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Fraud Diamond Model for Fraudulent Financial Statement Detection

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Abstract: ***Many cases of fraud that occur and are revealed. something happened in the realm of employee fraud and fraud management. One of the frauds that causes substantial losses is fraudulent financial reporting. Fraudulent financial statement becomes one of the fraud schemes that growth simultaneously within the current years. Many of this fraud scheme cause large sum amount of loss to investor, creditors and other financial statement user. The purpose of this research is to gain empirical evidence about financial statements fraud detection using fraud diamond elements. This research is conducted on listed banking companies in Indonesia Stock Exchange year 2014-2018. There is a total of 190 samples companies used in this research which further analyzed by using Logistic Regression Analysis. Statistical test is conducted to test the hypothesis. The test included: determination of coefficient, logistic regression and partial hypothesis testing. Fraudulent financial statement is proxies by Beneish M-score. The research concluded that Pressure proxies by Changes in Total Assets affects significantly to fraudulent financial statements detection. Meanwhile, Pressure proxies by Return on Assets, Opportunity proxies by Ratio of Independent Board of Commissioners, Rationalization proxies by Changes of External Auditor and Capability proxies by Changes in Board of Director do not affect significantly towards fraudulent financial statements detection. Determination of coefficient test result indicates that 20% of fraudulent financial reporting was able to be explained by pressure, opportunity, rationalization and capabilities.***

Keywords : fraud, diamond, beneish m-score, fraudulent, financial, reporting, banking, stock, exchange

I. INTRODUCTION

Financial statement is the communication tool between its preparer and user. As financial statements record the company's economic events or transactions that occur within a certain period and present both company's quantitative and qualitative information, financial statements then become a fundamental basis for the users to make financial decision. For the external users who have limited knowledge of the company's internal situation, the financial statements eventually become their main reference to value the company.

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For the internal users, financial statements become the management's reference to evaluate their performance and decide on their future financial plan or action. Financial statements that contain significant misstatement would eventually lead the users into wrong or not profitable decision.

Financial statements misstatement could be either unintentionally or intentionally done. Unintentionally financial statements misstatement could be caused by human or technical error. While, intentionally financial statements misstatement would be considered as one form of frauds. Basically, a lot of definition from experts that describe fraud; [1]defines fraud as one of the most common terms and includes all the ways that human intelligence, which through one individual, can benefit from others by misrepresentation. Fraud committed by individuals can be detrimental to the public who are very dependent on financial statements in decision making. Fraud will always occur when there is no prevention and prior detection. Therefore, there are several ways to detect fraud, such as the fraud triangle and the fraud diamond.

Fraudulent financial statements are often being looked down on. Since it all started from amounts that users, even auditors, might fail to recognize. However, there is a small chance that the fraudster will stop doing the fraud, not until they got caught red-handed or the fraud is found out. Many of fraud cases are only revealed when the amount has gotten too large to be concealed and it caught the attention of stakeholders and auditors. Unfortunately, it might be too late by then.

Learning from the past fraud cases of Enron, World com, Toshiba Corporation, insider trading Danamon Bank, and Century Bank, it can be concluded that fraud can happen to any kind of company at any time. Therefore, it would be more convenient and ensuring if there is an early detection system for fraud, especially financial statements fraud because this type of fraud is the most disadvantageous among the three broad types of fraud based on Association of Certified Fraud Examiner (ACFE) [2] in 2018.

This research is conducted on listed banking companies in Indonesia Stock Exchange during 2014-2018. Banking companies are chosen because they are essentials for the government to execute their monetary policy which purpose is to regulate the circulating money in society. Therefore, banking companies have important role to maintain the country's financial stability. It then becomes more urgent to ensure that the banking companies are well operated, maintained, and regulated. In this case, this research result is expected to be able to be put into practice for financial statements fraud detection especially on listed banking companies.

II. LITERATURE REVIEW AND HYPOTHESIS

A. Agency Theory

According to [3] agency theory is a contract between management (agent) and owner (principal). In order for this contractual relationship to run smoothly, the owner will delegate the decision-making authority to the manager. Appropriate contract planning aims to align the interests of managers and owners in terms of conflict and interests, this is the core of agency theory. In the concept of agency theory, management as an agent should be concerned with the interests of shareholders, but it is also possible that management is only concerned with its own interests to maximize utility. Management can take actions that do not benefit the company as a whole which in the long run can harm the interests of the company. Even to achieve its own interests, management can act using accounting as a tool for engineering.

