

Voluntary Disclosure of Financial and Capital Market Data and Earnings Management: Empirical Evidence from Uganda

Robert O. Etengu¹, Dr. Tobias O. Olweny² and Dr. Josephat O. Oluoch³

Abstract

This paper examines the effect of voluntary disclosure of financial and capital market data on earnings management among listed firms at the Uganda Securities Exchange. The paper is premised on the idea that the provision of voluntary disclosure of financial and capital market data contributes to the reduction of information asymmetry and that lower information asymmetry makes it more difficult for managers to engage in earnings management practices. We proxy earnings management following the modified Jones model (Dechow, Sloan, & Sweeney, 1995) and use annual reports of 9 listed non-financial firms at the Uganda Securities Exchange for the period 2012 to 2017. Applying robust regression analysis, we find that voluntary disclosure of financial and capital market data is positively and insignificantly related to earnings management. This suggests that the disclosure of financial and capital market data in the annual reports of listed firms at the Uganda Securities Exchange doesn't necessarily reduce the incentives for managers to engage in earnings management through discretionary accruals.

Keywords: Voluntary disclosure, Financial and capital market data, Earnings management, Uganda Securities Exchange

1. Introduction

This paper examines the effect of voluntary disclosure of financial and capital market data (FCMD) on earnings management (EM) among listed firms at the Uganda Securities Exchange (USE). We conjecture that voluntary disclosure of FCMD contributes to the reduction of information asymmetry and that lower information asymmetry makes it more difficult for managers to engage in EM practices. According to Ho and Taylor [1], voluntary disclosures are of growing importance in today's capital market due to the contemporary phenomenon of globalisation of the stock market and the convergence of accounting standards. This has raised the interests of capital market participants for enhanced information beyond the minimum statutory requirement in order to facilitate the decision-making process.

Conceptually FCMD concerns the historical information presented in the accounts, including key financial ratios, a review of the firm's performance, wealth creation, as well as the trend of the volume of shares traded, market capitalisation and share prices (Ho & Taylor [1]). This quantitative information provides an overall understanding of the factors that play a role in the

¹ Lira University, Dept. of Business Management.

² Jomo Kenyatta University of Agriculture and Technology, Dept. of Economics, Accounting and Finance.

³ Jomo Kenyatta University of Agriculture and Technology, Dept. of Business Administration.

performance and future growth of a company and is one of the primary disclosures to investors (Cahyaningtyas, Sasanti, & Husnaini [2]).

Sincerre, Sampaio, Famá, and Odálio dos Santos [3] argue that information of financial and economic nature, can undergo adjustments carried out by managers due to the flexibility regarding the choice of certain accounting procedures. Moreover, the possibility of exercising discretion allows managers freedom in measuring company accounting results and hence, EM. Widespread EM can have serious and detrimental effects on the investors as well as the future prospects a firm. On this basis therefore, it is essential to strive for the absence of opportunistic EM or deter it to reflect the firm's true and fair operating performance (Katmon & Farooque [4]).

Globally evidence concerning voluntary disclosure of FCMD and EM is controversial. Whereas most of the prior studies assume that voluntary disclosure of FCMD is negatively associated with EM (Latridis & Alexakis [5]; Pour & Arabi [6]), other studies find that voluntary disclosure and EM are not associated (Consoni, Colauto and de Lima [7]). While most of these studies were largely examined in the developed markets, research concerning the association between voluntary disclosure of FCMD and EM in emerging markets is not sufficiently explored (see for example, Riahi & Arab [8] in the Tunisian context).

The paper contributes to the literature on voluntary disclosure and EM in several ways. First this is the first attempt to examine the effect of voluntary disclosure of FCMD on EM using data from listed firms at the USE. In addition, this paper also contributes to the extant literature on whether firm characteristics that control for the effect of voluntary disclosure on EM that prior researchers have found to be significant in developed countries can be applied in an emerging economy like Uganda. We proxy EM following the modified Jones model (Dechow et al. [9]) and use annual reports of 9 listed non-financial firms at the USE in the period 2012-2017. Applying robust regression analysis, we find that voluntary disclosure of FCMD is positively and insignificantly related to EM. This suggests that voluntary disclosure of FCMD by USE listed firms doesn't necessarily reduce the incentives for managers to engage in EM through discretionary accruals (DACC).

