NON-GAAP EARNINGS REPORTING IN NIGERIA: THE NEXUS BETWEEN NON-GAAP EARNINGS AND STOCK PRICE CRASH RISK IN LISTED COMPANIES

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ABSTRACT

The study looks at the relationship between non-GAAP earnings and stock price crash risk in Nigeria. The hypotheses were linearly modelled and estimated using the Panel ordinary least squares method. The findings corroborate agency theory, which emphasizes firm leaders' capacity to conceal unfavourable news about the company through obfuscated financial reporting, by indicating a significant relationship between non-GAAP earnings and stock price crash risk in the companies studied. The findings show that non-GAAP profits might cause investors to overestimate business worth, increasing the probability of the stock price crashing in the long run. Given the significant influence of non-GAAP profits and future accounting performance on stock price crash risk, the study thus recommends that companies should be prevented from using false reporting techniques, any changes in accounting legislation and standards, as well as ethical norms set by regulatory bodies, should be implemented. The Financial Reporting Council of Nigeria and other regulatory agencies should be more aggressive in carrying out their responsibilities since this will prevent preparers from manipulating financial data for personal advantage.

Keywords: Non-GAAP earnings, Stock Price Crash Risk, Pooled OLS, Random Effect.

INTRODUCTION

Accounting, generally regarded as the language of business, provides a quantitative overview of all actions that occurred within a corporate entity during the reporting period to the various stakeholders of the business (Amernic & Craig, 2009). Many of these stakeholders' important decisions are based on financial data extracted from financial statements (Susmus & Demirhan, 2013). Financial statements are undoubtedly the most relevant and vital to all users, particularly shareholders or investors who are making decisions. They can get helpful information on the effectiveness of a company just by looking at the financial statement. When income is purposely and artificially manipulated, however, it may result in deceptive income disclosure. The executives, because of their position of influence, have a lot of power over how the firm is operated, how resources are allocated on behalf of shareholders, and how information is provided to investors. As a result, their correctness and dependability are critical for these investors to make suitable selections.

Creative accounting and earnings management are generic terms for accounting methods that should adhere to the letter of conventional accounting regulations but deviate from the specified rules. Earlier research has found that investors respond to non-GAAP profits more than GAAP earnings (Bradshaw et al., 2018). Experience shows that it is frequently used unfavourably to entice investors by giving an overstated financial report, and the aim behind this

was to ensure that the stock price rose, resulting in greater executive pay. As a result, non-GAAP performance measures are an essential voluntary disclosure, and investors' attention to them shows that they may influence stock price collapse risk.

The consumers of financial reports all get different information from the reports, which should fulfil the demands of all users; hence, managers are confronted with the task of determining how the reports should be generated, which is complicated by the many users' differing interests. The Generally Accepted Accounting Principles (GAAP), as well as other regulatory documents such as the Companies and Allied Matters Act (1990) as amended, the National Accounting Standards (now Financial Reporting Act (2011) Bank, and other Financial Institution Act (for financial institutions), and others, that serve as guidelines for the preparation of financial reports, were adopted in Nigeria in an attempt to meet the diverse needs of financial report users.

Nigeria is one of Africa's most important capital markets. And like in most African countries, it has been plagued with bad corporate governance. Various corporate governance codes, such as the Code of Corporate Governance in Nigeria 2003, the Code of Corporate Governance for Nigerian Banks Post-Consolidation 2006, and others, have been enacted in response to the problem. The Securities and Exchange Commission (SEC) became more aggressive in pursuing corporations for financial statement fraud in the aftermath of major creative accounting incidents. We propose that whether managers modify non-GAAP results to boost or reduce the non-GAAP metric determines the impact of non-GAAP reporting on crash risk. If investors overestimate a company's worth due to a reliance on non-GAAP earnings, our findings should focus more on situations when management removes expenditure or loss components to create a more rosy image of success. The remainder of our analysis will concentrate on situations in which non-GAAP earnings exceed GAAP earnings as a result of either suppressing negative news or influencing investors' views by using non-GAAP disclosures.

