JOURNAL OF GLOBAL ACCOUNTING
9 (4) December, 2023.
ISSN: 1118 – 6828
https://journals.unizik.edu.ng/joga

PRESSURE AS A FRAUD RISK FACTOR FOR FRAUDULENT FINANCIAL REPORTING AMONG COMMERCIAL BANKS IN NIGERIA

Paper Type: *Original Research Paper.*
Correspondence: *aggrehmeshack@gmail.com*
Key words: *Fraud Diamond, Fraud Triangle, Fraudulent Financial Reporting. Pressure.*

CITATION: Okafor, C., Ezeagba, C.E. & Aggreh, M. (2023). Pressure as a fraud risk factor for fraudulent financial reporting among Commercial Banks in Nigeria, *Journal of Global Accounting*, 9(4), 389 – 409.

Available:https://journals.unizik.edu.ng/joga

C. Okafor,[1] C.E. Ezeagba[2] M. Aggreh[3]
[1,2 &3] Department of Accountancy, Nnamdi Azikiwe University, Awka, Nigeria
1. Email: cassandycharles89@gmail.com
2. Email: ec.ezeagba@unizik.edu.ng
3. Email: aggrehmeshack@gmail.com

ABSTRACT:

The study examined the effect of pressure as a fraud risk factor for fraudulent financial reporting in Nigerian deposit money banks. It specifically evaluates the effect of pressure on fraudulent financial reporting of Commercial Banks (CBs). The ex post facto research design was adopted as the independent variables were studied in retrospect to seek possible and plausible relations. The population comprised all Commercial Banks listed on the Nigerian Exchange Group (NGX) as at the end of 2022. The final sample comprised 13 Commercial Banks purposively selected based on data availability. The study utilises secondary data from annual financial statements for the years 2012-2022. The data were analyzed using descriptive, i.e., mean, standard deviation, normality tests, et cetera. and inferential statistical analyses. The hypotheses were tested using the random effects model. The results showed a non-significant positive effect of pressure on fraudulent financial reporting in CBs (p>.05). Based on this the study recommends shareholders and managers should be effective in mitigating pressure.

1. INTRODUCTION

Financial statements are a medium of communication between the company and users of such information, using a report that explains the company's condition to users of financial statements and stakeholders, i.e., management, employees, investors, creditors, suppliers, customers, and the government without having to go to the company. Thus, the entity's financial performance for a given period is reported economically in the financial statement (Haqq & Budiwitjaksono, 2019). Financial statements should "give a thorough audited summary of the company's business and financial position", according to the US Securities and Exchange Commission (SEC) (Chen, 2016). However, managers may resort to the intentional manipulation of financial statements described by the Association of Certified Fraud Examiners as financial statement fraud (ACFE,

2022). According to Puspitha and Yasa (2018), it is a purposeful accounting manipulation intended to deceive users of financial statements. It is generally difficult to detect and is also referred to as one of the costliest types of fraud (Antawirya, Putri, Wirajaya, Suaryana, & Suprasto, 2019).

Fraudulent financial reporting is intentionally done to deceive the users of such reports; such as investors/shareholders; employees; lenders; suppliers; customers; government and the general public. The fraud diamond is an extension of the theory of the fraud triangle. Fraud diamond adds the element of the capability to the other three existing elements namely pressure, opportunity, and rationalization. The fraud triangle, put forth by Cressey in 1953, included three elements: pressure (i.e., presence of incentives/ pressure/ need to commit fraud), opportunity (i.e., a situation that opens opportunities to enable fraud), and rationalization (i.e., where the perpetrator seeks justification for his actions). From this, the fraud diamond was developed, with the addition of one more element, namely capability (Wolfe & Hermanson, 2004). The possibility of fraud is achieved if the managers have the technical skills to understand and exploit the weaknesses of the current internal controls (Yulistyawati, Suardikha, & Sudana, 2019). The fraud diamond evolved from the outcomes of several scams, particularly some of the multibillion-dollar ones. Several high-profile business failures, such as those of Enron, WorldCom, Cadbury, African Petroleum, Intercontinental Bank, and Afribank, among others (Vladu, Amat, & Cuzdriorean, 2017; Uwuigbe, Uwuigbe, & Daramola, 2014), were ascribed to fraudulent financial reporting that contained misleading financial information.

The Association of Certified Fraud Examiners (ACFE) (2020) states that fraud poses a tremendous threat to all organizations regardless of type and size globally. According to the ACFE Report to the Nations (2018), the estimated total occupational fraud between January 2016 and October 2017 is 2,690. In the recent ACFE Report (2022), financial statement fraud schemes were the least common but most costly accounting for a $593,000 median loss; while asset misappropriation schemes are the most common but least costly accounting for a $100,000 median loss. Firms that are publicly quoted seek to draw the interest of investors and potential investors by displaying financial statements that appear healthy and successful (Kristianti & Meiden, 2021). To achieve these goals managers may falsify their financial figures.

1.1 Objective of the Study

The main objective of the study is to examine the effect of pressure as a fraud risk factor for fraudulent financial reporting in Nigerian deposit money banks. The study specifically seeks to ascertain:

1. The effect of pressure on fraudulent financial reporting in deposit money banks.

1.2 Research Hypothesis

The hypothesis below was formulated in null form:

H_{o1}: There is no significant effect of pressure on fraudulent financial reporting in commercial banks.