B. Fraud

Fraud is a form of deliberate fraud carried out unknowingly by the injured party and providing benefits for perpetrators of fraud. Fraud generally occurs because there is pressure to misuse or encouragement to take advantage of existing opportunities and the justification (generally accepted) of these actions [4].

Fraudulent financial reporting is usually done because of the encouragement and expectations of the work performance of management. Misstatements arising from fraud in financial reporting are better known as irregularities. This form of fraud is often called management fraud, for example in the form of: manipulation, falsification, or alteration of accounting records or supporting documents which are the source of financial statement presentation, intentional misstatement or intentional omission of a transaction, event, or important information from the financial statements [1].

Fraud is not equal to unintentional errors or mistakes. An act of fraud requires an intention to gain advantage over others through unethical way. Occurred errors or mistakes that do not possess intention to deceive others will not be considered as fraud [5].

C. Fraudulent Financial Statement

Fraudulent financial statement is the most disadvantageous type of fraud which involved falsifying of company's reported financial statements to gain advantage over others without their consent [1]. Fraudulent financial statements can be committed in various ways. The various scheme of fraudulent financial statement are overstating revenue, asset and profit, understating expense and liabilities, and inadequate disclosure.

Income statement accounts are revenue and expenses. Most common examples of manipulation in income statement accounts involve sales revenue and cost of goods sold accounts.

Overstatement in revenue account will result in inflated net income which will make the company more profitable and attractive in the eyes of investors and/or shareholders. Overstatement in revenue account can be done by doing double entry on sales, increasing sold units/price per unit, decreasing cost of goods sold per unit or in total amount, fictions sales, early revenue recognition, misstatement, and any other possible way.

Statement of financial position accounts consist of assets, equity and liabilities. Both assets and liabilities can be separated into current and non-current accounts. Current accounts are expected to meet its due within one or less than one (≤ 1) year or financial period of the company, while non-current accounts due in more than one (> 1) year or financial period of the company.

Overstatement of statement of financial position account typically happen in the assets section, as assets indicates the company's wealth. Most common accounts to be inflated are accounts receivables, inventories, and fixed assets. Company can inflate their accounts receivables by pretending that all receivables are collectible, while they are actually not. If there is an indication that receivables may be uncollectible, the company should directly allocate the amount of allowance for doubtful accounts. Allowance for doubtful account will deduct the account receivables amount. Another scheme that can be committed by company is by having inappropriate valuation of fixed assets depreciation charge or useful lives.

Understatement of statement of financial position usually involved liability accounts. Liabilities show the amount of obligation that the company has to another party, such as: bank, government, debtors, bondholder, and tax authorities. Understating the reported liabilities amount makes the company's ratio looks better.

Company should disclose relevant information regarding to its reported financial statements amount in its notes to financial statements. The information in company's notes to financial statements is as necessary as the number in company's financial statements for the user's decision making. Intentional inadequate disclosures involve misleading notes, omission of important information, and falsifying information.

D. Fraud Triangle

The Fraud Triangle theory is an axiom of the causes of fraud summarized in three elements by its originator, [6]. In the research, [6] stated that people who are trusted become violators of trust when they see themselves as people who have financial problems that cannot be told to others, are aware that this problem can be tacitly overcome by abusing their authority as holders of trust in the financial sector, and daily behavior The day allows adjusting his view of himself as someone who can be trusted in using the funds or wealth entrusted. In subsequent developments, this hypothesis is known as a fraud triangle.

[6] concluded that individuals commit fraud when these three factors arise:

1. Financial needs that cannot be shared (pressure/motive)
2. Opportunities to feel illegal profits or access to inappropriate funds (opportunity)
3. Personal justification of the action for yourself (rationalization)

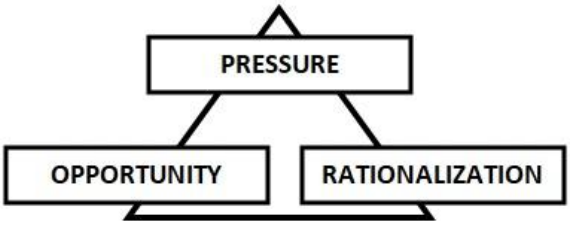

Fig 1. Fraud Triangle

From this picture, there are 3 angles in the Fraud Triangle. The first corner of the triangle is given the title pressure which is a perceived non-shareable financial need. The second angle is the perceived opportunity. Third angle is rationalizations.

