



## Fraud Diamond Analysis In Fraudulent Financial Statement Detection Using Beneish M-Score

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### **Abstract**

*Companies, especially go public companies, tend to want to display financial statements that look healthy and profitable to attract the attention of investors and potential investors. Therefore, sometimes companies commit fraud in financial statements to fulfill these objectives. This study was conducted to empirically test whether the fraud diamond element has an effect on the possibility of fraudulent financial statements in manufacturing sector companies listed on the Indonesia Stock Exchange in 2017-2019 with the Beneish M-Score as a proxy for the dependent variable. There are 120 total samples obtained by purposive sampling method with analytical techniques using descriptive statistical tests and logistic regression tests. The results of this study indicate 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.*

**Keywords:** *Fraudulent Financial Statement, Fraud Diamond, Beneish M-Score.*

### **INTRODUCTION**

(Ikatan Akuntan Indonesia, 2015) defines financial statements as a structured presentation of the financial position and financial performance of an entity. The purpose of making financial statements in general is to provide information for users of financial statements for making economic decision. Financial statements are very important documents, especially for go-public companies. Financial statements become one of the main guidelines of stakeholders in decision making, so that clean, trustworthy and reliable financial statements are very important.

According to (Indonesian Institute of Certified Public Accountants, 2014) fraudulent financial reporting includes intentional misstatement including the omission of an amount or disclosure in the financial statements to influence the perception of users of financial statements. Companies, tend to want to display financial reports that show positive work results so that they look healthy and attractive to stakeholders and potential investors. Therefore, fraud in financial statements that is generally carried out is overstatement of profit.

Financial statement fraud is a type of fraud that has the most detrimental impact among other types of fraud (Yesiariani & Rahayu, 2017). Cases of financial statement fraud that occurred abroad, such as the case of Steinhoff International Holdings N.V from South Africa, are

indicated to have manipulated profits and assets in 2019. There are also cases of fraudulent financial statements in the country such as the case of PT. Hanson International Tbk, who is the president director and independent director committed fraud in the 2016. Furthermore, the fraudulent financial statement case of PT. Garuda Indonesia Tbk in 2018.

The detection of factors that influence fraudulent financial statements in this study uses the analysis of the fraud diamond theory. (Wolfe & Hermanson, 2004) believes that the concept of fraud triangle can be developed for the prevention and detection of fraudulent behavior by adding capability elements. In this study, the Beneish M-Score was used as a proxy for fraudulent financial statements. The object of this study is a company listed in the manufacturing sector on the Indonesia Stock Exchange for the 2017-2019 period.

The purpose of the study is to determine whether financial stability, external pressure, personal financial need, financial target, nature of industry, ineffective monitoring, rationalization have a positive effect on the possibility of fraudulent financial statements and whether capability have an effect on the possibility of fraudulent financial statements. In addition, this research is expected to be useful for readers to increase knowledge. For investors or potential investors, it is expected to help in making decision. And for further research, it is expected to be a contribution of knowledge with similar topics.

## THEORITICAL FRAMEWORK AND HYPOTHESIS

### Literature Review

#### Agency Theory

According to (Jensen & Meckling 1976) agency relations are contracts in which one or more persons (principal) command another person (agent) to perform a service on behalf of the principal and authorize the agent to make the best decision for the principal. The contract relationship can have different interests. According to (Tessa & Harto, 2016) the existence of a conflict of interest between the agent and the principal is often referred to as a conflict of interest. Principal want to get large profits or high returns from investments, but agent also has a desire to get greater compensation for their performance results which is this desire can encourage to commit fraudulent financial statements.

#### Fraudulent Financial Statement

(Arens et al, 2015: 396) describe fraudulent financial statements as misstatements or intentional disclosure of amounts or disclosures with the aim of deceiving the users of that report. According to the Australian Auditing Standards (AAS) (in Norbarani & Rahardjo, 2012) fraudulent financial statements are a deliberate omission or disclosure of a certain amount or disclosure in financial reporting to deceive users of financial statements.