2. LITERATURE REVIEW

2.1 Conceptual review

2.1.1 Fraudulent Financial Reporting

Fraud is a false representation of a fact that deceives and is designed to deceive another person so that the person will act on it to their or their legal detriment, whether by words or conduct, false or misleading allegations, or concealment of what should have been disclosed. Fraud is defined as any act, expression, omission, or concealment calculated to deceive another to his or her detriment, specifically a misrepresentation or concealment concerning some fact material to a transaction that is made with knowledge of its falsity and or reckless disregard of its truth or falsity and with the intent to deceive another and that is reasonably relied on by the other who is injured thereby (Abdullahi & Mansor, 2015). Types of fraudulent financial reporting include 1) Manipulation, forgery, or changes to accounting records or supporting documents relating to the financial statements prepared. 2) Intentional misrepresentations or omissions concerning events, transactions, or other important information in financial statements. 3) Deliberately misusing accounting principles related to the amount, classification, method of presentation, or disclosure in financial statements (Yulistyawati, Suardikha, & Sudana, 2019). According to the American Institute of Certified Public Accountants (2019), corporate fraud is fraudulent behaviour that causes errors in reporting material financial reports that are the subject of the audit. Fraud can be divided into fraud which occurs due to falsification of financial report reporting and fraud which occurs due to misuse of company assets. Activities included in the definition of corporate fraud usually include theft, corruption, conspiracy, embezzlement, money laundering, bribery, and extortion (Christian, Basri, & Arafah, 2019).

The US Committee of Sponsoring Organizations of the Treadway Commission [COSO] explains fraudulent financial statements as either intentional or reckless conduct based on false information or omissions that result in significantly misleading financial reports (American Institute of

Certified Public Accountants [AICPA], 2002). Han (2017) noted that financial statement fraud comprises deliberate misstatements or omissions of amounts or disclosures of financial statements to deceive financial statement users, outright falsification, alteration, or manipulation of material financial records, supporting documents, or business transactions, material intentional omissions or misrepresentations of events, transactions, accounts, or other significant information from which financial statements are prepared, deliberate misapplication of accounting principles, policies, and procedures used to measure, recognize, report, and disclose economic events and business transactions and also intentional omissions of disclosures or presentation of inadequate disclosures regarding accounting principles and policies and related financial amounts.

According to ACFE (2016), fraud is classified into six types:

1. providing false financial information;
2. misuse or misappropriation of corporate assets;
3. improper support or loans;
4. improperly acquiring assets or income;
5. improper circumvention of costs or fees; and
6. improper manipulation of financing by executives or board members.

A fraud may be classified based on the party committing the fraud such as an employee, a customer, a vendor, an investor/consumer, or the company management (Albrecht, Albrecht, & Albrecht, 2004). Chen (2016) summarized the four elements of fraud as: "(1) serious erroneous expressions of the nature of transactions, (2) knowingly violating rules, (3) the victim accepting a misstatement as fact; and (4) damage due to financial losses caused by the above three situations". Financial statement fraud is detrimental to many parties because when financial statement information does not reflect actual circumstances, it is no longer useful as a basis for decision-making (Apriliana & Agustina, 2017). This can be due to a failure to disclose significant information, overstating earnings, inflating assets, or inappropriate accounting procedures.

2.1.2 The Fraud Triangle Model

The fraud triangle consists of three conditions that are generally present whenever fraud occurs. They depicted their relationship with a pyramid. Albrecht, Albrecht, and Albrecht (2004) compared this theory to a fire, using the simple explanation of three elements that are necessary to cause a fire, which are (1) oxygen; (2) fuel; and (3) heat. Applying this similar concept that can cause a fire, fraud is unlikely to occur in the absence of the three elements mentioned in the fraud triangle theory, and the severity of fraud depends on the strength of each element (Albrecht,

Albrecht, & Albrecht, 2004). In other words, for an individual to make unethical decisions, perceived pressure, an opportunity, and a way to rationalize the behaviours must exist.

2.1.3 Pressure and Fraudulent Financial Reporting

According to Cressey (1953), financial statement fraud always involves pressure as a requirement. According to Skousen, Smith, and Wright (2009), there is a direct link between pressure and financial statement fraud. Managers frequently experience external pressure from third parties, such as the need to take on more debt or leverage to maintain their competitiveness (Akbar, 2017). When management is under extreme pressure to fulfil the demands or expectations of outside parties, this is referred to as external pressure (Nurbaiti & Hanafi, 2017). Management may feel under pressure to commit fraud by falsifying financial statements to acquire the necessary debt funding when the firm is facing financial difficulties (Rizani & Respati, 2018).

Pressure arises if a company's performance falls below the industry average and management may manipulate the company's financial statements by providing the appearance of stable growth (Skousen, Smith, & Wright, 2009). Some of the events that could lead to the pressure to commit fraud include the following:

i. The incentive to misstate earnings
ii. Family problems including marital and sickness
iii. Inability to pay one's bill
iv. Meeting of production target at work
v. The desire for status symbols, houses, cars etc.
vi. Gambling or drug addiction
vii. Meeting of debt covenant
viii. Stock option compensation

Studies by Achmad and Pamungkas (2018) and Rahman and Nurbaiti (2019), find that external pressure has an impact on fraudulent financial reporting (2019). However, in contrast, Rizani and Respati (2018) and Utami and Pusparini (2019) found no connection between pressure and false financial statements.

2.2 Theoretical Review

2.2.1 Fraud Triangle Theory

The Fraud Triangle Model was created by Dr Donald R. Cressey (1953), an American sociologist and criminologist. He focused his research on the circumstances that lead individuals to engage in fraudulent and unethical activity. According to Cressey, fraud is the result of a set of circumstances which come together at a particular time and place causing someone to become a fraud perpetrator, particularly a trusted employee. The theory introduces three categories of factors that may be

interrelated to represent these circumstances. These are pressure or incentives, opportunities, and rationalizations. Cressey (1953) described these three factors as the fraud triangle which involves:

1. **The motive or pressure to commit fraud**: This is perceived in the form of real or perceived financial needs or moral needs such as getting back at the employer. This individual feels that he wants to, or has a need to, commit fraud.
2. **The perceived opportunity to commit fraud and get away with it**: This arises as a result of these enabling factors: deficient internal controls and weak corporate governance. When one or two of these factors weigh(s) heavily in the direction of fraud, the probability increases.
3. **The rationalization of the perpetrator**: This is achieved through finding a morally acceptable excuse that justifies why their action is not considered a crime.

