

Income smoothing and firm value in a regulated market: the moderating effect of market risk

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Abstract

Purpose – This study aims to examine the impact of income smoothing on the value of firms in a regulated security market, moderated by market risk. This is based on the prevalence of accounting scandals resulting in the collapse of firms which has been attributed to the opportunistic behaviors of managers.

Design/methodology/approach – The ex post facto research design was employed, and as such, data were gathered from secondary sources. The quantitative approach was also used in the study. Furthermore, the system generalized method of moments (Blundell–Bond) panel estimation technique was used for analyzing the data. Income smoothing was measured using the accrual based methods, while firm value was measured using share price.

Findings – The study found that income smoothing has a negative significant impact on firm value. The study also revealed that market risk is a significant variable that defines the relationship between income smoothing and firm value.

Originality/value – Testing the moderating effect of market risk on the relationship between income smoothing and firm value is unique to this study, particularly from a regulated security market and emerging economy.

Keywords Income smoothing, Market risk, Firm value, Moderating effect, Agency problem

Paper type Research paper

1. Introduction

The industrial revolution which started in Britain from the 18th to 19th heralded the period of public ownership of firms (Kitson and Michie, 2014). Before this period, the common forms of businesses witnessed were sole proprietorship business and partnership business. The idea of joint-stock companies resulted in the separation of owners from management, which defined a principal–agent relationship. In such a relationship, the principals are the owners of the firms, while the agents are the managers. The principal–agent relationship is defined by Jensen and Meckling (1976) as “a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some services on their behalf which involves delegating some decision-making authority to the agent”.

The efficiency of this relationship is mostly affected by the individuals and opportunistic interests held by each party. This created an agency problem and costs, which includes nonalignment of the agents’ interest with owners’ interest (Nyberg *et al.*, 2010). By appointing agents, the owners expect the agents to act in their interest, but the interests of the principals and the agents are not always aligned (Panda and Leepsa, 2017).



Furthermore, the agency problem created by the separation of ownership from management is perceived to be increased by the practice of rewarding/remunerating the agent based on the assessment of performance measures such as earnings. Therefore, for the managers to meet earnings targets, they engage in some dysfunctional behaviors such as earnings management, the introduction of budgetary slacks, creative reporting and earnings smoothness, among other things. These dysfunctional behaviors could undermine a firm's efficiency and consequently, the performance. Due to the fact that owners are not directly involved in the day-to-day management, it becomes difficult for them to directly observe management behaviors. However, in an efficient stock market, such dysfunctional behaviors are penalized by the market by pricing low the shares of such firms.

Firms' valuations by investors have been plagued by a lack of relevant and reliable information, especially in developing economies such as Nigeria. The management of earnings through smoothing has made it difficult for investors to assess the underlying performance of firms, thus, limiting the ability of investors in valuing firms accurately. This has also culminated into inefficient resource allocation between low-rated firms in terms of performance and the high-rated ones.

Beidleman (1973) defined income smoothing as an attempt by management to reduce abnormal variations in earnings to the extent allowed under sound accounting and management principles. Income smoothing is a form of earnings management (Agrawal and Chatterjee, 2015; Demerjian *et al.*, 2020; Tabassum *et al.*, 2015). Managers either use their discretion to alter earnings by different accounting choices or change operations for the sake of earnings targets (Cvetanovska and Kerekes, 2015). This target may be set by management or requested by a group of stakeholders (Chong, 2006). By reducing the fluctuation in income, future earnings can be predicted more accurately and enhance shareholders' value (Baik *et al.*, 2019; Bao and Bao, 2004; Bitner and Dolan, 1996; Feihn and Struck, 2011; Huang *et al.*, 2008; Li and Richie, 2016; Susanto and Pradipta, 2019; Tucker and Zarowin, 2006).

Thus, capital market pressure to report smooth earnings that meet performance benchmarks is one key reason for managers to engage in smoothing that resulted from manipulations (Graham *et al.*, 2005).