#### Fraud Triangle Theory

Fraud triangle is a fraud theory proposed by Cressey (in Skousen et al., 2009) which states to some extent there are three conditions that are always present at the time of financial statement fraud occurs. SAS 99. AU 316 (in Arens et al, 2015: 398) describes that there are three conditions of fraud from fraudulent financial statements and asset misappropriation, including the following:

- a. Pressure/Incentive

It is a situation of pressure / incentives that encourage managers or other employees to commit fraud. Pressure conditions that cause fraud consist of financial stability, external pressure, financial target and personal financial need.

b. Opportunity

It is a situation that opens up opportunities for management or employees to commit fraud. Opportunity conditions that cause fraud consist of ineffective monitoring, nature of industry and organizational structure.

c. Rationalization

It is an attitude or set of ethical values that justify or permit fraud, or they are in an environment that influences to rationalize dishonest acts.

### **Fraud Diamond Theory**

Fraud diamond theory is a theory developed by (Wolfe & Hermanson, 2004) who believes that the concept of fraud triangle can be developed for the prevention and detection of fraudulent behavior by adding one element, namely capability. According to (Zaki, 2017) revealed that the factors of the diamond fraud model are a good tool for assessing the possibility of financial statement fraud. (Wolfe & Hermanson, 2004) explains that fraud or fraud cannot happen without a person who has the right ability to carry out such fraud or fraud.

### **Beneish M-Score Ratio**

Beneish M-Score Ratio is a collection of financial ratios used to detect the possibility of fraudulent financial statements. (Beneish, 1999) conducted research to detect profit manipulation in the company and find out what drives fraud and divide the company into categories that are indicated to be fraudulent financial statements and those that do not. However, detection with Beneish M-Score has the limitation of only being able to detect cheating in the form of overstatement in go-public companies.

### **Beneish Ratio Index**

According to (Christy & Stephanus, 2018) The Beneish Ratio Index is a technique used to analyze financial statements in detecting the absence or absence of financial statement fraud. The Beneish Ratio Index is measured using five ratios: Days Sales in Receivable Index, Gross Margin Index, Asset Quality Index, Sales Growth Index and Total Accrual to Total Asset Index ratio.

### **Theoretical Framework and Hypothesis**

#### **1. The Effect of Financial Stability on The Possibility of Fraudulent Financial Statements**

SAS No. 99 (in Skousen et al., 2009) explains that managers face pressure to cheat on financial statements when financial stability or profitability is threatened by economic conditions, industries and the conditions of operating entities. Financial stability is projected by the percentage ratio of total changes in assets (Skousen et al., 2009). The greater the value of the ratio of changes in total assets, the possibility of fraudulent financial statements will also be higher. Based on the results of research (Sihombing & Rahardjo, 2014) showed that financial stability has a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

$H_{a1}$ : Financial stability has a positive effect on the possibility of fraudulent financial statements.

#### **2. The Effect of External Pressure on The Possibility of Fraudulent Financial Statement**

When management is under great pressure because of the difficulty to meet the demands of external parties to meet expectations and requirements (debt), it is possible that it becomes

the cause of fraud in financial statements. The greater the value of the company's leverage ratio, the greater the possibility of fraudulent financial statements. Based on the results of the study (Sihombing & Rahardjo, 2014) using a leverage ratio that divides total debt by total assets as proxies on external pressure variables shows that external pressure has a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>2</sub>: External pressure has a positive effect on the possibility of fraudulent financial statements.

### **3. The Effect of Personal Financial Need on The Possibility of Fraudulent Financial Statement**

The existence of share ownership by company insiders causes the concerned to feel they have a right to claim the company's income and assets so that it will affect the company's financial condition (Yesiariani & Rahayu, 2017). The higher the value of the ratio, the higher possibility of fraudulent financial statements. Based on the research by (Skousen et al., 2009) using the ownership held by company insiders ratio as a variable proxy shows that personal financial need has a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>3</sub>: Personal Financial Need has a positive effect on the possibility of fraudulent financial statements.