A pressure can encourage someone to commit fraud. An important concept in this angle is that the pressure that squeezes the life of the perpetrator (in the form of the need for money), even though the perpetrator cannot share with others. This situation is called perceived non-shareable financial need.

Opportunity is a situation that opens an opportunity to allow a fraud to occur. According to the financial need situation stated by [6] before, what was interesting to note was that the situation brought someone to the need to solve his problem secretly, in secret. It is not theft or embezzlement that encourages the need to covertly or secretly, but situations that precede the theft, such as violation of ascribed obligation and business reversal.

Rationalization namely the presence of attitudes, character, or a set of ethical values that allow certain parties to carry out acts of extortion, or people who are in a sufficiently stressful environment that makes them rationalize acts of fraud.

E. Fraud Diamond

[7] add three conditions found by [6] in the form of factors that influence someone to commit fraud, with the element of ability, that is capability. [7] argue that fraud will not occur without the right person with the right ability to carry out every detail of fraud. The following is a description of fraud diamond, i.e.

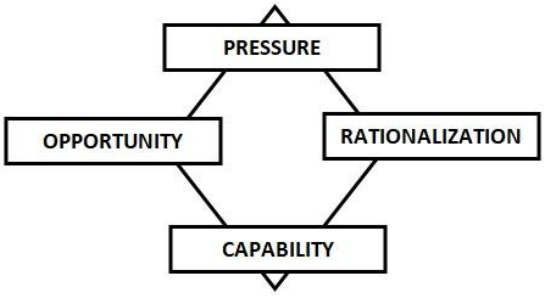

Fig 2. Fraud Diamond

The properties described by [7] related to the element of capability in the actions of perpetrators of fraud, namely:

1. Position / function

A person's position in an organization or company can provide the ability to take advantage of opportunities to commit fraud. Someone who has a high position will have a greater influence on certain situations or environments.

2. Brains

The perpetrators of this fraud have an understanding of the right ability to be smart enough to exploit the weaknesses of internal control, function, access to authority for its benefits.

3. Confidence / ego

The perpetrator of fraud has a strong ego and the belief that he will not be detected committing fraud. These personality traits are selfish, and confident.

4. Coercion skills

Fraudsters can force others to commit or hide fraud. These perpetrators are persuasive individuals and can convince others to work together on fraud.

5. Effective lying

Successful cheating behavior requires effective and consistent lies. When avoiding detection, individuals must be able to lie convincingly, and must track the whole story.

6. Immunity to stress

Individuals must be able to control stress because hiding fraud for a long time causes stress.

III. RESEARCH METHODOLOGY

A. Population and Sample

Population is a group of people, events, or everything that has certain characteristics. Sample is part or element of the population to be studied and has the characteristics of that population. The population in this study is all of the publicly listed banking sector companies that have been listed on the Indonesia Stock Exchange. The sample selection method uses a purposive sampling method, which is sample selection based on research objectives with special consideration. The criteria for sampling are:

1. Banking companies have been listed in Indonesia Stock Exchange period 2014-2018.
2. Listed banking companies in Indonesia Stock Exchange that have published their audited financial report for the year 2014-2018.
3. Company has never delisted or been delisted from Indonesia Stock Exchange during the year 2014-2018.
4. Listed banking companies that have complete data available for further investigation

Applying the criteria to all listed banking companies in Indonesia Stock Exchange, there are 38 listed banking companies which fulfilled the criteria. Using 5 years research period (2014-2018), there is a total of 190 samples. Below is the list of banking companies that are still eligible for further investigation.

B. Data Collection Method

As the data required for the research is secondary data, moreover the research is using documentation method for its data collection method. Documentation method is a data collection method that is conducted by collecting and studying relevant data for the problems identified in the research. The data in this study are secondary data obtained from the Indonesia Stock Exchange website. The data that fulfilled the sampling criteria above will be collected.