Furthermore, one of the factors that explain firm value is market risk. This concept of market risk is reflected in the volatility of the market. Chung and Chuwonganant (2017) studied the relationship between sensitivity of stock returns and market volatility and found a negative shock on stock returns in high volatility. As such, Pereira and Zhang (2010) posit that investors adapt their trading strategy to the volatility in the market. Demsetz and Villalonga (2001) argue that higher market risk (beta) indicates better prospects for managers to profit from inside information and for outside shareholders to engage in profitable monitoring of managers. There are countless reasons why managers engage in income smoothing; this includes reaching bonus targets, protect their job, meeting performance goals, improving firm value, meeting debt covenants, reduce tax liabilities and political costs and enhancing the reliability of financial forecasts (Chen *et al.*, 2020; Demerjian *et al.*, 2020; Flourien, 2019; Jung *et al.*, 2020; Monjed and Ibrahim, 2020; Novianti and Firmansyah, 2020; Trueman and Titman, 1988). The capital market tends to appreciate companies that report highly stable earnings because it is easier for future earnings of such companies to be forecast more accurately. Also, earnings variability is interpreted as an essential measure of the overall riskiness of the firm and has a direct effect on investors' capitalization rates (Beidleman, 1973). Therefore, the main objective of this study is to examine the effect of income smoothing on the firms' value.

The motivation for this study is from the fact that most findings in this area of research emanated from economies where market forces determine asset prices. However, in a regulated market, prices of assets are determined by forces other than market mechanisms to include price regulation. Therefore, there is a need for empirical evidence from a regulated

market. Nigeria is a typical case being the largest economy in Africa and mostly populated amongst the black race. The Nigerian Securities and Exchange Commission (SEC) was saddled with the sole responsibility of determining share price before the introduction of the SEC Act, 1990 (Fadiran and Olowookere, 2016). Although share prices are now expected to be determined by market forces, in some securities such as the mutual fund, the Securities and Exchange Commission (SEC) may prescribe the methods for determining such prices (The Investment Securities Act, 2007). This is expected to curb manipulation in the securities market which could affect investors funds. This practice affects the amount of information impounded by the share price. The impact of income smoothing on firm value appears to vary among countries and across industries considering the market effect in such countries. Secondly, market risk is a key determinant of capital asset price (share price); and it is also capable of influencing the connection between income smoothing and firm value. However, review of the literature showed that past studies failed to examine the moderating effect of market risk on the relationship between income smoothing and firm value. To this end, this study is unique and important.

The scope of this study is based on listed companies on the Nigerian Stock Exchange (NSE), excluding financial institutions as a result of complexities in their financials. The period covered was from year 2012–2018. The remainder of this article is divided as follows: second section provides review of literature; third section explains the methodology; fourth section presents the analysis; fifth section shows the conclusion.

2. Literature review and hypothesis development

2.1 Theoretical framework

2.1.1 Agency theory. This study is built on agency theory being a theory of organizational process, behavior and outcome. Agency theory provides insight and understanding of corporate processes and designs to address emerging problems from the principal–agent relationship. According to Jensen and Meckling (1976), the principal–agent relationship is defined as a contract under which one or more persons (the principal) engage another person (the agent) to perform some services on their behalf which involves delegating some decision-making authority to the agent.

Zhai and Wang (2016) identified agency problems such as moral hazards, e.g. shirking, adverse selection (making of accounting choices that maximized reported income in other to gain higher bonus). The shirking problem arises due to the inability of the principal to observe the performance of the manager directly, and the principal can only assess a manager's performance based on the outcome communicated through the annual report (Vasiljevic, 2009). Furthermore, adverse selection arises because the agent's compensation is based on the assessment of performance measures (Panda and Leepsa, 2017). The monitoring strategies result in the following cost: monitoring cost, bonding cost, residual cost. Eisenhardt (1989) posits that agency theory suggests mechanisms that reduced agency cost, which can come in the form of incentive schemes for managers and installation of control mechanisms (e.g. management control system; corporate governance). Compensation packages are viewed as important in mitigating the conflict of interest between managers and shareholders in corporations.

Goel and Thakor (2003) suggest that managerial choice of smoothing earnings is a response to investors' perception of unstable reported earnings. Literature reveals that investors react negatively to unstable reported earnings.

However, the capital market has a natural mechanism to penalize managers that engage in dysfunctional behavior such as self-motivated earnings smoothing (Banyopadhyay *et al.*, 2011). The capital market operates such that the share/stock of firms engages in self-motivated earnings smoothing are priced low. This differentiates between natural earning

smoothing and smoothing as a result of manipulation carried out by managers for personal gains

From a research perspective, agency theory is a theory that explains and predicts agency problem/agency cost. It further explains and predicts managerial and organizational behavior and outcomes. The assumptions of agency theory include the followings: (1). it comprises two parties: principal and agent. The principal is expected to supply the capital, bear risks and construct incentives, while the agent is required to complete the tasks, make decisions on behalf of the principal and to bear risks (of a secondary type). (2). the outcome of the firm's performance is observable/measurable and can be contracted upon. (3). it is not always that the interest of the principals and agents are aligned (Bebuck *et al.*, 2000). (4). the efficiency of the principal-agent relationship depends on individualistic and opportunistic interest held by each party. (5). agency cost is increased by information asymmetry.