LITERATURE REVIEW

Stock Price Crash

Stock price crashes are considered as a sharp drop in the price of a stock, and they are a major source of worry for investors. Managers are being blamed for these collapses by hiding negative news that is mandated to be revealed in GAAP-based financial reporting. Non-GAAP earnings are earnings that have been modified to exclude GAAP-mandated earnings components. Because shareholders are unaware of the accumulating negative news for a long time, the firm's stock return distribution is asymmetric and does not reflect enough bad news. When business insiders are no longer willing or able to keep negative news hidden, the accumulated information is released all at once, resulting in a stock price crash. Even when rigorous accounting rules (GAAP and IAS) exist to regulate financial accounting operations, it is often hard to avoid financial statement accountants from manipulating financial statement readers' judgments in their favour.

Non-GAAP Earnings

Non-GAAP earnings are data that have been modified to exclude GAAP-mandated earnings components. Managers can voluntarily report these indicators to indicate the relative

relevance of the earnings components that they include in their non-GAAP earnings computations and those that they remove (Hsu & Kross, 2011).

Theoretical Literature

This research is based on the Agency theory where the problem arises in organizations because ownership is separate from management (Jensen and Meckling, 1976), which states that corporate insiders have an information advantage over corporate stakeholders and utilize that advantage to conceal negative news about the company through obfuscated financial reporting (Jin & Myers, 2006). The notion of Agency theory is used to understand and address problems in the connection between corporate owners and their agents. The most frequent example is the interaction between shareholders, who act as principals, and corporate executives, who act as agents. The shareholder acts as the principal because a shareholder puts money into a company run by an executive, and the executive is in charge of making decisions that influence the shareholder's investment.

The delegation, on the other hand, entails that the principal must put his or her faith in an agent to function in the principal's best interests (Umobong & Ironkwe, 2017). Agents may diverge from the principal's aim and pursue self-interest when carrying out their tasks. The interests of a principal and an agent are not necessarily aligned, according to Agency theory. The principal-agent issue is a term used to describe this situation. There may be a variety of disputes or disagreements since the principal places so much trust in the agent to make the best choice. For an investor, the degree of uncertainty about an agent's desire to pursue self-interest motives rather than follow the contract's expectations represents an agent risk, which leads to agency cost (Fiet, 1995). Agency theory gives managers the leeway to look for existing holes in financial reporting and change accounting data to match their goals to the degree practicable (Revsine,1991).

Empirical Literature

Kim & Zhang (2016) used a large sample of US enterprises from 1964 to 2007 to investigate the association between accounting conservatism and stock price collapse risk. Their findings reveal that conditional conservatism is associated with a lesser risk of a firm's stock price falling in the future. They also discovered that the relationship between conservatism and crash risk is stronger in organizations with larger information asymmetry. Hsu et al. (2021) studied whether non-GAAP earnings disclosures enhance the likelihood of a stock market crash risk. Their findings suggest that raising income through non-GAAP reporting raises the chance of a crash. Their findings also found a link between non-GAAP reporting and the risk of later events that might lead to a crash.

Tunji et al. (2020) examined the influence of creative accounting on investment decisions in selected publicly traded manufacturing businesses in Nigeria's real sector from 2007 to 2017. Their findings found that creative accounting had a favourable but insignificant influence on investment choices in listed manufacturing businesses in Nigeria's real sector. Okoye & Obioma (2020) investigated the effect of creative accounting approaches on corporate financial performance. Their findings indicate that banks' asset structure and management in Nigeria have been weak, and their assets have not been leveraged efficiently to increase profitability.