From the aforementioned findings we note that the results documented in this study contradicts certain theoretical assumptions. The possible explanations for this finding might be due to the fact that there is no consensus on the measures of voluntary disclosure and EM. Moreover, managers provide voluntary disclosures to misdirect investors' attention and mislead them, and thus conceal actions of EM (Latridis and Alexakis [5]).

The rest of the paper is organised as follows. Section 2 provides a literature review; Section 3 explores the methodology; Section 4 is on results and discussion of the findings; and Section 5 provides a conclusion.

2. Literature Review

2.1 Theoretical Review

2.1.1 Signalling Theory

Signalling theory is concerned with the problems relating to information asymmetries in markets, and illustrates how these asymmetries can be reduced by the party with more information by signalling it to others (Boshnak [10]). The theory was initially applied to consumer behaviour in a bid to explain the problems related to buyers being imperfectly informed about the quality of products (Akerlof [11]) and is useful for describing behaviour when two parties have access to different information. Moreover, this theory has been equally used to explain voluntary disclosure in corporate reporting (Omran & El-Galfy [12]).

Companies with better performance are inclined to disclose additional information to signal their superior performance and differentiate themselves from others (Akerlof [11]). As argued

by [Campbell, Shrives, and Saager \[13\]](#)), voluntary disclosure is one of the signalling means, where companies would disclose information in order to signal that they are better. In light of this, we believe that disclosing information regarding FCMD in annual reports reduces information asymmetry between managers and outsiders and consequently the practice of managing earnings.

Nevertheless, there are a number of flaws associated with signalling theory. [Connelly, Certo, Ireland and Reutzel \[14\]](#) assert that the tenets of the theory are still unknown and requires further development. Furthermore, the fact that the theory emphasises the intentional signalling of positive information means that the role of unintentional signalling of negative information is underestimated ([Connelly et al. \[14\]](#)). Moreover, the predictive ability of the theory relies on the assumption that the receiver will accurately notice and interpret the signal as originally conceptualised by the sender yet the dynamic nature of the operating environment means that timing and the quality of the signal might affect the interpretive ability of the receiver ([Chitambo \[15\]](#)).

2.2 Empirical Literature Review and Hypothesis Development

Prior studies on voluntary disclosure of FCMD and EM are very limited, more so from settings outside of North Africa, Europe, the Middle East and America. [Riahi and Arab \[8\]](#) for instance, focused on Tunisia, [Latridis and Alexakis \[5\]](#) conducted their study in Greece, [Pour and Arab \[6\]](#) did their study in Iran, and [Consoni et al. \[7\]](#) conducted their study in Brazil. [Riahi and Arab \[8\]](#) study the relationship between disclosure frequency and EM by quoted Tunisian firms. They conduct their study on a sample of 19 non-financial firms listed on the Tunisian Stock market over a 10-year period (1999-2008). Regression analysis was used to test for the effect of disclosure on DACC calculated from the model of [Kothari, Leone and Wasley \[16\]](#). The findings of the study shows that if the level of disclosure increases, EM decreases implying that information disclosure related to financial decisions and performance constitute a constraint to the proliferation of EM.

[Latridis and Alexakis \[5\]](#) use a sample of 171 Greek firms to examine the association between the provision of voluntary disclosure and EM in listed firms on Athens Stock Exchange. Accounting and financial data were collected from DataStream. The empirical analysis focused on the period 2006-2009. Information regarding accounting policies of the sampled firms was obtained from financial statements that were collected from the Financial Times Annual Report Service. They use binary logistic regression to test for their hypotheses and the ordinary least squares (OLS) regression analysis. Their results provide evidence that the provision of voluntary disclosures is negatively associated with EM.

[Pour and Arabi \[6\]](#) evaluate the effect of voluntary disclosure of financial information on the relationship between accruals quality (AQ) and information asymmetry. AQ was measured using the level of DACC, which was obtained by estimating the models introduced by [Jones \[17\]](#) and [Kothari et al. \[16\]](#). Information asymmetry was calculated by the range of prices offered to buy and sell shares in each company. The required data was collected using a sample of 149 companies listed in Tehran Stock Exchange from 2005 to 2012. The collected data was analysed using combined data method and random effect models. The results show that if more information is voluntarily disclosed, the intensity of the relationship between AQ and information asymmetry will be reduced.