From this theory therefore, it can be deduced that negative income smoothing is a form of agency cost. This is so because the practice of smoothing income by managers toward achieving their target and consequently incentive bonus at all cost is a possible problem capable of affecting organizational outcome negatively. Organizational outcome is multi-dimensional which may take the form of financial performance; operational performance; stock market performance and corporate failures. Since the opportunistic behavior of managers affects organizational outcome, it is expected that self-motivated income smoothing would affect firm value. Based on this expectation, this study hypothesized that: income smoothing has significant impact on the value of Nigerian listed firms. Furthermore, the determinants of organizational outcome are multi-dimensional in nature to include the effect of market risk. Therefore, this study also hypothesized that: market risk has moderating effect on the link between income smoothing and the value of Nigerian listed firms.

3. Methodology

3.1 Data source and sample

The secondary source of data was employed in this study. As such, data were extracted from the financial reports of sampled firms. The population of the study consists of all listed firms on the Nigeria Stock Exchange except the firms in the financial institutions. These were exempted because the industry is relatively highly regulated. Including such sectors into the data stream could introduce large heterogeneity capable of distorting the result of this study. As a result, a sampling frame consisting a total number of hundred and fourteen (114) listed non-financial firms was used. Thirty (30) firms were randomly selected from the various sectors as the sample for the study. The selection of thirty (30) firms was considered suitable, adequate and representative enough to permit generalization about the population parameters of this study, based on the central limit theorem. According to Bluman (2009, p. 360), the central limit theorem posits that "*approximately 95% of the sample means fall within 1.96 SD of the population mean if the sample size is thirty (30) or more*"

3.2 Empirical model

The functional model for this study is specified as:

$$\text{FMValue} = f(\text{Inc_Smoothing}, \text{MKT_Risk}, \text{IncSmooth_MkRisk}, \\ \text{Profitability}, \text{Size and Leverage}).$$

where

$$\text{FMValue} = \text{Firm Value};$$

Inc_Smoothing = Income Smoothing;

MKT_Risk = Market Risk;

IncSmooth_MkRisk = moderating effect of market risk on the relationship between market value and income smoothing.

The econometric version of the functional model is specified thus:

$$\begin{aligned} FMValue_{it} = & \beta_0 + \beta_1 FMValue_{it-1} + \beta_2 Inc_Smoothing_{it} + \beta_3 MKT_Risk_{it} \\ & + \beta_4 IncSmoothing*MkRisk_{it} + \beta_5 Profitability_{it} + \beta_6 Size_{it} \\ & + \beta_7 Leverage_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

3.3 Variable measurement

3.3.1 Income smoothing. This study employed the accrual-based measures of income smoothing. This method was used by [Tucker and Zarowin \(2006\)](#) to estimate income smoothing as the negative correlation between the change in a firm's discretionary accruals proxy (ΔDAP) and the change in its pre-discretionary income (ΔPDI); that is, $Corr(\Delta DAP, \Delta PDI)$.

The advantage of this measure over others is that it directly examines the income smoothing effort while other measures do not ([Bandyopadhyay et al., 2011](#)). To estimate discretionary accruals, the study used the cross-sectional version of the [Jones \(1991\)](#) model as modified by [Kothari \(1992\)](#), as

$$\begin{aligned} Accruals_{it}/TA_{t-1} = & \alpha_i + \beta_1(1/TA_{it-1}) + \beta_2(\Delta REV_{it}/TA_{it-1}) + \beta_3(PPE_t/TA_{it-1}) \\ & + \beta_4(ROA_{it}/TA_{it-1}) + \mu_{it} \end{aligned} \quad (2)$$

Accruals = Net income-cash flow from operations (CFO),

TA = total assets at the beginning of the year

REV = change in revenue defined as $revenue_t - revenue_{t-1}$,

PPE = gross property, plant and equipment.

ROA = return on assets calculated as net income divided by total assets i.e. (performance matching control variable)

The fitted values from [Eq. \(1\)](#) provide nondiscretionary accruals (NDA). The difference between accruals and NDA is the discretionary accruals predicted (DAP). The PDI is calculated as net income minus discretionary accruals ($PDI=NI-DAP$).