### **4. The Effect of Financial Target on The Possibility of Fraudulent Financial Statements**

Fraud committed by management is motivated by a conflict of interest described in the agency theory where in order to achieve the financial targets given by the principal, then management will do anything including data manipulation on financial statements so that management can receive rewards/ incentives and avoid pressure from the principal. Return on Asset is a way to measure management's performance in showing how efficiently an asset has been used (Skousen et al., 2009). The larger the targeted ROA, the more likely the fraudulent financial statement is. Based on the results of research (Sunardi & Amin, 2018) showed that financial targets have a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>4</sub>: Financial target has a positive effect on the possibility of fraudulent financial statements.

### **5. The Effect of Nature of Industry on The Possibility of Fraudulent Financial Statement**

According to Summers & Sweeney (in Sihombing & Rahardjo, 2014) states that accounts receivables and inventory require subjective judgment in estimating the uncollected receivables and obsolete inventory because management can use the account as a tool for manipulation of financial statements. The larger the accounts receivable, the more likely fraudulent financial statements are. Based on the results of the study (Sihombing & Rahardjo, 2014) using the changes in receivables ratio as a proxy on the nature of industry variable shows that the nature of industry has a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>5</sub>: Nature of industry has a positive effect on the possibility of fraudulent financial statements.

### **6. The Effect of Ineffective Monitoring on The Possibility of Fraudulent Financial Statements**

An independent board of commissioners is believed to increase the effectiveness of corporate supervision (Sihombing & Rahardjo, 2014). The smaller the ratio of independent commissioners to the total board of commissioners means the less effective supervision in the company, making it more likely fraudulent financial statements. Based on research (Damayanti & Suryani, 2019) shows that independent board of commissioners increase effectiveness in supervising management to prevent fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>6</sub>: Ineffective monitoring has a positive effect on the possibility of fraudulent financial statements.

### **7. The Effect of Rationalization on The Possibility of Fraudulent Financial Statements**

According to (Agusputri & Sofie, 2019) subjective judgment and decision making will be reflected in the company's accrual value. The principle of accrual can be utilized by management to perform manipulations that influenced the rationalization of management in decision making. According to (Beneish, 1999) the higher the TATA ratio means the more likely profit manipulation is with an increase in accrual transactions in revenue recognition. Based on the results of the study (Sihombing & Rahardjo, 2014) indicates that rationalization has a significant positive effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>7</sub>: Rationalization has a positive effect on the possibility of fraudulent financial statements.

### 8. The Effect of Capability on The Possibility of Fraudulent Financial Statements

(Wolfe & Hermanson, 2004) states that fraud or fraud cannot occur without a person who has the right ability to carry out such fraud or fraud. The more frequent changes of directors, the higher the likelihood of fraud. Changes to the board of directors in this study are changes of dismissed of the board that do not include changes due to expiration or death. Based on research (Suryani, 2019) states that capability has a positive and significant effect on fraudulent financial statements. Therefore, the proposed hypothesis is:

Ha<sub>8</sub>: Capability has an effect on the possibility of fraudulent financial statements