C. Operation of Dependent Variable

The dependent variable is the variable that is influenced by the independent variable. The dependent variable used in this study is the fraudulent financial statement. Fraudulent financial statements are intentional actions that result in material misstatements in financial statements that are the subject of an audit.

Fraudulent financial statement is proxies with Beneish-M Score. This model uses 8 variables in the form of financial calculation ratios for identify whether the company has an indication to manipulate revenue in the report finance. Variables in the model are based on year-to-year change, this gives an indication potential problem when the denominator is small. The formula is stated below:

$$M-score = -4.84 + 0.92 * DSRI + 0.528 * GMI + 0.404 * AQI + 0.892 * SGI + 0.115 * DEPI - 0.172 * SGAI + 4.679 * TATA - 0.327 * LVGI$$

DSRI = *Days Sales in Receivables Index*
GMI = *Gross margin Index*
AQI = *Asset quality Index*
SGI = *Sales growth Index*
DEPI = *Depreciation Index*
SGAI = *Sales General and Administrative Expenses Index*
LEVI = *Leverage Index*
TATA = *Total Accrual to Total Assets*

If the M-score is greater than -2.22, the company is suspected to commit fraud (detonated with "1"). Whereas if the M-score is smaller than -2.22, the company is not suspected to commit fraud (detonated with "0").

D. Operation of Independent Variable

The independent variable is a variable that explains the dependent variable. The independent variable in this study is a variable developed from the four components of diamond fraud. The four components of diamond fraud, namely pressure, opportunity, rationalization and capability cannot be examined directly; therefore we need a variable which is then developed with certain proxies to measure it.

E. Changes in Total Asset

Financial stability indicates that the company's current economic environment and financial condition are being stable. Company's financial stability can be seen from its assets as it represents the company's wealth. Assets are defined as resources possessed and controlled by an entity which expected to generate future benefit. Assets can either be current assets or non-current assets. Therefore, financial stability proxies with Changes in Total Assets (ACHANGE), calculated as follow:

$$ACHANGE = \frac{(Total\ Assets_t - Total\ Assets_{t-1})}{Total\ Assets_{t-1}}$$

F. Return on Asset

Financial targets are the specific set of numbers that a company should achieve within a certain period or level. Financial target in this research is proxies by Return on Assets (ROA). Return on assets is the financial ratio used to see how much the company's return from their profit. Below here is the formula for ROA:

$$ROA = \left(\frac{Net\ Income_t}{Total\ Assets_t}\right)$$

G. Ratio of Independent Board of Commissioners

Ineffective monitoring indicates loose internal control within the company. Monitoring role should be handled by independent key person of the company. Therefore, ineffective monitoring is proxies by Ratio of Independent Board of Commissioners (BDOUT) with computation formula as follow:

$$BDOUT = \left(\frac{Independent\ Commissioner_t}{Total\ Commissioner_t}\right)$$

H. Changes of External Auditor

Changes of external auditor show that a company is using a different external auditor from its previous period for its current period. Using dummy variable, 1 (one) if there is a change of external auditor within research period 2014-2018 and 0 (zero) if there is no change of external auditor within research period 2014-2018.

I. Changes in Board of Director

Changes in board of director shows that turnover in board of director members of a company happened. Using dummy variable, 1 (one) if there is a change in board of director within research period 2014-2018 and 0 (zero) if there is no change in board of director within research period 2014-2018.

J. Hypothesis Development

The hypotheses in this study are arranged as follows:

H_1: Pressure, proxies by changes in total assets affects the fraudulent financial statements detection.
H_2: Pressure, proxies by return on assets affects the fraudulent financial statements detection.
H_3: Opportunities, proxies by ratio of independent board of commissioners affects the fraudulent financial statements detection.
H_4: Rationalization, proxies by changes of external auditor affects the fraudulent financial statements detection.
H_5: Capabilities, proxies by changes in board of director affects the fraudulent financial statements detection.