3.3.2 Firm value. The proxy for measuring firm value in this study is the average share price. Firms' share price is a direct measure of firm value. This has been documented in previous studies such as [Ajekwe and Ibiamke \(2017\)](#), [Bao and Bao \(2004\)](#), [Chen et al. \(2016\)](#), [De Jong et al. \(2013\)](#) and [Yu et al. \(2017\)](#).

3.3.3 Market Risk. In order to measure the market risk, the standard deviation of the All Share Index (ASI) of the Nigerian Stock Exchange was used as proxy. [Yang and Zhu \(2014\)](#) point out that market uncertainty is a major factor that determines how income smoothing affects a firm value. Therefore, income smoothing affects shareholders' wealth when market is volatile ([Cvetanovska and Kerekes, 2015](#)).

3.3.4 Firm size. Larger firms have a greater incentive to smooth income ([Moses, 1987](#)). There are mixed results on the relation between the firm size and earnings quality

(Cvetanovska and Kerekes, 2015; Feihn and Struck, 2011; Huang *et al.*, 2008; Rountree *et al.*, 2008). Firm size in this study is measured by the logarithm of total assets.

3.3.4.1 Profitability. Profit tends to be positively related to firm value. Therefore, the study controls for profitability across the sample. It is calculated as return on assets (ROA), i.e., the ratio of net income to total assets. This was used in Cvetanovska and Kerekes (2015), Feihn and Struck (2011), and Huang (2011).

3.3.4.2 Leverage. Previous studies evidence a relationship between firm values and leverage (Aggarwal and Zhao, 2007; Bao and Bao, 2004; Feihn and Struck, 2011). This was included in the study model to control for differences in the capital structure of the sampled firms (Rountree *et al.*, 2008). It is measured as the ratio of long-term debt to total assets.

3.4 A Priori expectation

From literature, the study expects a positive and significant relationship between profitability, firm size and firm value. However, the study expects a negative relationship between market risk, leverage and firm value. Smoothing is expected to be positively related to firm value if it is naturally smooth but negatively linked if it is intentionally carried out by management.

3.5 Estimation technique

In estimating the model specified in this study, the dynamic panel generalized method of moments GMM (Blundell–Bond) estimator was adopted because the number of firms under consideration in the study (30) exceeds this study's period (8). Also, the dynamic panel GMM estimator controls for unobserved individual heterogeneity, endogeneity problem, simultaneity bias/reverse causality, measurement error, omitted variable bias, heteroskedasticity and uses variables that are orthogonal to the error term as instruments. As a result of the nature of dynamic panel data, the lagged dependent variables are endogenous and correlated with the error terms. This could be estimated by the "Difference" or "System" GMM. However, research showed that difference GMM results are affected by weak instruments; therefore, this study employs the system GMM.

4. Results and discussion

4.1 Summary statistics

Table 1 presents the descriptive statistics of the firm value ratio (Share price), income smoothing (IS), market risk (MR), and firm characteristics which serve as control variables for the study, profitability (PROF), firm size (SIZE), and leverage (LEV) of non-financial firms on the Nigerian Stock Exchange.

From Table 1, the average value of FMValue (proxied with share price), Inc_Smoothing, MKT_risk, profitability, size and leverage is 95.7034, -0.7210, 3040.208, 0.1663, 17.6906, and

Variable	Observation	Mean	Standard deviation	Minimum	Maximum
FMValue	210	95.7034	211.12852	0.5000	1556.000
Inc_Smoothing	210	-0.7210	0.3994	-0.9998	0.6118
MKT_Risk	210	3040.208	895.2891	1910.249	4303.749
Profitability	210	0.1663	1.3914	-0.2062	20.1874
Size	210	17.6906	1.5117	14.2889	21.2667
Leverage	210	0.1624	0.2042	0.000	2.6137

Source(s): Authors' Computation, 2020

Table 1.
Descriptive statistics

0.1624 respectively. The low mean values of profitability and leverage compared to their standard deviation implies that profitability has been fluctuating largely over the years, in contrast, to the firm size and firm value. The mean value of income smoothing -0.7210 implies quite a number of firms reported smoothen income. FMValue, Inc_Smoothing, MKT_Risk, profitability, size and leverage have minimum values of 0.5000, -0.9998 , 1910.249, -0.2062 , 14.2889, and 0.000, respectively. The minimum value of profitability reveals that some firms reported loss, while the minimum value of leverage depicts that some companies had no long-term debt.