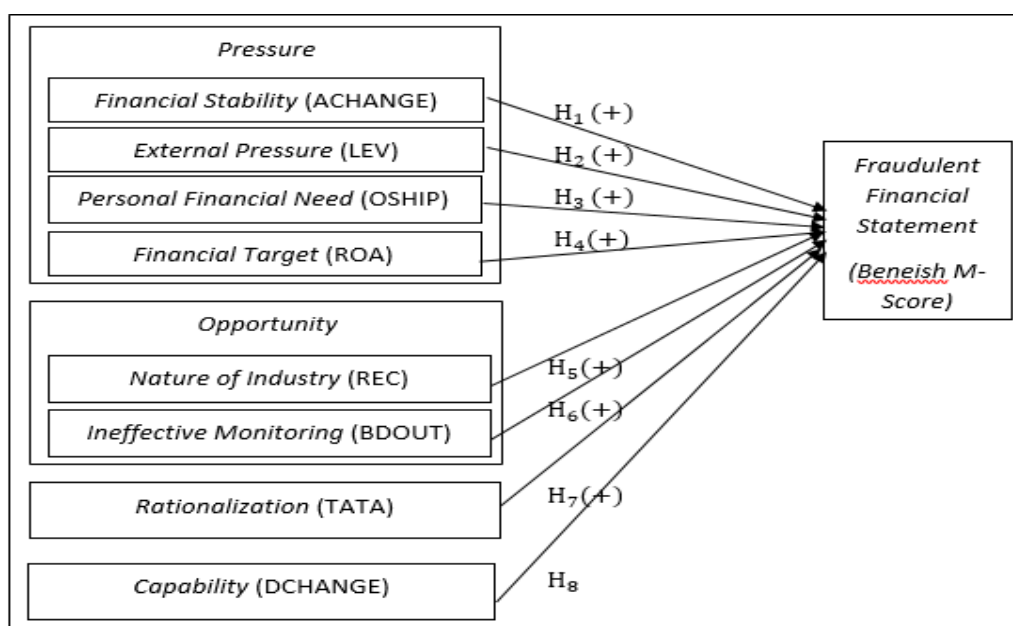


Figure 1. Theoretical Framework

## RESEARCH METHODS

### Population & Research Sample

The population in this study was taken from companies going public manufacturing sector listed on the Indonesia Stock Exchange in 2017-2019. The method used to determine the sample to be taken for study uses the purposive sampling method. This method is a technique of determining samples with certain considerations (Sekaran & Bougie, 2017: 67). The following are the considerations in the determination of samples for this study:

1. Listed manufacturing companies that report financial statements for 2017-2019.
2. Company delisting research period 2017-2019
3. The currency of the financial statements is not in rupiah

4. Companies with negative earnings during the period 2017-2019.
5. Data on financial statements related to variables in the study is incomplete.

### Dependent Variables

The dependent variable in this study is financial statement fraud proxied by Beneish M-Score. The formula of the Beneish M-Score:

$$\text{M-Score} = -4.84 + 0.920 \cdot \text{DSRI} + 0.528 \cdot \text{GMI} + 0.404 \cdot \text{AQI} + 0.892 \cdot \text{SGI} + 0.115 \cdot \text{DEPI} - 0.172 \cdot \text{SGAI} - 0.327 \cdot \text{LVGI} + 4,697 \cdot \text{TATA}$$

Dummy:

0 = Beneish M-Score value < -2.22, the company is not indicated to have made fraudulent financial statements.

1 = Beneish M-Score value > -2.22, the company is indicated to have made fraudulent financial statements.

The details of the Beneish M-Score financial ratio set are as follows:

#### 1. Days Sales in Receivables Index (DSRI)

It is a ratio of comparison between receivables to sales. a large increase in the day of unnatural or disproportionate receivables to sales may indicate a surge in revenue (Beneish, 1999). The increase in DSRI can have a link to the possibility of recording overstatement sales or revenues.

$$\text{DSRI: } \frac{\text{Net Receivables}_t / \text{Sales}_t}{\text{Net Receivables}_{t-1} / \text{Sales}_{t-1}}$$

#### 2. Gross Margin Index (GMI)

It is a ratio that can assess the level of profitability of a company. If the value of the GMI ratio > 1 then it indicates that gross profit has deteriorated. Deteriorating gross profit negatively impacts the company's outlook (Beneish, 1999).

