a proxy for real activity manipulations. The cash flow estimated model is presented in table 1

**Table 1. Pool regression results for cash flow model**

| Variables | Coefficient | Standard error | t-statistics | Probability |
|---|---|---|---|---|
| $1/TA_{t-1}$ | -4194268. | 3846134. | -1.090515 | 0.2757 |
| $SL/TA_{t-1}$ | 0.062232*** | 0.006781 | 9.176760 | 0.0000 |
| $\Delta SL/TA_{t-1}$ | 0.199765*** | 0.007928 | 25.19869 | 0.0000 |
| R-square= 0.787715, Adjusted R square= 0.787315 | | | | |

*Dependent variable=$CFO/TA_{t-1}$, (cash flow from operations), Significance at 5% (**), at 1% (***)*

*Source: Author's computation*

The cash flow estimated model as presented in table 4.1 is an indication of prevalence of manipulations cash flow from operations in the Nigerian quoted companies. Both the current sale level and change in current sales level exert significant impacts on current cash flow from operations. With the value of the R square of 0.787715, both current sales and current change in sales level account for about 79% systemic change in cash flow from operations in the Nigerian quoted companies. This is an indication of high explained variations and low unexplained variations (residual) in the cash flow model.

The cash flow model which is statistically significant with a high explained variation shows that the residual which is the abnormal cash flow is low. The implication of this is that there is high level of real activities manipulations in terms of cash flow from operations in the Nigerian quoted companies. Therefore, it further implies that, quoted companies in Nigeria are found to be engaging in activities such as using price discounts to boost sales in order to reduce margins because as margins decline, the cash inflow per sale becomes lower. Similarly, they are found to be offering more lenient credit terms like lower interest rates ( e.g zero-percent financing) which

leads to lower cash inflow. All these are activities that portray cash flow manipulations and an indication of real activities manipulations in the Nigerian quoted companies. The residuals of the estimated equation is generated and included in the real activities measurement.

To ascertain the validity of the results the following diagnostic test is conducted. Firstly, the serial correlation test is presented as follows:

**Table 2: Serial correlation test**

Breusch-Godfrey Serial LM Test

| | | | |
|---|---|---|---|
| F-statistic | 6.049521 | Prob. F(2,9) | 0.5616 |
| Obs*R-squared | 18.92353 | Prob. Chi-Square(2) | 0.2401 |

This is a diagnostic test that verifies the existence of autocorrelation in the models. The results show that the F and Chi square statistics probabilities are not significant at 5% levels. This shows that the null hypothesis that there are no serial correlations is accepted and we conclude that the the estimated pool regression model is not having the problem of serial correlation.

**Table 3:Heteroskedaticity tests**

Hectroskedasticity Test: Breuch-Pagan-Godfrey for Nigeria

| | | |
|---|---|---|
| F-statistic | 1.328688 | Prob. F(16,16) 0.2882 |
| Obs*R-squared | 18.82893 | Prob. Chi-Square(16) 0.2776 |
| Scaled explained SS | 3.718051 | Prob. Chi-Square(16) 0.9993 |

The last diagnostic test explored is the test for heteroskedaticity. The Beruch Pagan test is applied and the result shows that the probability of the F statistics and the chi squares is greater than 5% in the model. Therefore, we also accept the hypothesis that there is no heteroskedaticity problem in the estimated pool regression model.

## CONCLUSIONS

The study has confirmed the prevalence of cash flow manipulations in among the sampled quoted companies in Nigeria. The implication is that real activities manipulations are rampant among the quoted companies in Nigeria. The results also show that current cash flow in the firms are very dependent on current levels of sale and the change in the current levels of sales. The confirmation of the cash flow manipulations is an eye opener to the audit committee to beam their search light on the cash flow process of these quoted firms. This will go a long way to checkmate sharp practices especially on the part of the quoted companies when they are reporting their financial position through their financial statements.

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