[Consoni et al. \[7\]](#) examine the association between the voluntary disclosure of economic and financial information and EM in the Brazilian capital market. Their analysis was conducted on a random sample of 66 non-financial Brazilian listed companies in the 2005-2012 period. They employ the index proposed by [Consoni and Colauto \[18\]](#) to proxy voluntary disclosure and use the [Dechow et al. \[9\]](#) model to measure EM. The analysis was done using a model of simultaneous equations and by the random effects regression method with panel data. The main

result of the study indicates that voluntary disclosure and EM are not simultaneously determined or associated. From the preceding empirical literature review we hypothesize that:

H₁: Voluntary disclosure of FCMD has a negative and significant effect on EM.

3. Methodology

3.1 Data and Data Sources

This study uses annual reports of 9 non-financial listed firms on the floor of the USE spanning a period of 6 years (2012-2017). This resulted into a sample size of 36 firm year observations. Although this sample size is relatively small when compared with sample sizes in previous studies in this line of research, no single study has been conducted on the floor of the USE using such large amounts of data. The data was obtained from the USE website, the archives of the Registrar of Companies, and the websites of listed firms' at the USE.

3.2 Earnings Management Measures

In this study total accruals (TACC_{it}) is measured as the difference between the net income (NI_{it}) and the net cash flows from operations (CFO_{it}) using the cash flow approach as follows:

$$TACC_{it} = NI_{it} - CFO_{it} \quad (1)$$

DACC, which is employed as a proxy for EM is the residual from the following regression model:

$$TACC_{it}/A_{it-1} = \beta_1(1/A_{it-1}) - \beta_2(\Delta REV_{it} - \Delta REC_{it})/A_{it-1} + \beta_3(PPE_{it}/A_{i,t-1}) + \varepsilon_{it} \quad (2)$$

Where TACC_{it} is the value of total accruals for firm *i* in year *t*, ΔREV_{it} is the variation in the net revenue of firm *i* from time *t*-1 to time *t*, ΔREC_{it} is the variation in the accounts receivable of firm *i* from time *t*-1 to time *t*, PPE_{it} is gross property, plant and equipment of firm *i* in year *t*, and ε_{it} is the error term of firm *i* in year *t*. All the variables are scaled by the lagged value of total assets in year *t*-1 (A_{i,t-1}) and regressed on total accruals.

The study uses the unsigned (absolute value of) DACC to proxy for the mixed effect of upward or downward earnings since managers might have incentives to engage in either income increasing or income decreasing EM (Sun, Salama, Hussainey, & Habbash [19]).

3.3 FCMD Measures

Drawing from prior disclosure studies, we construct a disclosure index to measure the extent of voluntary disclosure of FCMD provided in a firm's annual reports. The index includes disclosure items related to the firm's operating results, a summary of financial data, sales (revenue), profits after tax, dividends, and earnings per share (EPS), among other things. All the disclosure items are equally weighted, and no information is regarded as more valuable than the other (See for example, Chau & Gray [20]; Vural [21]).

The overall FCMD score for each firm was computed by scoring on a binary basis in which the disclosure of an item is scored 1 point if an item is disclosed and missing or insufficient disclosure is scored 0. Finally, each firm's FCMD index defined as the ratio of the actual number of disclosed items to the maximum possible disclosure items was calculated. The disclosure index calculated for each firm in each period, is expressed using the following equation:

$$FCMDI_{jt} = \frac{\text{Actual number of disclosed items}}{\text{Maximum possible disclosure items}} \quad (3)$$

Where $FCMDI_{jt}$ is the financial and capital market disclosure index for firm j in year t .

3.4 Control Variables

Given that corporate governance is not the only unique factor that influences opportunistic earnings manipulation as indicated by [Sun et al. \[19\]](#), we incorporate the following firm attributes to control for EM practices - firm size (FSIZE), profitability (PRFT) and leverage (LEV). FSIZE is measured as the natural logarithm of total assets while PRFT is measured as the ratio of net income to total assets. Meanwhile LEV is measured as the ratio of total debt to total assets.

3.5 Model Specification

Our hypothesis is that voluntary disclosure of FCMD has a negative and significant effect on EM. In order to explain the disclosure of FCMD and investigate the negative relationship, we use the following panel regression model:

$$DACC_j = \beta_0 + \beta_1 FCMD_j + \beta_2 LEV_j + \beta_3 PRFT_j + \beta_4 FSIZE_j + \varepsilon_j \quad (4)$$

Where $DACC_j$ is the value of EM for sample j firm, β_0 is the intercept to be estimated from the data, $\beta_1 - \beta_4$ are the coefficients of the independent variable to be established from the data, $FCMD_j$ is the score for voluntary disclosure of FCMD for sample j firm, LEV_j is the ratio of debt to total assets for sample j firm, $PRFT_j$ is the ratio of net income to total assets for sample j firm, $FSIZE_j$ is the value of total assets for sample j firm, and ε_j is the stochastic disturbance or error term for sample j firm.