$$\text{GMI: } \frac{(\text{Sales}_{t-1} - \text{COGS}_{t-1}) / \text{Sales}_{t-1}}{(\text{Sales}_t - \text{COGS}_t) / \text{Sales}_t}$$

#### 3. Asset Quality Index (AQI)

Is the ratio of the ratio between current assets plus fixed assets to total assets. (Beneish, 1999) states that if the value of the AQI ratio > 1, then this indicates that the company has the potential to increase its involvement in the deferral of costs by raising the value of assets and lowering liabilities.

$$\text{AQI: } \frac{1 - (\text{Current Assets}_t + \text{Net Fixed Assets}_t) / \text{Total Assets}_t}{1 - (\text{Current Assets}_{t-1} + \text{Net Fixed Assets}_{t-1}) / \text{Total Assets}_{t-1}}$$

#### 4. Sales Growth Index (SGI)

It is a ratio of sales in year (t) to sales of the previous year for measuring sales growth from year to year. The greater SGI ratio, the higher the possibility of revenue manipulation.

$$\text{SGI: } \frac{\text{Sales}_t}{\text{Sales}_{t-1}}$$

#### 5. Depreciation Index (DEPI)

It is the ratio of depreciation expense to fixed assets before depreciation. (Beneish, 1999) states if the value of the DEPI ratio > 1, then this indicates a slowdown in depreciation rate, which increases the possibility of the company changing the estimated useful life of the asset or adopting a new method that increases profits.

$$\text{DEPI: } \frac{\text{Depreciation}_{t-1} / (\text{Depreciation}_{t-1} + \text{PPE}_{t-1})}{\text{Depreciation}_t / (\text{Depreciation}_t + \text{PPE}_t)}$$

#### 6. Sales General and Administrative Expenses Index (SGAI)

It is a ratio of comparisons between total sales expenses, general & administration to sales. According to (Beneish, 1999) a disproportionate increase in sales with sales, general and administrative expenses is a negative signal about the company's future prospects.

$$SGAI: \frac{SGA Expense_t / Sales_t}{SGA Expense_{t-1} / Sales_{t-1}}$$

#### 7. Leverage Index (LVGI)

It is a ratio of the amount of debt to the total assets. According to (Beneish, 1999) the value of the LVGI ratio > 1 indicates an increase in leverage which the higher the LVGI ratio indicates that the more likely the company manipulates profits to meet its obligations.

$$LVGI: \frac{(Long\ term\ Debt_t + Current\ Liabilities_t) / Total\ Assets_t}{(Long\ term\ Debt_{t-1} + Current\ Liabilities_{t-1}) / Total\ Assets_{t-1}}$$

#### 8. Total Accruals to Total Assets (TATA)

Is the ratio of the total value of the company's accrual to the total asset. The higher (positive) the value of TATA ratio indicates the more likely the company is indicated to be manipulating profits through an increase in accrual transactions in revenue recognition (Beneish, 1999).

$$TATA: \frac{Income\ from\ operating_t - Cash\ flow\ from\ operating_t}{Total\ Assets_t}$$

### Independent Variables

#### a. Pressure:

##### 1. Financial Stability

Financial stability is a situation that shows the financial condition of a company in a normal and fine situation (Lestari & Nuratama, 2020). Assets growth (ACHANGE) can be used to look at a company's financial condition because assets with the formula:

$$ACHANGE: \frac{(Total\ Assets_t - Total\ Assets_{t-1})}{Total\ Assets_{t-1}} \times 100\%$$

##### 2. External Pressure

External pressure is excessive pressure on management to meet debt and third-party expectations. (Skousen et al., 2009) explain that to cope with the pressure, additional debt or external sources of financing are needed to remain competitive. This study uses leverage ratio (LEV) as a proxy for external pressure with the formula:

$$LEV: \frac{Total\ Debt}{Total\ Assets}$$

##### 3. Personal Financial Need

Personal financial need is a condition when a company's finances are affected by the personal financial circumstances of a person within the company (Skousen et al., 2009). The study used the ownership in the firm hold by insider (OSHIP) ratio with the formula:

$$OSHIP: \frac{Ownership\ in\ the\ firm\ held\ by\ insider}{Common\ shares\ outstanding}$$