IV. ANALYSIS AND DISCUSSION

A. Descriptive Statistic

Table-I : Descriptive Statistic

	N	Minimum	Maximum	Mean	Std. Deviation
M	190	0	1	.53	.502
ACHANGE	190	-.29263	1.64113	.1671866	.22267620
ROA	190	-.11728	3.86000	.0413482	.36126824
BDOUT	190	.50	1.00	.7311	.15043
AUDCHANG	190	0	1	.14	.349
DCHANGE	190	0	1	.59	.494
Valid N (listwise)	**190**				

Based on the tables of descriptive statistics above, it shows that:

a. Beneish M-score (M) of the 190 research observations has the average value of 0.530, the lowest value of 0, the highest value of 1, standard deviation value of 0.502. In addition, the frequency or number of occurrence of event (1) is amounting to 60 with the percentage of 52.6%.
b. Changes in Total Assets (ACHANGE) of the 190 research observations have the average value of 16.72%, the lowest value of -29.26%, highest value of 164.11%, standard deviation value of 0.223.

c. Return on Assets (ROA) of the 190 research observations has the average value of 4.13%, the lowest value of -11.73%, the highest value of 386%, standard deviation value of 0.361.
d. Ratio of Independent Commissioners (BDOUT) of the 190 research observations has the average value of 0.731, the lowest value of 50%, the highest value of 100%, standard deviation value of 0.150.
e. Changes of External Auditor (AUDCHANG) of the 190 research observations has the average value of 0.140, the lowest value of 0, the highest value of 1, standard deviation value of 0.349. In addition, the frequency or number of occurrence of event (1) is amounting to 16 with the percentage of 14%.
f. Changes in Board of Director (DCHANGE) of the 190 research observations has the average value of 0.590, the lowest value of 0, the highest value of 1, standard deviation value of 0.494. In addition, the frequency or number of occurrence of event (1) is amounting to 67 with the percentage of 58.8%.

B. Multicollinearity Test

It is necessary to perform the multicollinearity test in order to check the variables correlation with one and another. In addition, the test produces empirical proof to whether there is multicollinearity among independent variables. Strong correlation or multicollinearity will create disturbance in the regression model as there is a relationship between some independent variables. A good regression model should be free from multicollinearity problem

In order to choose the right panel data analysis model, it is necessary to do some of these tests.

Table-II : Multicollinearity Test

	M	ACHANGE	ROA	BDOUT	AUDCHANG	DCHANGE
M	1	.314	.089	.047	.080	-.009
ACHANGE	.314	1	-.012	.141	.169	-.107
ROA	.089	-.012	1	.004	-.048	.079
BDOUT	.047	.141	.004	1	-.035	-.285
AUDCHANG	.080	.169	-.048	-.035	1	-.072
DCHANGE	-.009	-.107	.079	-.285	-.072	1

C. Goodness of Fit Model Test

The purpose of the test is to see whether our model fits the set of observations. The model is considered fit if there is no significant difference between the model and the observation value. Goodness-of-Fit test used in this research is the Hosmer-Lemeshow test.

Table-III : Hosmer-Lemeshow Test

Chi-square	df	Sig.
9.844	8	.276

Table 3 shows the results of Goodness-of-Fit Model Test using Hosmer and Lemeshow Test. The test was computed using confidence interval of 95%, therefore the critical value of the test is 5% or 0.05. The significant value (*Sig.*) result of our model is 0.276, which is higher than critical value 0.05. It means that our model is fit and the research can be continued to hypothesis testing.

D. Classification Matrix

Table 4 shows the successful prediction rate of the research model, if all independent variables have been included. It resulted in 63.2% successful prediction rate, which means our model is able to make around 63 right predictions out of 100 cases. Compare the new overall percentage (63.2%) with the previous overall percentage of 52.6%, there is an increase of 10.6%. It means that with the addition of independent variables, the research model can perform a better prediction with higher success rate. It also means that the research model's chosen independent variables are good predictors for the dependent variable.

Table-IV : Classification table

	Observed		Predicted M		Percentage Correct
			0	1	
Step 1	M	0	36	18	66.7
		1	24	36	60.0
	Overall Percentage				63.2

E. Coefficient of Determination

Coefficient of Determination of R squared (R^2) indicates a certain degree of dependent variable (Y) can be explained by the chosen independent variables (X). In this case, how much of fraudulent financial statements detection can be predicted with financial stability proxies with changes in total assets (ACHANGE), financial pressure proxies with return on assets (ROA), opportunity proxies with ratio of independent commissioner (BDOUT), rationalization proxies with changes of external auditor (AUDCHANG), capability proxies with changes in board of director (DCHANGE).