4. Results and Discussion

4.1 Univariate Analysis

The descriptive statistics in Table 1 reveals a mean of 0.8259361 for FCMD with a range from about 0.5 to 1. The high disclosure indicates that the extent of disclosure of FCMD has substantially increased over the years. In addition, the absolute value of DACC based on the modified Jones model has a small mean value of 0.0256208 with a minimum value close to 0 (0.0074211). These results imply that the magnitude of EM in listed firms at the USE may be lower than those reported by [González and García-Meca \[22\]](#), [Habbash, Xiao, Salama and Dixon \[23\]](#), [Katmun \[24\]](#), and [Ugbede, Lizam and Kaseri \[25\]](#), who find that Latin American, Chinese, UK, and Malaysian firms have an average absolute value of DACC of 0.11, 0.066, 0.065, and 0.075, respectively. Overall, however, our evidence shows that USE listed firms practice income increasing accruals.

LEV ranges from 0 to 0.83 and the mean value is 0.2937472 (29%). The results of PRFT, however, shows that it varies between a minimum of -0.165 and maximum of 0.4026 with a standard deviation of 0.1217. Finally, FSIZE as a proxy for firm size varies significantly with a minimum score of 24.7277 out of 29.39679, and a mean score of 26.56196 (27%).

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max	CV
FCMD	0.826	0.121	0.533	1	0.146
DACC	0.026	0.012	0.007	0.053	0.474
LEV	0.294	0.261	0	0.830	0.889
PRFT	0.113	0.144	-0.165	0.403	1.275
FSIZE	26.562	1.667	24.728	29.397	1.452

4.1.1 Bivariate Analysis

Table 2 provides results of the correlation analysis. It shows that the variations in DACC are positively correlated with the variations in FCMD implying that firms that provide FCMD engage more in EM. The positive relationship between PRFT and FCMD is consistent with prior research. More profitable firms may signal their profitability to the market via higher disclosure (Kent & Ung [26]).

We also note that LEV and FCMD are negatively correlated. Certainly debt is a mechanism for controlling the free cash flow problem, which reduces the need for disclosure. Lastly, we also find a positive relationship between FSIZE and FCMD. This augurs well with Ho and Taylor's [1] argument that large firms tend to disclose information more extensively because of exposure to public scrutiny and the need to raise capital at a lower cost.

Table 2: Correlation Matrix

	FCMD	DACC	PRFT	LEV	FSIZE
FCMD	1.0000				
DACC	0.0109	1.0000			
PRFT	0.0363	-0.5929*	1.0000		
LEV	-0.0061	0.5270*	-0.3978*	1.0000	
FSIZE	0.2309	0.3046	-0.1694	0.4771*	1.0000

The asterisk* shows that correlation is significant at the 1% level

4.1.2 Multivariate Analysis

In order to answer the hypothesis of this study we employ two models. Model 1 that tests for the effect of FCMD is stated in the following equation:

$$DACC_j = \beta_0 + \beta_1 FCMD_j + \epsilon_j \quad (5)$$

Where $DACC_j$ is the value of EM for sample j firm, β_0 is the intercept to be estimated from the data, β_1 is the coefficient of the independent variable to be established from the data, $FCMD_j$ is the score for voluntary disclosure of FCMD for sample j firm, and ϵ_j is the stochastic disturbance or error term for sample j firm.

The second model that incorporates the control variables (LEV, PRFT, FSIZE) in addition to FCMD to test for the effect of voluntary disclosure of FCMD on EM among listed firms at the USE is stated as follows:

$$DACC_j = \beta_0 + \beta_1 FCMD_j + \beta_2 LEV_j + \beta_3 PRFT_j + \beta_4 FSIZE_j + \epsilon_j \quad (6)$$

Where $DACC_j$ is the value of EM for sample j firm, β_0 is the intercept to be estimated from the data, $\beta_1 - \beta_4$ are the coefficients of the independent variable to be established from the data and $FCMD_j$ is the score for voluntary disclosure of FCMD for sample j firm, LEV_j is the ratio of debt to total assets for sample j firm, $PRFT_j$ is the ratio of net income to total assets for sample j firm, $FSIZE_j$ is the value of total assets for sample j firm, and ε_j is the stochastic disturbance or error term for sample j firm.