##### 4. Financial Target

Financial target is a target that must be achieved by management. Excessive financial targets on management can be a boost to profit manipulation. Return on Total Assets (ROA) is a measure of operating performance used to show how much efficiency an asset has used with the formula:

$$ROA: \frac{Income\ after\ tax}{Total\ Assets}$$

#### b. Opportunity

### 1. Nature of Industry

The nature of an industry or the operation of an entity may provide an opportunity to engage in the fraud of financial statements. According to Summers & Sweeney (in Skousen et al., 2009) management uses accounts receivables to manipulate financial statements. The study used the ratio of receivables to sales (REC) as a proxy of the nature of the industry with the formula:

$$REC: \frac{Receivable_t}{Sales_t} - \frac{Receivable_{t-1}}{Sales_{t-1}}$$

### 2. Ineffective Monitoring

Ineffective monitoring or ineffective monitoring is the condition of an internal control system in a company that does not run properly. The more independent commissioners, it is expected that the more the company's performance (Sihombing & Rahardjo, 2014). This study uses ratio of independent commissioners with the formula:

$$BDOUT: \frac{Total\ Komisaris\ Independen}{Total\ Dewan\ Komisaris}$$

### c. Rationalization

(Suryandari & Endiana, 2019: 32) explains that rationalization is the act of seeking justification by people who feel themselves trapped in a bad state. Rationalization can be measured by total accrual ratio where this ratio can reflect the extent of discretionary accounting decisions management makes as desired. This study uses Total accrual to Total ratio with the formula:

$$TATA: \frac{Income\ from\ operating_t - Cash\ flow\ from\ operating_t}{Total\ Assets_t}$$

### d. Capability

(Wolfe & Hermanson, 2004) stated that the position of CEO, directors, and other division heads is the determining factor of fraud by relying on these positions that are able to influence others and with their ability to take advantage of the circumstances in cheating. This study uses a change of directors as proxy of capability. The change of directors that does not include changes due to the expiration of tenure or death using dummy variables where given code 1 for companies that have a change of board of directors during the research period and code 0 for the opposite.

### Methods of Analysis

This research uses logistic regression analysis with the following regression model equations:

$$\ln \frac{Fraud}{1-Fraud} = \beta_0 + \beta_1 ACHANGE + \beta_2 LEV + \beta_3 OSHIP + \beta_4 ROA + \beta_5 REC + \beta_6 BDOUT + \beta_7 TATA + \beta_8 DCHANGE + \varepsilon$$

#### Information:

Fraud	: Dummy variable ; 1 = indicated fraud; 0 = not indicated fraud
ACHANGE	: Percentage ratio of total asset changes
LEV	: The ratio of the amount of debt to assets
OSHIP	: The ratio of the level of share ownership of people in the company
ROA	: Ratio of net income after tax to total assets
REC	: Ratio of receivables to total sales
BDOUT	: Ratio of total independent commissioners to total board of commissioners



TATA	: Ratio of total accrual to total assets
DCHANGE	: Dummy variable change of directors; 1 = there is a change; 0 = the opposite
$\beta_0$	: Constant
$\beta_1-\beta_8$	: Independent variable coefficient
$\varepsilon$	: Cofounding variables

### Data Analysis Techniques

The data analysis techniques in this study use descriptive statistical analysis and logistic regression analysis consisting of the overall conformity test of the, regression model feasibility, determination coefficient, classification matrix test and partial regression coefficient test.

## RESULTS AND DISCUSSION

### Descriptive Analysis

According to (Ghozali, 2018: 19) descriptive statistics are analyses that provide an overview or description of a data viewed from the mean value, standard deviation, variance, maximum, minimum, sum, range, kurtosis, and skewness of distribution.