4.2 Estimation results

4.2.1 System GMM estimation results. Table 2 presents the results of the system generalised method of moments (GMM) estimated for the two models of this study, respectively.

The estimates of the model as shown in Table 2 revealed that the one period lagged value of FMValue is positively significant to the current value of FMValue with a coefficient of 0.7769 (p -value < 0.001). This indicates that a key factor that determines the current value of a firm is the past value of the firm. Income smoothing (Inc_Smoothing) is negatively related to firm value with a coefficient of -136.548 (p -value $1 < 0.001$), while market uncertainty (MKT_Risk) is positively related to firm value which showed a coefficient of 0.0118 (p -value, < 0.001). This result implies that high market volatility enhances firm value. Also, the reduction in income fluctuation increases the value of listed firms in the Nigerian stock market. The interaction of income smoothing and market volatility (Inc_Smooth*MkRisk) showed a positive significant relationship with firm value (coeff. 0.0098, p -value < 0.001). This depicts that income smoothing in high uncertain market environment enhances firm value.

Results of firm characteristics which serve as control variables showed that firm profitability (profitability) and size (size) are not significant in influencing firm value. These variables showed coefficients of 0.7666 (p -value = 0.102) and -0.3058 (p -value, 0.339) . However, financial leverage (Leverage) showed a coefficient of -20.422 (p -value, < 0.001) is negatively associated with firm value. This reveals that a firm's capital structure is significant in determining the value of the firm.

The Sargan statistic fails to reject the null hypothesis of overidentifying restrictions at a 5% significance level since the test statistics show a p -value of 0.732 This also infers that the internal instruments (lagged value of the explanatory variables) used for the estimation of

Variable	Coefficient	p value
FM Value		
FMValue _{t-1}	0.7769	0.000*
Inc_Smoothing	-136.5482	0.000*
MKT_Risk	0.0118	0.000*
IncSmooth*MkRisk	0.0098	0.000*
Profitability	0.7666	0.102
Size	-0.3058	0.339
Leverage	-20.4219	0.000*
<i>Model statistics</i>		
Wald χ^2	6.72e+06	0.000*
Sargan statistics	13.9613	0.732
Number of groups	30	
Number of observations	180	
Number of instruments	25	

Table 2.
Two-step system GMM
estimation results

Source(s): Authors' Computation, 2020

model are valid. The p -value of the Wald χ^2 statistics indicates that the model is fit at 1% significant level.

4.3 Discussion

The study examined the influence of income smoothing on the value of Nigerian listed firms. The result of the study showed that the one-period lagged value of share price significantly affects their current values, thereby confirming the importance of estimating dynamic models. It also implies that the past value of a firm significantly affects the current value of the firm.

Income smoothing showed a negative impact on firm value. This implies that smoothing carried out by Nigerian firms appears to be deliberate rather than natural, and investors priced firms' shares that engaged in smoothing, particularly intentional smoothing low. Also, smoothening income reduces the shock/surprise in the market when the reported income by managers meets investors' forecasted income (Baik *et al.*, 2019; Bartov *et al.*, 2002; Chen *et al.*, 2016; Lyimo, 2014; Demerjian *et al.*, 2020; Oler *et al.*, 2016; Shabani and Sofian, 2018; Shubita, 2015). This result is similar to the findings of Chen *et al.* (2016); Novianti and Firmansyah (2020); Susanto and Pradipta, 2019, and Yu *et al.* (2017) which revealed that investors perceive smoothing as an increase in risk and a means of managerial opportunism resulting in reduced firm value. The result contradicts the findings of Allayannis and Simko (2009), Feihn and Struck (2011), Makela (2012), and Monjed and Ibrahim (2020) that found a positive relationship between earnings smoothing and firm value.

Market uncertainty significantly influences firms' value. This implies that volatility seem to enhance investment activity in the Nigerian market, thus, improving stock returns. This result indicates that the Nigerian market, though a frontier market, is fast growing as developed markets are found to facilitate trading activity and incorporate market innovations into stock returns more efficiently than other markets (Marshal *et al.*, 2016).

The result of the interaction of the variables arose from findings of previous studies on how environmental uncertainty might motivate income smoothing practice or behavior. In high market volatility, investors' prefer stable earnings as this gives assurance to investors on the financial position of the firms (Chen *et al.*, 2020; Cvetanovska and Kerekes, 2015; Habib *et al.*, 2011; Jung *et al.*, 2020; Takasu and Nakano, 2012).