As exhibited in Table 3, the findings in Model 1 demonstrates that voluntary disclosure of FCMD is positively (coef. = 0.001) and insignificantly related to EM. Thus, there is no evidence that greater voluntary disclosure of FCMD is reflected in a lesser propensity to manage earnings. This finding contradicts the underlying theoretical assumptions and differs markedly from the empirical results presented by [Murcia and Wuerges \[27\]](#).

When the control variables are incorporated as exhibited in Model 2 the findings reveal firstly and foremost, an adjusted R squared value of 39% implying that 39% of the changes in EM can be explained collectively by the disclosure of FCMD and the control variables. In addition, the findings indicate that the coefficient for voluntary disclosure of FCMD is positive (coef. = 0.001) and insignificant at the 5% significance level. Furthermore, PRFT exhibited a negative and significant influence on EM (coef. = -0.039, $p < 0.01$), thus indicating an alignment of profit increase with a decrease in EM.

Secondly, LEV has a positive and insignificant relationship with EM (coef. = 0.014). Although not significant this result is in tandem with the findings of [Consoni et al. \[7\]](#), hence, suggesting that companies with high debt ratios tend to manage their earnings to show higher profit. Thirdly, PRFT exhibited a negative and significant influence on EM (coef.= -0.039, $p < 0.01$), thus indicating an alignment of profit increase with the increase in EM.

Lastly, the results of Model 2 in Table 3 also indicate that FSIZE has a positive (coef. = 0.001) and insignificant effect on EM. These finding augurs well with the argument raised by [Latridis and Alexakis \[5\]](#) that voluntary disclosers display larger size, and that given their large size, subsequent visibility and analyst following, they may provide voluntary accounting disclosures in order to obtain positive market critics. In conclusion our hypothesis which stated that the voluntary disclosure of FCMD has a negative and significant effect on EM among firms listed at the USE was rejected.

Table 3: Regression for the Effect of Voluntary Disclosure of FCMD on EM

Variables	Model 1 Coefficient	Model 2 Coefficient
VD FCMD	0.001	0.001
LEV		0.014
PRFT		-0.039**
FSIZE		0.001
CONSTANT	0.025	0.010
r2_a	-0.029	0.389
legend: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ Notes: Notes: r2_a = Adjusted R squared; the asterisks *, **, and *** indicate significance at 5% level, 1% level and 0.1 level.		

5. Conclusion

This paper examines the effect of voluntary disclosure of FCMD on EM among listed firms at the USE. The paper is premised on the idea that the provision of voluntary disclosure of FCMD contributes to the reduction of information asymmetry and that lower information asymmetry makes it more difficult for managers to engage in EM practices. We proxy EM following the modified Jones model ([Dechow et al., \[9\]](#)) and use annual reports of 9 listed non-financial firms

at the USE firms between the period 2012 and 2017. Applying robust regression analysis, we find that voluntary disclosure of FCMD is positively and insignificantly related to EM. This suggests that voluntary disclosure of FCMD in the annual reports of listed firms at the USE doesn't necessarily reduce the incentives for managers to engage in earnings management through DACC and contradicts the underlying theoretical perspective.

The paper contributes to the literature on voluntary disclosure and EM in several ways. First, this is the first attempt to examine the effect of voluntary disclosure of FCMD on EM using data from listed firms at the USE. In addition, this study also contributes to the extant literature on whether firm characteristics that control for the effect of voluntary disclosure on EM that prior researchers have found to be significant in developed countries can be applied in an emerging economy like Uganda.

We note, however, that our findings should be interpreted in light of several limitations. One such limitation with this study is the subjectivity involved in the selection of disclosure items to be included under FCMD. In spite of the fact that prior researches were consulted, many researchers choose to develop their own measures due to various reasons. Two, there are still doubts about the use of the modified Jones model in estimating DACC, particularly the models' ability to accurately measure both the discretionary and non-discretionary components of accruals (see for example, Consoni et al. [7]). Much as this is recognised as a limitation in this study, prior researchers like Dechow, Ge, and Schrand [28] claim that this model is still the best and in mostly developed countries like the U.S, the UK, and a few other countries like Malaysia, Taiwan, and India (Islam, Ali, & Ahmad [29]). Moreover, our interest was not to prove its effectiveness.

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