However, the research on stock price crash risk in Nigeria ignores crash risk and non-GAAP earnings. There has been no recent research on the relationship between non-GAAP

profits and the probability of a stock price crash in Nigeria. Because shares are traded continuously in Nigeria, it is vital to assess the factors that drive share price crashes. This study examines the link between non-GAAP earnings from 2010 through 2020, indicating a knowledge gap that necessitated this investigation.

Hypothesis Development

Many instances of non-GAAP financial reporting have occurred in Nigeria, leaving third parties with little recourse. Because the link between non-GAAP reporting and crash risk is uncertain, we propose the following null hypothesis.

H_1: There is no significant relationship between non-GAAP earnings and stock price crash risk.

Methodology

Following previous research, we use the natural log of the asymmetric volatility in weekly stock returns across the year as one of the four metrics of crash risk identified by (Kim et al., 2011). Higher levels indicate a higher risk of a crash. As a proxy for non-GAAP earnings, EBITDA (earnings before interest, taxes, depreciation, and amortization) is used. Leverage and future accounting performance (return on asset) are two variables highlighted by Kim & Zhang (2016) as potentially affecting a firm's future crash risk.

This study looks at 16 firms listed on the Nigerian Stock Exchange throughout the ten years from 2010 to 2020 to see if there is a link between non-gap earnings and stock price crash risk. The analysis was limited to 16 firms due to a lack of appropriate data. The model is defined in linear form as follows to establish the link between non-GAAP earnings and stock crash risk:

$$CR_{it} = \beta_o + \beta_1 NGE_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \pounds_i \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 1$$

Where:
CR_{it} = Stock price crash risk for firm i at the end of year t
$NGE_{it=}$ non-GAAP earnings for firm i at the end of year t
LEV_{it} = the ratio of long-term debt to total book value of equity for firm i at the end of year t
ROA_{it} = future accounting performance for firm i at the end of year t (Return On Asset)
$\pounds$ = error term (part of the share price which is not interpreted by the model)
β_0 = the intercept
$\beta_1 \dots \beta_3$ = represent the coefficients of the explanatory variable

The data were analyzed utilizing the Panel ordinary least square of estimation method to experimentally analyze the aforementioned functional form. To prevent econometric problems in the estimated model, all variables are converted into their natural log.

RESULT AND DISCUSSION

The Table 1 below shows the simple descriptive statistic of the variables in the model.

Table 1 DESCRIPTIVE STATISTICS OF THE VARIABLES				
	CR	NGE	LEV	ROA
Mean	8933.877	1211.626	2219.757	15.13418

Median	2883.601	669.4705	1246.648	10.23560
Maximum	144210.5	8756.023	9022.422	134.1309
Minimum	144.8312	16.00000	22.64425	0.084600
Std. Dev.	22619.22	1367.235	2262.677	16.45131
Skewness	4.032231	2.241799	1.223523	3.274046
Kurtosis	19.30616	9.740465	3.496958	19.08585
Jarque-Bera	2426.793	480.6012	45.72332	2211.969
Probability	0.000000	0.000000	0.000000	0.000000
Observations	176	176	176	176

Source: Authors' computation, 2021

All of the variables are positively skewed, implying that their values are extremely large. Furthermore, the kurtosis of all variables in the table is greater than three (3), implying that their probability distributions are all relatively highly peaked.

The stationarity of the variables is then checked in the following phase of the study. The Levin et al. (2002) and Im-Pesaran-Shin (2003) unit root tests were performed to determine the order of integration of the variables in the model. In panel data analysis, the problem of spurious regression will arise if the unit root is discovered in the data. The results are shown in Table 2.

Tabe 2 PANEL UNIT ROOT TEST RESULT							
	Levin et al		Order of Integration	Variables	Im et al		Order of Integration
Variables	Levels	First Diff.			Levels	First Diff.	
CR	1.73021**	-	I(0)	cr	-1.26818	-2.94838**	I(1)
NGE	0.49155	-2.44840**	I(1)	NGE	-3.83817	-0.74650**	I(1)
LEV	-6.04375**	-	I(0)	LEV	-4.19432**	-	I(0)
ROA	-0.57970	-3.84295**	I(1)	ROA	-1.09572	-4.75008**	I(1)

Source: Authors' computation, 2021
Notes: Values reported are t-statistics value.
** denote significance 5 percent.