Table-V : Coefficient Determination Test

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
139.205	.150	.200

Based on the results in Table 5, it shows a value of Nagelkerke R-squared of 0.200 or 20%. It indicates that 20% of the research dependent variable can be explained by the chosen independent variables in the research, while the rest 80% of dependent variable is explainable by variables outside of the research.

F. Logistic Regression Analysis

Logistic regression analysis is applied when the dependent variable of a research is in nominal scale. The purpose of logistic regression analysis is to predict the likelihood of certain condition to happen, in this case is whether there is a likelihood of financial statements fraud. Provided below is the table which shows the calculated Beta (B) necessary for logistic regression analysis interpretation.

Table-VI : Logistic Regression Analysis

Independent Variables	B
ACHANGE	5.629
ROA	1.007
BDOUT	.586
AUDCHANG(1)	-.479
DCHANGE(1)	-.334
Constant	-.610

Based on the calculated Beta (B) on Table 6., the logistic regression model for the research is:

$$\ln\left(\frac{p}{1-p}\right) = -0.610 + 5.629ACHANGE + 1.007ROA + 0.586BDOUT - 0.479AUDCHANG - 0.334DCHANGE$$

Model interpretation:

1. Financial stability has positive effect on fraudulent financial statement. For every one (1) point increase in Changes of Total Assets (ACHANGE), there is 5.629 increases in possibility of financial statements fraud.
2. Financial targets have positive effect on fraudulent financial statement. For every one (1) point increase in Return on Assets (ROA), there is 1.007 increases in possibility of financial statements fraud.
3. Ineffective monitoring has positive effect on fraudulent financial statement. For every one (1) point increase in Ratio of Independent Commissioner (BDOUT), there is 0.586 increases in possibility of financial statements fraud.
4. Rationalization has negative effect on fraudulent financial statement. If there is Changes of External Auditor (AUDCHANG = 1), there is 0.479 decrease in possibility of financial statements fraud.
5. Capability has negative effect on fraudulent financial statement. If there is Changes in Board of Director (DCHANGE = 1), there is 0.334 decrease in possibility of financial statements fraud.

If the result of logistic regression model above shows a value > 0.50, then there is a chance of financial statements of fraud (1). Otherwise, if the result of logistic regression model above shows a value < 0.50, then there might be no financial statements fraud (0).

G. Hypothesis Testing

Hypothesis testing of the research will be done partially and simultaneously. The purpose of hypothesis testing is to answer the predetermined research problems. Therefore, the objective of hypothesis testing of this research is to see whether there is any effect of the independent variables towards the dependent variable.

Partial test results will show the significance effect of each independent variable to the dependent variable. Based on the results of using Wald test, if the significant value (*Sig.*) result is < 0.05, then it can be concluded that the independent variable has significant effect on the dependent variable.

Table-VII : Hypothesis Testing

Independent Variables	Sig.
ACHANGE	.001
ROA	.586
BDOUT	.685
AUDCHANG(1)	.442
DCHANGE(1)	.454
Constant	.594

Fig 1. Normality Test

Based on the statistics table produced by statistical software, it shows and indicates that:

Changes in Total Assets (ACHANGE) significant value result is 0.001, which is lower than 0.05. It indicates that there is significant partial effect on the dependent variable, in which is Fraudulent Financial Statements proxies by Beneish M-score. Therefore, the result supports the H_1 argument of this research which stated that change in total assets affects the fraudulent financial statements detection.

This research result is consistent with the one conducted by [11] which stated that according to SAS No. 99, managers are being pressured to commit financial statements fraud when financial stability were threatened by the condition of economy or industry. Management is then driven to use unethical way to cover up for their poor financial condition.

However, the result contradicts the research conducted by [12] and [13] which concluded that Changes in Total Assets (ACHANGE) does not give significant impact towards fraudulent financial statements detection. [12] argue that companies used in the study show same average so that management concerns on investors lost could be ignored. Under the conditions of corporate asset changes below the average, the company would not directly perform financial stability because it would have a negative impact. Companies would be difficult to develop the company and make the company's stability worse in the future [13].

Return on Assets (ROA) significant value result is 0.586, which is higher than 0.05. It indicates that there is no significant partial effect on the dependent variable, in which is Fraudulent Financial Statements proxies by Beneish M-score. Therefore, the result does not support the H_2 argument of this research which stated that return on assets affects the fraudulent financial statements detection.