2.3 Empirical Review

Yunita, Wilopo, Oktarina, and Wonorejo (2023) undertook a study titled 'An analysis of pentagon fraud theory to detect fraudulent financial reporting (a case study at sub-sector transportation that listed in Indonesian Stock Exchange 2014-2018)'. The sample comprised 70 firm-year observations from mining companies listed on the Indonesia Stock Exchange from 2014 to 2018. The study relied on secondary data analysed using logistic regression. The results showed that the change of directors is significant in detecting the occurrence of fraudulent financial reporting. Others, such as financial targets, financial stability, external pressure, institutional ownership, industry nature, ineffective monitoring, quality of external auditors, change in auditor, and CEO duality variable have no significant influence in predicting fraudulent financial reporting.

Putri and Fadilah (2023) conducted a study titled 'Analisis Faktor–Faktor Fraud Diamond dan Ukuran Perusahaan terhadap Kecurangan Laporan Keuangan pada Perusahaan Sub Sektor Transportasi yang Terdaftar di Bursa Efek Indonesia Periode 2019-2021'. The factors tested in the study were pressure, opportunity, rationalization, capability and company size as the independent variables; while financial statement fraud was the dependent variable. The study used the correlational research method. The sample comprised 20 companies in the transportation sub-sector. The study utilized secondary data from the financial reports of the sample companies. The analytical method used was multiple linear regression analysis. The results showed that pressure, opportunity, rationalization, capability and company size have a significant effect on fraudulent financial reporting.

Nadia, Nugraha, and Sartono (2023) conducted a study titled 'Analisis Pengaruh Fraud Diamond Terhadap Kecurangan Laporan Keuangan Pada Bank Umum Syariah'. The study analysed the effect of fraud diamond variables, i.e., pressure, opportunity, rationalization, and capability on fraudulent financial statements. The data were collected from the financial reports of Islamic Commercial Banks in Indonesia for 2016-2021. The study employed purposive sampling of 48 firms analysed using multiple linear regression. The results showed that pressure and rationalization have a positive and significant effect on fraudulent financial statements; while opportunity and capability have a positive insignificant effect on fraudulent financial statements.

Muchran, Eka, and Hasan (2023) conducted a study titled 'Analisis Fraud Diamond Dalam Mendeteksi Finansial Statement Fraud pada Perusahaan Manufaktur di BEI Tahun 2018-2020'. The study employed purposive sampling and the sample comprised eleven companies. The pressure factor was determined based on financial stability, external pressures and financial goals. The opportunity factor was determined based on the nature of the industry and effective monitoring. Rationalization was supported by rationalization. Finally, the capability was proxied by using capability. This study used revenue management to identify the potential for fraudulent financial statements proxied using the F-Score indicator. The study period covered from 2018 to 2020. The results showed that financial stability, external pressures, financial goals, and type of industry had a significantly positive effect in detecting the potential for fraudulent accounts. The effective monitoring variable had no positive or significant effect in detecting fraudulent deals. Meanwhile, rationalization and skills did not have a significant negative impact on detecting the potential for fraudulent financial reports.

Agustina and Mariana (2023) undertook a study titled 'Analisis Fraud Diamond Dalam Mendeteksi Financial Statement Fraud'. The opportunity factor is proxied by using financial stability and external pressure. The pressure factor is proxied by using industrial properties and control effectiveness. The rationalization factor is proxied by rationality and auditor turnover. Finally, the ability factor is proxied by ability. The study employed the F-Score indicator to analyse fraudulent financial statements. The study employed a purposive sampling technique and 15 samples of companies. The study used secondary data and multiple linear regression to analyse the data. The results of financial stability and external pressure had a positive effect on fraudulent financial statements. Meanwhile, the nature of the industry, change in auditor, and capability do not affect the potential for fraudulent financial statements.

Nikmah and Arjoen (2023) conducted a study titled 'Financial statement fraud, audit committee and audit quality: Insight into fraud diamond theory'. The sample was selected using purposive sampling from 214 non-financial companies listed on the Indonesia Stock Exchange from 2016-2019. The study utilized secondary data obtained from www.idx.co.id and each company's website. The data were analysed using logistic regression. The result of this study showed that financial stability, board change, and financial targets positively affect the detection of fraudulent financial statements. In contrast, external pressure, ineffective monitoring, and auditor change do not affect the detection of fraudulent financial statements.

Deliana and Oktalia (2022) conducted a study titled 'Fraud detection of financial statements with diamond fraud analysis'. The sample comprised 12 companies which were purposively selected. The study relied on secondary data from 2016 to 2019. The study employed multiple linear regression analysis. The results of this study indicate that the level of leverage affects financial statement fraud. However, changes in total assets, ROA, insider share ownership, special party transactions, independent audit members, changes in the public accounting firm, and changes in the board of directors do not affect financial statement fraud.

Kristianti and Meiden (2021) conducted a study titled 'Fraud diamond analysis in fraudulent financial statement detection using Beneish M-Score'. The sample size comprised 120 firms using the purposive sampling method. The study relied on secondary data which were analysed using descriptive and logistic regression. The results showed that the nature of industry and rationalization variables have a positive and significant effect on the possibility of fraudulent financial statements, but for the variables of financial stability, external pressure, personal financial need, financial target, ineffective monitoring and capability, it is not proven to have a significant effect on the possibility of fraudulent financial statements.