The test was conducted with the assumption of intercept and no trend in both Levin et al. (2002) and Im et al. (2003) specification. Table 2 shows that it's not apparent if most of the variables are integrated at levels (I(0)) or first difference (I(1)) since both unit root tests yielded different findings. The data sample is then subjected to a panel cointegration test, which would be plausible. It is used to determine if the model indicates a long-term relationship.

Cointegration analysis is conducted after unit roots of the series have been investigated. To evaluate the long-term relationship between the variables, the Kao cointegration approach for the Panel cointegration test is used. The ADF t-statistic probability value is less than a 5% level of significance, suggesting that the variables in the model have a long-term relationship, as shown in Table 3. The null hypothesis is thus rejected, confirming the existence of cointegration between the variables. The findings reveal that the variables have a long-term relationship, verifying the validity and consistency of empirical findings.

Table 3 KAO RESIDUAL COINTEGRATION TEST RESULT	
ADF t-statistic	Probability
0.954530	0.0453**

Source: Authors Computation, 2021
Note: Null Hypothesis: No cointegration.

** denotes significance at 5 percent

Because the model involves a long-run relationship, the panel OLS estimation approach is employed to investigate the relationship between non-GAAP earnings and stock price crash risk. Table 4 shows the outcome of the panel OLS method.

Table 4 PANEL OLS METHOD			
Dependent Variable: Stock Price Crash Risk	Panel OLS	Fixed effects	Random effects
NGE	0.094263 (0.0221)	-0.02771 (0.0488)	0.02735 (0.0259)
LEV	-0.047378 (0.0505)	0.017565 (0.0773)	0.012044 (0.8040)
ROA	0.015585 (0.0848)	-0.062370 (0.3492)	-0.057052 (0.0384)
Constant	0.036510 (0.6624)	8.053233 (0.0000)	8.044524 (0.0000)
R^2	0.5344	0.660053	0.69340
F statistics	0.689932 (0.0105)	16.93539 (0.000000)	0.267112 (0.04903)
Auxiliary Parameters			
Hausman Test	1.295647 (0.7302)		

Source: Authors' Computation, 2021
Standard errors are in parenthesis.
t-statistics is in square bracket.
**denotes significance at 5 percent.

The F-statistic is used to analyze the overall significance of the regression model using the Panel OLS regression. The F-statistic p-value for the entire regression model is 0.0105, which suggests that it is significant at the 5% level of significance. The R-squared, or coefficient of determination, is 0.5344, which means that the independent factors collectively explained 53.44 percent of the variation in stock price crash risk.

The coefficient for non-GAAP earnings is 0.094263, implying that a 0.942 percent increase in non-GAAP earning will result in a 0.942 percent increase in stock price crash risk. However, non-GAAP earnings were found to be positively significant, with a p-value of 0.0221 for the t-statistic of the variable, indicating its significance at the 5% level of significance. The leverage has a coefficient of -0.047378 which means that a 1 percent increase in leverage causes a 0.47 percent drop in stock price crash risk. The p-value of the t-statistics is 0.0505, indicating that leverage is statistically insignificant at the 5% level of significance. The coefficient of return on assets is 0.015585, indicating that a 1% rise in return on assets causes a 0.155 percent increase in stock price crash risk. The p-value of the t-statistics is 0.0848, indicating that return on assets is positively statistically insignificant at the 5% level of significance. The constant-coefficient reveals how much the dependent variable changes while all other independent variables remain constant. The coefficient of the regression model is 0.036510, which means that if all other factors remain constant, there will be a 0.37 percent rise in stock price crash risk.