**Table 1. Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
ACHANGE	120	-.17083	.62034	.1357953	.15945107
LEV	120	.09248	.73250	.3769731	.15803516
OSHIP	120	.00000	.89444	.1447527	.22916291
ROA	120	.00053	.26150	.0736110	.05550494
REC	120	-.09614	.21931	.0062443	.03833106
BDOOUT	120	.20000	.60000	.4084806	.09001462
TATA	120	-.13128	.32609	.0360176	.07363789
Valid N (listwise)	120				

Source: Data results, 2021

Based on table 1, the results of a descriptive analysis shows that the minimum value of financial stability is -0.17083, maximum value is 0.62034, mean value is 0.1357953 and the standard deviation is 0.15945107. The minimum value of external pressure is 0.09248, maximum value is 0.73250, mean value is 0.3769731 and the standard deviation is 0.15803516. The minimum value of personal financial need is 0.00000, maximum value is 0.89444, mean value is 0.1447527 and a standard deviation is 0.22916291. The minimum value of financial target is 0.00053, maximum value is 0.26150, mean value is 0.0736110 and a standard deviation is 0.05550494. The minimum value of nature of industry is -0.09614, maximum value is 0.21931, mean value is 0.0062443 and a standard deviation is 0.03833106. The minimum value of ineffective monitoring is 0.20000, maximum value is 0.60000, mean value is 0.4084806 and standard deviation is 0.09001462. The minimum value of rationalization is -0.13128, maximum value is 0.32609, mean value is 0.0360176 and the standard deviation is 0.07363789.

**Table 2. Frequency of DCHANGE**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	85	70.8	70.8	70.8
	1	35	29.2	29.2	100.0
	Total	120	100.0	100.0	

Source: Data results, 2021

Based on table 2, it shows that the total sample of companies is 120. Companies that do not have a change of director amounted to 85 companies or 70.8%. While the company that has a change of director amounted to 35 companies or 29.2%

**Table 3. Frequency of Fraud**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	47	39.2	39.2	39.2
	1	73	60.8	60.8	100.0
	Total	120	100.0	100.0	

Source: Data results, 2021

Based on table 3, it shows that the total sample of companies amounted to 120. Companies that are not indicated fraud amounted to 47 companies or 39.2%. While the companies indicated fraud amounted to 73 companies or 60.9%.

**Logistic Regression Analysis**

a. Overall Model Test Results

This test is a useful test for assessing the overall number of hypothesized models and research data. Likelihood L of the model is the probability that the hypothesized model describes the inputted data (Ghozali, 2018: 332). Table 4 showed a decrease where the final value of -2 Log Likelihood of 77,669 was lower than the initial value of -2 Log Likelihood of 160,677, then don't refuse  $H_0$ . Which means that the hypothesized model is fit with the data.

**Table 4. Overall Model Fit Test Result**

Iteration History	
Iteration	-2 Log Likelihood
Block 0	160.677
Block 1	77.669

Source: Data results, 2021

b. Regression Model Feasibility Test Results

According to Ghozali, 2018: 333) Hosmer and Lemeshow's test is a test to determine whether empirical data is suitable or in accordance with the model. Based on table 5, showing the Chi-square value 10,837 with a significant value of 0.211 which is greater than 0.05 then don't refuse  $H_0$ . This means the model matches the data so the regression model is able to explain the data.

**Table 5. Hosmer and Lemeshow Test Results**

Step	Chi-square	Df	Sig.
1	10.837	8	.211

Source: Data results, 2021

c. Coefficient of Determination Test Results (Nagelkerke's R square)

Nagelkerke's R square test is a test for finding out the magnitude of variability of dependent variables that can be explained by independent variable variability (Ghozali, 2018: 333). Based on table 6 of Nagelkerke's R square test results of 0.677 which indicates the effect of the independent variable on the dependent variable is 67.7%.