Christian, Basri, and Arafah (2019) undertook a study titled 'Analysis of fraud triangle, fraud diamond and fraud pentagon theory to detecting corporate fraud in Indonesia'. The sample comprised 310 firms; and, the authors employed secondary data from annual reports which spanned from 2011 to 2017. The data were analysed using the OLS technique. The results showed that the fraud triangle, fraud diamond and fraud pentagon had a significant effect on corporate fraud.

Yulistyawati, Suardikha, and Sudana (2019) conducted a study titled 'The analysis of the factor that causes fraudulent financial reporting with fraud diamond'. The sample comprised 19

manufacturing companies listed on the IDX. The authors employed secondary data from the company's financial statements published on the official website of the Indonesia Stock Exchange. The data were analysed using the multiple regression technique. The results showed that pressure has a positive non-significant effect on F-Score; while capability had a negative non-significant effect on fraudulent financial reporting proxied as F-Score. The fraud diamond variables of opportunity and rationalization positively affected the fraudulent financial reporting.

Egolum, Okoye, and Eze (2019) examined the effect of the fraud pentagon model on fraud assessment in the deposit money banks in Nigeria (2005-2014). The multiple regression techniques were the main statistical tool used in the study. To verify the quality of the data used, the Variance Inflation Factor (VIF) was employed to test for multicollinearity among the variables. The result showed that the Behavioral Trait (BET) factor has a positive significant effect on fraud risk.

Achmad and Pamungkas (2018) conducted a study titled 'Fraudulent financial reporting based of fraud diamond theory: A study of the banking sector in Indonesia'. The sample comprised 87 banks listed in IDX. The study relied on secondary data from 2011 to 2016. The data were analysed using regression analysis. The results showed that incentives and financial targets have a positive effect on fraudulent financial reporting. Financial stability and capability have a negative impact on fraudulent financial reporting. However, other variables such as ineffective monitoring and rationalization do not affect fraudulent financial reporting.

Puspitha and Yasa (2018) utilized the fraud pentagon analysis to detect fraudulent financial reporting in Indonesia. The sample comprised non-financial firms. The study utilized secondary data from 2012 to 2016. The data were analysed using logistic regression analysis. The results prove that external pressure, ineffective monitoring, auditor switching, change of director, and the frequency of CEO pictures can predict fraudulent financial reporting. However, financial stability, personal financial needs, financial targets, the nature of the industry, and organizational structures do not predict fraudulent financial reporting.

Nindito (2018) analyzed financial statement fraud from the perspective of the fraud pentagon model. The sample comprised 14 companies listed on the Indonesia Stock Exchange that incurred sanctions from the Financial Services Authority, and 14 comparable companies as a control sample that were similar in both industry and size. The study utilized secondary data from 2013 to 2015. The data were analyzed using logistic regression analysis. The results show that free cash

flow as a proxy of pressure; independence of the audit committee as a proxy of opportunity, total accruals as a proxy of rationalization, and disclosure of doubtful debts as a proxy of capability have significant negative effects on financial statement fraud.

To identify fraudulent financial reporting, the components of the fraud triangle model: pressure, opportunity, and rationalization (Hanifa & Laksito, 2015; Fimanaya & Syaruddin, 2014; Manurung & Hadian, 2015) have been studied in the past. There is a varied gap on the subject of fraudulent financial reporting as compared to earlier studies. The Piotroski F-score model is used as a stand-in for focusing on the dependent variable in this study, which is the first to evaluate the fraud pressure from the standpoint of the fraud triangle among Deposit Money Banks. Lastly, prior studies do not exhaustively cover the period of post-IFRS adoption which is from 2012; for instance, Olatunde and Fasunle (2019) focused on 2006-2016 as such this study will seek to cover a more recent period of 2012-2022.

3. MATERIAL AND METHOD

The study adopted the ex post facto research design. The design is appropriate since the key independent variables are neither controlled nor altered and because their effects have previously been seen. In hindsight, independent variables are investigated to look for potential relationships and the likely consequences that changes in independent variables have on one or more dependent variables. The population of the study comprised fourteen (14) Deposit Money Banks listed on the Nigerian Exchange Group (NGX) as of the end of 2022.

Table 1: List of Commercial Banks

S/N	COMMERCIAL Banks in Nigeria
1	Access Bank PLC
2	Eco Bank Transnational incorporation
3	Fidelity Bank PLC
4	First Bank Nig. PLC
5	First City Monument Bank (FCMB) PLC
6	Guarantee Trust Bank (GTB) PLC
7	Skye Bank PLC
8	Stanbic IBTC Holding PLC
9	Sterling Bank Nig. PLC
10	United Bank for Africa (UBA) PLC
11	Union Bank of Nigeria PLC
12	Unity Bank PLC

13 Wema Bank PLC
14 Zenith Bank PLC

Source: The Nigerian Exchange Group [NGX] (2022)

The sample comprised thirteen (13) Deposit Money Banks (DMBs) listed in the Nigerian Exchange Group (NGX). the purposive sampling technique was employed, premised on the scope with a complete data set to ensure the homogeneity of the sample. The study utilized data drawn from secondary sources. The sources included the (13) annual financial reports and accounts of the individual deposit money banks for the years 2012-2022 downloaded from the websites of the companies and the Nigerian Exchange Group (NGX).