Fixed Effect Interpretation

The non-GAAP earning variable has a negative coefficient of -0.02771, implying that a unit increase in non-GAAP earnings would result in a 0.27 percent decrease in stock price crash risk. At a threshold of 5% significance, the p-value of the t-statistics is 0.0488, indicating insignificance. With a p-value of 0.0773, the leverage has a coefficient of 0.017565, indicating that a percent increase in leverage would result in a 0.17 percent rise in stock price crash risk; at a level of 5% significance, this implies insignificance. The coefficient of the return on asset variable is -0.062370, implying that a percentage increase in return on assets would result in a 0.623 percent drop in stock price crash risk. The p-value of the t-statistics is 0.3492, indicating insignificance at a level of 5% significance.

Random Effect Interpretation

The first independent variable, non-GAAP earnings, has a coefficient of 0.02735, indicating that a 1% increase in non-GAAP earnings will result in a 0.27 percent increase in stock price crash risk, as well as a p-value of 0.0259, indicating that it is statistically significant at the 5% level of significance. The coefficient of leverage is 0.017565, implying that a percentage increase in leverage would result in a 0.17 percent rise in stock price crash risk. The p-value of the t-statistics is 0.8040, indicating that it is statistically insignificant. The return on asset variable has a coefficient of -0.057052, implying that a percentage rise in return on assets would result in a 0.57 percent decrease in stock price crash risk.

Hausman Justification

The Hausman test to choose which model to use between fixed and random effect models. The null hypothesis is that the selected model is the random effect model, whereas the alternative hypothesis is that the fixed effect model is favored, according to the Hausman test rule. The chi-square (prob>chi2) for the Hausman test is 0.7302, indicating that the alternative hypothesis is rejected and the null hypothesis is accepted, implying that the random effect model is used since the p-value of the chi-square is insignificant.

Findings

Non-GAAP earnings have a positive and significant link with stock price crash risk, according to random effect models. According to this study, non-GAAP earnings have a positive impact on stock price crash risk, which is consistent with the findings of Hsu, Wang, and Whipple (2021), who found a positive relationship between non-GAAP earnings and stock price crash risk, indicating that non-GAAP earnings drive stock price crash risk. The findings show that, while frequent non-GAAP reporting allows managers to inflate firm value for a short period, it also makes their companies' stock prices more vulnerable to stock price crashes when subsequent pessimistic disclosures are inconsistent with investors' positive expectations. Managers publish non-GAAP earnings aggressively to positively impact investors' perceptions of business performance, causing investors to exaggerate firm value.

CONCLUSION

The purpose of this research was to see if there was a relationship between non-GAAP earnings and stock price crash risk. The firms in the data set are estimated using a panel ordinary least square estimator in this study. In the research period, the Kao cointegration results demonstrated the presence of a long-run relationship between the independent and dependent variables. The findings also show that future accounting performance has a considerable influence on share price crash risk in the overall sample. The findings of this study suggest that non-GAAP earnings might cause investors to misjudge a company's value, increasing the probability of a stock price falling in the long run. This is consistent with the agency theory, which claims that corporate insiders have an information advantage over corporate stakeholders and use it to hide unfavourable news about the firm through obfuscated financial reporting. Non-GAAP reporting is used by executives as a substitute for earnings management to keep negative news from investors. Non-GAAP profits might expose investors to severe unfavourable economic effects, according to the study.

As a result, the study recommends that more emphasis be placed on entities enforcing corporate governance and ethical codes through the implementation of applicable legislation by legislators. To prevent companies from using false reporting techniques, any changes in accounting legislation and standards, as well as ethical norms set by regulatory bodies, should be implemented. The Financial Reporting Council of Nigeria and other regulatory agencies should be more aggressive in carrying out their responsibilities since this will prevent preparers from manipulating financial data for personal advantage.

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