The increase in firm value can be attributed to investors' preference for more stable earnings. More so, this suggests that smoothen practices are seen to signal private information by managers to investors, thus, income smoothing is perceived from the information view rather than the garbling (managerial opportunistic) view. This result supports the findings of Allayannis and Simko (2009), Bitner and Dolan (1996), Habib *et al.* (2011), De Jong *et al.* (2013), Jung *et al.*, (2020), Makela (2012), Takasu and Nakano (2012), and Yang and Zhu (2014) that found smoothing of earnings improves the informativeness of earnings and signal future earnings persistence to investors.

Leverage is negatively significant to firm value; this depicts that increase in debt capital, reduces firm value. This finding is consistent with Bao and Bao (2004), Chen *et al.* (2016), Feihn and Struck (2011), Huang *et al.* (2008), and Makela (2012) which documented negative relationship between financial leverage and firm value. On the other hand, Cvetanoska and Kerekes (2015); Demerjian *et al.*, (2020); Yang and Zhu (2014), and Yu *et al.* (2017) found contrary results.

To check for the robustness of the result in Table 2, an alternative measure (TOBIN Q) for firm value was employed as shown in Table 3. The Tobin's Q is a measure of financial market valuation premium (Feihn and Struck, 2011; Rountree *et al.*, 2008). It is calculated as the ratio of the market value of equity + long term debt to the book value of assets (Feihn and Struck, 2011; Huang *et al.*, 2008; Rountree *et al.*, 2008).

Table 3.
Robustness check with
TOBINQ

Variable	FMValue (TOBINQ)	Coefficient	p value
FMValue _{t-1}		0.8837	0.000*
Inc_Smoothing		0.3600	0.002*
MKT_Risk		8.16E-0.6	0.023**
IncSmooth*MkRisk		8.40E-07	0.864
Profitability		0.0109	0.000*
Size		0.0081	0.131
Leverage		0.0566	0.000*
<i>Model statistics</i>			
Wald χ^2		8793.70	0.000*
Number of groups		30	
Number of observations		180	
Number of instruments		25	

Source(s): Authors' Computation, 2020

Previous studies which used Tobin's Q in the measuring firm value include, [Feihn and Struck \(2011\)](#), [Huang *et al.* \(2008\)](#), [Makela \(2012\)](#), [Pandey and Sahu \(2019\)](#), [Rountree *et al.* \(2008\)](#).

The result was robust to the findings in [Table 3](#), as one-period lagged value of TOBIN Q had a positive and significant effect on the value of the firm. Moreover, income smoothing and market volatility revealed a significant relationship with value of listed firms. Firm value is also affected by the relationship between income smoothing and market volatility. This implies that the volatility in the market is a determinant of how income smoothing affects the firm value.

Firm profitability and financial leverage showed a positive significant effect on firm value, while, firm size is insignificant.

Generally, the result of this study reveals the perception of investors on the value of Nigerian listed firms. It shows that managers smoothen earnings to communicate private information on the firm, thereby reducing information asymmetry, as proposed by the agency theory.

5. Conclusion

The study examined the influence of income smoothing and market risk on the value of Nigerian listed firms. The study found that majority of Nigerian firms smoothed their income, and this practice decreases the value of firms significantly. Also, the study found sufficient evidence to support the claim that market risk influences firm value. The study also provided sufficient evidence to support the claim that market risk has moderating effect. Therefore, this study concluded that income smoothing negatively affects firms' value, especially in a regulated market like Nigeria and that market risk moderates the relationship between income smoothing and value of Nigerian listed firms.

5.1 Managerial implications

This study is important in many ways because it has implications for management, investors and regulators. Based on the findings, the study following implications:

- (1) Since income smoothing has a negative impact on firm value, managers are advised to reduce income smoothening practices.
- (2) Since income smoothing is capable of influencing negatively organizational outcome, investors are advised to figure out firms that engage in intentional smoothing and do not invest in such firms for safety of investment.

- (3) Investors are advised to pay close attention to market risk when assessing the value of firms based on the level of income smoothing carried out by managers.
- (4) The Nigerian security market regulators are advised to put in place policies that could engender and raise the level of the Nigerian security market efficiency. Through market efficiency, investors are able to discover and penalize any firm that engages in intentional income smoothing.

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