The data were analyzed using descriptive and inferential statistical analyses. The descriptive statistical analysis will be used to describe the research variables in the form of data mean, minimum, maximum, and standard deviation. The inferential statistical analysis used here is multiple regression analysis to test the proposed hypotheses.
The selected variables utilized in the study are described in the table below as follows below

Table 2: Description of input variables

Fraud diamond	**Indicator**	**Measurement**	**Source**
Pressure	Cash flow trend	Change in cash flow = average $CF_t - CF_{t-1}$	Lokanan & Sharma (2018); Skousen et al. (2009)
	Non- performing Loan and Advance	Non-performing loan / Total loan	Egolum, Okoye, and Eze, (2019); Chen and Elder (2007)
	Provision for Non-Performing Loan	Prov. for non-performing loan / Total non-performing loan	Egolum, Okoye, and Eze, (2019); Chen and Elder (2007)

Source: Author's compilation (2023)

The dependent variable in this study is fraudulent financial reporting, i.e., the intentional manipulation of financial statements done by management by altering the information in the financial accounts for personal advantage. The model-dependent variable as suggested by Piotroski F-score (2000) was used in the study by Muchran, Eka, and Hasan (2023) on a sample of firms listed on the Indonesia Stock Exchange. Piotroski F-score is a number between 0 and 9

which is used to assess the strength of a company's financial position. The score is named after Stanford accounting Professor Joseph Piotroski. The F-Score variables are as follows:

The score is calculated based on 9 criteria divided into 3 groups.

Profitability

1. Return on Assets (ROA) (1 point if it is positive in the current year, 0 otherwise);
2. Operating Cash Flow (1 point if it is positive in the current year, 0 otherwise);
3. Change in Return of Assets (ROA) (1 point if ROA is higher in the current year compared to the previous one, 0 otherwise);
4. Accruals (1 point if Operating Cash Flow/Total Assets is higher than ROA in the current year, 0 otherwise);

Leverage, Liquidity and Source of Funds

1. Change in Leverage (long-term) ratio (1 point if the ratio is lower this year compared to the previous one, 0 otherwise);
2. Change in Current ratio (1 point if it is higher in the current year compared to the previous one, 0 otherwise);
3. Change in the number of shares (1 point if no new shares were issued during the last year);

Operating Efficiency

1. Change in Gross Margin (1 point if it is higher in the current year compared to the previous one, 0 otherwise);
2. Change in Asset Turnover ratio (1 point if it is higher in the current year compared to the previous one, 0 otherwise);

A model was formulated for this study based on the objectives of the study to test each of the null hypotheses. The model used in this study was adapted from Yulistyawati, Suardikha, and Sudana (2019).

The original model is stated below as follows:

$Y = \alpha+\beta1X1+\beta2X2+\beta3X3+\beta4X4+e$

Where:

Y	= F-Score
α	= Constant
β1, β2, β3, β4	= Regression coefficient
X1	= Pressure
X2	= Opportunity
X3	= Rationalization
X4	= Capability

e = error

However, the implicit form of the model to be utilized in this study is stated below as follows:

FFR = *f* (PRE, OPP, RAT, CAP) …….. eqn 1

This can be econometrically expressed as follows:

$FFR = \beta_0 + \beta_1 PRE_{it} + \beta_2 OPP_{it} + \beta_3 RAT_{it} + \beta_4 CAP_{it} + \mu$ …….. eqn 2

Where:

FFR = Fraudulent Financial Reporting

PRE = Pressure

OPP = Opportunity

RAT = Rationalization

CAP = Capability

μ = Error term.

β_0 = is the constant

β_1, β_2, β_3, and β_4 represent the estimated coefficient for specific bank *i* at time *t*

4. RESULT AND DISCUSSIONS

4.1 Data Analysis

Each variable was examined based on the mean, median, maximum and minimum. Table 3 below displays the descriptive statistics for the study.

Table 3: Descriptive statistics of the model variables

	F_SCORE	PRE
Mean	5.272727	2.851219
Median	5.000000	-0.561419
Maximum	6.000000	279.9039
Minimum	4.000000	-44.22827
Std. Dev.	0.519775	25.98409
Skewness	0.237071	8.879458
Kurtosis	2.521248	93.05263
Jarque-Bera	2.705162	50198.10
Probability	0.258572	0.000000
Sum	754.0000	407.7243
Sum Sq. Dev.	38.36364	95874.57

Observations	143	143

Source: E-Views 11

Key: F_SCORE-Piotroski F-score; PRE-Pressure

The mean of the F_SCORE of the sampled companies was 5.273 while its median value was 5. The maximum value of F_SCORE was 6 while the minimum was 4 indicating that at the lowest DMBs annual reports showed at least 4 Piotroski F-score in assessing the strength of the company's financial position. This, therefore, means that DMBs with higher or equal to the average F_SCORE are considered high financial reporting while companies with a value below the average F_SCORE are low financial reporting. In the case of PRE which is a proxy of Pressure, the mean value of the sampled DMBs was 2.851 while its median value was -0.561. The maximum value was 279.903 while the minimum was -44.228. This, therefore, means that companies with a higher or equal to 2.851 experience higher pressure in the work environment while DMBs with a value below 2.851 are in the low-pressure work environment.

To measure symmetry of the distribution we use *skewness* and *kurtosis*: skewness is used to measure asymmetry in the distribution; kurtosis is used to find the presence of outliers in the data distribution. The skewness of F_SCORE (0.237) is positive, indicating that the data values are more on the right-hand side, and the left tail is spread out. The mean>median, i.e., 5.27>5.00 also confirms this. The distribution is positively skewed. The skewness of PRE (8.879) is positive, indicating that the data values are more on the right-hand side, and the left tail is spread out. The mean>median, i.e., 2.85>-0.56 also confirms this. The distribution is positively skewed. The kurtosis of F_SCORE was much more consistent with a normal distribution F_SCORE = 2.52. The evidence is supported by the Jarque-Bera statistics. The wider standard deviation, for the fraud diamond variables PRE was suggestive of more variability of the data points in the analysis with the F_SCORE having more clustering around the mean.