This result is consistent with the one conducted by [12] and [13]. Return on Assets (ROA) can indeed be used as one of performance measurement indicators, as long as the targeted number is still reasonable and achievable. If the target number is being unexpectedly high, it would become a pressure for the managers.

On the other hand, study conducted by [14] and [9] have different results compare to this research result. [14] concluded that company with higher Return on Assets (ROA) has lower tendency to commit fraud, as ROA reflects the company's ability to efficiently use their assets to generate profit. However, [9]

concluded that company with higher ROA has higher tendency to commit fraud as the managers are being pressured to achieve the predetermined target in order to earn their incentive bonus.

Ratio of Independent Commissioner (BDOUT) significant value result is 0.685, which is higher than 0.05. It indicates that there is no significant partial effect on the dependent variable, in which is Fraudulent Financial Statements proxies by Beneish M-score. Therefore, the result does not support the H_3 argument of this research which stated that ratio of independent board of commissioners affect the fraudulent financial statements detection.

This result is consistent with the one conducted by [8]. It appears that the ratio of independent commissioners in banking companies is mainly to fulfill the requirements set by government. Therefore, the elected boards of commissioners do not guarantee the practice of internal control and corporate governance within the company.

Independent commissioners can minimize the possibility of financial statement fraud, this is because independent commissioners do not own shares in the company, so they can carry out the oversight function of the board of directors more independently[9].

Changes of External Auditor (AUDCHANGE) significant value result is 0.442, which is higher than 0.05. It indicates that there is no significant partial effect on the dependent variable, in which is Fraudulent Financial Statements proxies by Beneish M-score. Therefore, the result does not support the H_4 argument of this research which stated that changes of external auditor affects the fraudulent financial statements detection.

This result is consistent will all of the previous research [1], [4], [9] on similar topic that has been discussed before. Changes of external auditor might not be able to become an indicator of financial statements fraud as there are many reasons for the company to change their external auditor with a different one. Some of those reasons include dissatisfaction of previous auditor's work or compliance with government's regulation regarding public accountant practices.

Changes in Board of Director (DCHANGE) significant value result is 0.454, which is higher than 0.05. It indicates that there is no significant partial effect on the dependent variable, in which is Fraudulent Financial Statements proxies by Beneish M-score. Therefore, the result does not support the H_5 argument of this research which stated that changes in board of director affects the fraudulent financial statements detection.

This result is consistent with the result from [15] and [11] which all come to an agreement that changes in board of director doesn't necessarily mean that the company was trying to conceal their fraud scheme, as one of the common reasons for directors turnover is to increase the company's performance by having more competent personnel. However, [13] stated that capability proxies with changes in board of director has positive effect on financial statements fraud.

Therefore, only Changes in Total Assets that has significant effect on the dependent variable. On the other hand, Returns on Assets, Ratio of Independent Board of Commissioners, Changes of External Auditor, changes in Board of Director do not have significant partial effect on Fraudulent Financial Statement.

V. CONCLUSION

This research aims to gain empirical evidence about fraud detection using fraud diamond elements on listed banking companies in Indonesia Stock Exchange with 5-year research period. Elements of fraud diamond are proxies based on categorization of SAS no 99.

In the end, pressure is proxies with changes in total assets and return on assets, opportunity is proxies with ratio of independent board of commissioners, rationalization is proxies with changes of external auditor and capability is proxies with changes in board of director. While fraudulent financial statement is proxies with Beneish M-score.

This research is using logistic regression for data analysis method with the help of statistical software. According to data analysis performed, this research is concluded as follows:

a. Changes in total assets affects significantly on fraudulent financial statements.
b. Return on assets does not affect fraudulent financial statements.
c. Ratio of independent commissioners does not affect fraudulent financial statements.
d. Changes of external auditor do not affect fraudulent financial statements.
e. Changes in board of director do not affect fraudulent financial statements.

Recommendations for possible future reference and improvements:

a. Future research should choose the proxies for fraud diamond based on the company's industry characteristic and current economic condition, so that the independent variables will be more relevant.
b. Future research should try to use Beneish M-score as proxy for fraudulent financial statements in banking companies, as there is only few references for that specific matter.
c. It is recommended for government body to put the research into real life practice for fraud early detection.

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