4.1.1 Correlation Matrix

In examining the association among the variables, we employed the Pearson correlation coefficient (correlation matrix) and the results are presented in the table below.

Table 4: Correlation analysis of the model variables

	F_SCORE	PRE
F_SCORE	1.0000	
PRE	0.2305	1.0000

Source: E-Views 11

Key: F_SCORE-Piotroski F-score; PRE-Pressure

The table above showed that F_SCORE positively correlated with PRE (0.230); since all the correlation coefficients were less than 0.80, according to the correlation matrix in Table 4. This indicates that the multicollinearity between them is not problematic. The VIF and tolerance values further confirm that all the study variables have relative scores that are less than five and greater than 0.10, indicating a satisfactory correlation. The fraud variables of PRE (Centered VIF=1.002) indicate no multicollinearity between IV and DV.

4.2 Test of Hypothesis

To test the hypotheses a random effects regression result was estimated since correlation analysis does not imply a cause-effect relationship. This model focuses on estimating the effect of fraud diamond elements on the F-Score of DMBs.

Table 5: Multiple linear regression output for the test of hypotheses

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.017155	0.153026	32.78635	0.0000
PRE	0.006059	0.003083	1.965647	0.0513
R-squared	0.961282	Mean dependent var		9.017611
Adjusted R-squared	0.960160	S.D. dependent var		4.759525
S.E. of regression	0.950004	Sum squared resid		124.5460
F-statistic	856.5558	Durbin-Watson stat		1.814021
Prob(F-statistic)	0.000000			

Source: E-Views 11

The F-statistic value of 856.5558 and its associated p-value of 0.000000 show that the regression model overall is statistically significant at a 1% level, this means that the regression model is valid and can be used for statistical inference. The regression R-squared value of 0.961 shows that about 96.1% of the variation in FFR was jointly explained by all the independent variables. The Adjusted R-squared is often preferred to account for sample size adjustments had a value of 0.960, i.e., 96.0% of the systematic variation in FFR were accounted for by the explanatory variables.

4.2.1 Hypothesis One

Ho_1: There is no significant effect of pressure on fraudulent financial reporting in deposit money banks.

PRE as an independent variable to FFR appears to have a positive (i.e., 0.006059) and non-significant influence on FFR at a 5% level of significance. This, therefore, implies that an increase in PRE will cause an increase in FFR. This evidence, therefore, leads to a rejection of the alternate

hypothesis and acceptance of the null; thus, there is no significant effect of pressure on fraudulent financial reporting in deposit money banks.

This is supported by Yunita, Wilopo, Oktarina, and Wonorejo (2023) in Indonesia showed that external pressure has no significant influence in predicting fraudulent financial reporting. Agustina and Mariana (2023) used a purposive sample of 15 companies proxied pressure factors by using industrial properties and control effectiveness. The multiple linear regression technique showed that the nature of the industry and capability do not affect the potential for fraudulent financial statements. Nikmah and Arjoen (2023) purposively sampled 214 non-financial companies listed on the Indonesia Stock Exchange from 2016-2019. The data were analysed using logistic regression. The result of this study showed that financial stability, board change, and financial targets positively affect the detection of fraudulent financial statements. Using a sample of 12 companies Deliana and Oktalia (2022) indicate that the level of leverage affects financial statement fraud.

However, Putri and Fadilah (2023) in Indonesia using a sample of 20 companies in the transportation sub-sector and multiple linear regression analysis showed that pressure has a significant effect on fraudulent financial reporting. Using a sample of 48 Islamic Commercial Banks in Indonesia for 2016-2021, the study by Nadia, Nugraha, and Sartono (2023) showed that pressure has a positive and significant effect on fraudulent financial statements. The study by Muchran, Eka, and Hasan (2023) using the F-Score indicator from 2018 to 2020 showed that financial stability, external pressures, financial goals, and type of industry had a significantly positive effect in detecting the potential for fraudulent accounts. Using a sample of 214 non-financial companies listed on the Indonesia Stock Exchange from 2016-2019, Nikmah and Arjoen (2023) utilized secondary data that were analysed using logistic regression. The result of this study showed that pressure does not affect the detection of fraudulent financial statements. Kristianti and Meiden (2021) from a sample of 120 firms using the purposive sampling method. The logistic regression results showed that external pressure, personal financial need, and financial target were not proven to have a significant effect on the possibility of fraudulent financial statements.

CONCLUSION AND RECOMMENDATIONS

This study concludes that pressure is a fraud risk factor for fraudulent financial reporting in Nigerian deposit money banks. The study employs data from deposit money banks from 2012 to 2022 to analyse the effect of the fraud diamond model on fraudulent financial reporting of quoted DMBs in Nigeria. The data were analysed using descriptive statistics, such as the mean, median, maximum and minimum; and, the hypotheses were tested using the multiple regression model after checking for REM and FEM. The study specifically finds that pressure positively relates to

fraudulent financial reporting of deposit money banks. The findings support the agency theory perspective of managers acting for personal gains against that of principals. The study makes the following recommendation for managers, shareholders and policymakers in the Nigerian context as follows:

1. Managers should be effective in mitigating pressure, one of the prominent causes of fraud. Pressure refers to the financial or emotional need that may drive an individual to commit fraud. By mitigating pressure, organizations can create a work environment that is less conducive to fraudulent behaviour. Ways to mitigate pressure include:

   Creating a positive and supportive workplace culture can help alleviate the financial or emotional pressures that employees may feel.

   Ensuring that employees are fairly compensated and have access to benefits can help reduce financial pressures that may lead to fraudulent behaviour. By addressing some of the underlying pressure factors, managers can help minimize the risk of fraudulent behaviour in Deposit Money Banks and promote ethical conduct.

REFERENCES

Abdullahi, R., Mansor, N., & Nuhu, M.S. (2015). Fraud triangle theory and fraud diamond theory: Understanding the convergent and divergent for future research. *European Journal of Business and Management*, *7*(28).

ACFE (2016). Report to the Nations on Occupational Fraud and Abuse. Global Fraud Study. [Online] ACFE.

ACFE (2018). Report to the Nations 2018 Global Study on Occupational Fraud and Abuse. Available [Online] at: https://s3-us-west-2.amazonaws.com/acfepublic/2018-report-to-the-nations.pdf

ACFE (2020). Report to the Nations- 2020 Global Study on Occupational Fraud and Abuse. Available [Online] at: https://acfepublic.s3-us-west-2.amazonaws.com/2020-Report-to-the-Nations.pdf

ACFE (2022). Occupational Fraud 2022: A Report to the Nations. Available [Online] at: https://legacy.acfe.com/report-to-the-nations/2022/

Achmad, T., & Pamungkas, I. D. (2018). Fraudulent financial reporting based of fraud diamond theory: A study of the banking sector in Indonesia. *Jurnal Ilmiah Akuntansi Fakultas Ekonomi*, *4*(2), 135-150.

Agustina, R. N., & Mariana, N. (2023). Analisis Fraud Diamond Dalam Mendeteksi Financial Statement Fraud. *JRAK (Jurnal Riset Akuntansi dan Bisnis)*, *9*(1), 60-69.

AICPA. (2002). AU Section 316. Consideration of Fraud in a Financial Statement Audit. SAS No. 99. In October (Issues 99, 113, pp. 167–218).

Akbar, T. (2017). The determination of fraudulent financial reporting causes by using pentagon theory on manufacturing companies in Indonesia. *International Journal of Business, Economics and Law*, *14*(5), 106-113.

Albrecht, W., Albrecht, C. C., & Albrecht, C. O. (2004). Fraud and corporate executives: Agency, Stewardship and Broken Trust. *Journal of Forensic* Accounting, *5*, 109-130.

Antawirya, R.D.E.P., Putri, I.G.A.M.D., Wirajaya, I.G.A., Suaryana, I.G.N.A., & Suprasto, H.B. (2019). Application of fraud pentagon in detecting financial statement fraud. *International Research Journal of Management, IT and Social Sciences*, *6*(5), 73-80.

Apriliana, S., & Agustina, L. (2017). The analysis of fraudulent financial reporting determinant through fraud pentagon approach. *Jurnal Dinamika Akuntansi*, *9*(2), 154-165.

Beasley, M.S., J.V. Carcello., & Hermanson, D. R. (2001). Top 10 audit deficiencies. *Journal of Accountancy, April*, 63-66.

Chen, K.Y., & Elder, R. J. (2007) Fraud Risk Factors and the Likelihood of Fraudulent Financial Reporting: Evidence from Statement on Auditing Standards No. 43 in Taiwan. Available from: https://www.researchgate.net/publication/228945894

Chen, S. (2016). Detection of fraudulent financial statements using the hybrid data mining approach. *Springer Plus 5:89* DOI 10.1186/s40064-016-1707-6

Christian, N., Basri, Y. Z., & Arafah, W. (2019). Analysis of fraud triangle, fraud diamond and fraud pentagon theory to detecting corporate fraud in Indonesia. *The International Journal of Business Management and Technology*, *3*(4), 73-78.

Cressey, D.R. (1953). Other people's money: A study in the social psychology of embezzlement. *The American Journal of Sociology*.

Deliana, D., & Oktalia, R. R. (2022). Fraud detection of financial statements with diamond fraud analysis. *Jurnal ASET (Akuntansi Riset)*, *14*(1), 033-042.

Dong, W., Liao, S., & Liang, L. (2016). Financial statement fraud detection using text mining: A systemic functional linguistics theory perspective. Association for Information Systems AIS Electronic Library (AISeL) PACIS 2016 Proceedings Pacific Asia Conference on Information Systems (PACIS) r 6-27-2016

Egolum, P. U., Okoye, E., & Eze, M. N. (2019). Effect of Fraud Pentagon Model on Fraud Assessment in the Deposit Money Banks in Nigeria. *Journal of Global Accounting Department of Accountancy*, *6*(3), 124-142.

Fimanaya, F., & Syafruddin, M. (2014). Analisis Faktor-Faktor Yang Mempengaruhi Kecurangan Laporan Keuangan (Studi Empirispada Perusahaan Non Keuangan Yang Terdaftar di Bursa Efek Indonesia Tahun 2008-2011). *Diponegoro Journal of Accounting*, 397-407.

Hanifa, S. I., & Laksito, H. (2015). Pengaruh Fraud Indicators Terhadap Fraudulent Financial Statement: Studi Empiris Pada Perusahaan Yang Listed di Bursa Efek Indonesia (BEI) Tahun 2008-2013. *Diponegoro Journal of Accounting*, *4*(4), 411-425.

Haqq, A. P. N. A., & Budiwitjaksono, G. S. (2019). Fraud Pentagon for Detecting Financial Statement Fraud. *Journal of Economics, Business, and Accountancy Ventura*, *22*(3), 319-332.

Kristianti, M., & Meiden, C. (2021). Fraud diamond analysis in fraudulent financial statement detection using Beneish M-Score. *Jurnal Riset Akuntansi Terpadu*, *14*(2), 194-209.

Lokanan, M., & Sharma, S. (2018). A fraud triangle analysis of the LIBOR fraud. *Journal of Forensic & Investigative Accounting*, *10*(2), 187-212.

Manurung, D.T., & Hadian, N. (2013, November). Detection fraud of financial statement with fraud triangle. In *Proceedings of 23rd International Business Research Conference*

Marks, J. (2012). The mind behind the fraudsters crime: Key behavioral and environmental elements. In *ACFE Global Fraud Conference*. Association of Certified Fraud Examiners.

Muchran, M., Eka, S. N., & Hasan, A. (2023). Analisis Fraud Diamond Dalam Mendeteksi Finansial Statement Fraud pada Perusahaan Manufaktur di BEI Tahun 2018-2020. *Al-Buhuts*, *19*(1).

Nadia, N., Nugraha, N., & Sartono, S. (2023). Analisis Pengaruh Fraud Diamond Terhadap Kecurangan Laporan Keuangan Pada Bank Umum Syariah. *Jurnal Akuntansi dan Governance*, *3*(2), 125-139.

Nikmah, N., & Arjoen, M. R. (2023). Financial statement fraud, audit committee and audit quality: Insight into fraud diamond theory. *International Journal of Social Service and Research (IJSSR)*, *3*(3), 605-620.

Nurbaiti, Z., & Hanafi, R. (2017). Analisis pengaruh fraud diamond dalam mendeteksi tingkat accounting irregularities. *Jurnal Akuntansi Indonesia*, *6*(2), 167-184.

Olatunde, O. J., & Fasunle, A. F. (2019). Electronic banking fraud in Nigeria: Effects and controls (2015-2016). *Global Scientific Journals*, *7*(8), 52-65.

Omidi, M., Min, Q., Moradinaftchali, V. & Piri, M. (2019). The Efficacy of Predictive Methods in Financial Statement Fraud. Hindawi Discrete Dynamics in Nature and Society Article ID 4989140, DOI:https://doi.org/10.1155/2019/4989140

Perols, J. (2011). Financial statement fraud detection: An analysis of statistical and machine learning algorithms. *Auditing: A Journal of Practice & Theory* 30 (2):19-50. doi:10.2308/ajpt-50009.

Piotroski, J. D. (2000). Value investing: The use of historical financial statement information to separate winners from losers. *Journal of Accounting Research*, 1-41.

Puspitha, M. Y., & Yasa, G. W. (2018). Fraud pentagon analysis in detecting fraudulent financial reporting (study on Indonesian capital market). *International Journal of Sciences: Basic and Applied Research*, *42*(5), 93-109.

Putri, F. M., & Fadilah, S. (2023, January). Analisis Faktor–Faktor Fraud Diamond dan Ukuran Perusahaan terhadap Kecurangan Laporan Keuangan pada Perusahaan Sub Sektor Transportasi yang Terdaftar di Bursa Efek Indonesia Periode 2019-2021. In *Bandung Conference Series: Accountancy* (Vol. 3, No. 1).

Rahman, A. A., & Nurbaiti, A. (2019). Analisis Faktor-Faktor Yang Mempengaruhi Kecurangan Laporan Keuangan Dalam Perspektif Fraud Pentagon (Studi Pada Perusahaan Sektor Infrastruktur, Utilitas, Dan Transportasi Yang Terdaftar Di Bursa Efek Indonesia Tahun 2016-2017). *Journal Accounting and Finance*, *3*(2), 1-13.

Rizani, F., & Respati, N. W. (2018). Factors influencing the presentation of fraudulent financial reporting in Indonesia. *Journal of Advanced Research in Law and Economics*, *9*(1 (31)), 254-264.

Schindler, P. (2018). *Business Research Methods* (13th Ed.). Boston: McGraw Hill.

Setiawan, K., & Trisnawati, I. (2022). Factors that affect Fraudulent Financial Reporting. *Media Bisnis*, *14*(2), 189-208.

Skousen, C.J., Smith, K.R., & Wright, C.J. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. *Advances in Financial Economics: Corporate Governance and Performance*, *13*, 53-81.

Utami, E. R., & Pusparini, N. O. (2019, November). The Analysis of Fraud Pentagon Theory and Financial Distress for Detecting Fraudulent Financial Reporting in Banking Sector in Indonesia (Empirical Study of Listed Banking Companies on Indonesia Stock Exchange in 2012-2017). In *5th International Conference on Accounting and Finance (ICAF 2019)* (pp. 60-65). Atlantis Press.

Uwuigbe, U., Uwuigbe, O.R & Daramola, P. S. (2014).Corporate governance and capital structure: evidence from listed firms in Nigeria Stock Exchange. *Advances in Management*, vol. 7(2): 44-49

Vladu, A.B., Amat, O., & Cuzdriorean, D.D. (2017). Truthfulness in Accounting: How to Discriminate Accounting Manipulators from Non-manipulators. *Journal of Business Ethics, 140*, 633-648.

Wolfe, D. T., & Hermanson, D. R. (2004). The fraud diamond: Considering the four elements of fraud. *CPA Journal*, 38-42.

Yulistyawati, N. K. A., Suardikha, I. M. S., & Sudana, I. P. (2019). The analysis of the factor that causes fraudulent financial reporting with fraud diamond. *Jurnal Akuntansi dan Auditing Indonesia*, 1-10.

Yunita, H. I., Wilopo, R., Oktarina, D., & Wonorejo, N. (2023). An analysis of pentagon fraud theory to detect fraudulent financial reporting (a case study at sub-sector transportation that listed in Indonesian Stock Exchange 2014-2018). *International Journal of Economics, Business and Management Research*, *7*(2), 48-59.