**Table 6. Nagelkerke's R Square Test Results**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	77.669 <sup>a</sup>	.499	.677

Source:

Data results, 2021

#### d. Classification Matrix Test Results

According to (Ghozali, 2018: 334) the classification matrix test is a useful test for calculating correct and incorrect estimation values. Based on table 7, it shows that the predictive power of the regression model in predicting the probability of the model's prediction rate is 85.8%, of which 90.4% of fraud and 78.7% of non-fraud have been able to be predicted by the model. The predictive power of the regression model to predict the possibility of fraudulent financial statements is 90.4%. This shows that there are 66 companies predicted to make fraudulent financial statements from a total of 73 companies that make fraudulent financial statements. The predictive power of the model of companies that are indicates not to have committed which means there are 37 companies out of a total of 47 companies that do not commit fraudulent financial statements. So that the overall classification accuracy is 85.8%.

**Table 7. Classification Matrix Test Results**

		Predicted		
		MSCORE	1	Percentage Correct
Step 1	MSCORE	0	37	78.7
		1	7	90.4
Overall Percentage				85.8

Source: Data results, 2021

#### e. Logistics Regression Coefficient Significance Test Results

This test is useful for showing how far the influence of one variable is explained or independent individually in explaining the variation of dependent variables (Ghozali, 2018: 98).

**Table 8. Coefficient Logistic Regression Test Results**

Step		B	S.E.	Wald	df	Sig.	Exp(B)
1 <sup>a</sup>	ACHANGE	.911	2.629	.120	1	.729	2.487
	LEV	.384	2.288	.028	1	.867	1.468
	OSHIP	-.885	1.373	.415	1	.519	.413
	ROA	2.049	6.914	.088	1	.767	7.757
	REC	45.610	15.517	8.640	1	.003	6.427E+19
	BDOU	-2.866	3.231	.786	1	.375	.057
	TATA	43.823	9.880	19.676	1	.000	1.077E+19
	DCHANGE	-.952	.669	2.028	1	.154	.386
	Constant	.593	1.787	.110	1	.740	1.810

Source: Data results, 2021

Based on table 8, the equation of the logistic regression model is processed as follows:

$$\text{M-Score} = 0.593 + 0.911 \text{ ACHANGE} + 0.384 \text{ LEV} - 0.885 \text{ OSHIP} + 2.049 \text{ ROA} + 45.610 \text{ REC} - 2.866 \text{ BDOUT} + 43.823 \text{ TATA} - 0.952 \text{ DCHANGE}$$

## Discussion

### 1. The Effect of Financial Stability on The Possibility of Fraudulent Financial Statements

Test results from financial stability variable as proxied by ACHANGE have a coefficient value of 0.911 with a significance level of 0.364 ( $0.729 \div 2$ ) greater than 0.05 so don't refuse  $H_0$ . That means that it is not proven that financial stability has a significant positive effect on the possibility of fraudulent financial statements, so  $H_1$  is rejected. This shows that when the financial condition of a company is unstable, the management tends to come under pressure to make fraudulent financial statements, one of which is asset manipulation. The insignificant results in this study is because there is growth in assets or funding from third parties. This study has results consistent with (Norbarani & Rahardjo, 2012; Sunardi & Amin, 2018) however, the results of this study contradict the research conducted by (Sihombing & Rahardjo, 2014) which showed that the variable financial stability has a significant positive effect on the possibility of fraudulent financial statements.

### 2. The Effect of External Pressure on The Possibility of Fraudulent Financial Statement

Test results from external pressure variable as proxied by LEV have a coefficient value of 0.384 with a significance level of 0.433 ( $0.867 \div 2$ ) greater than 0.05 so don't refuse  $H_0$ . That means that it is not proven that external pressure have a significant positive effect on the possibility of fraudulent financial statements, so  $H_2$  is rejected. This shows that outside pressure to meet the expectations and requirements of third parties that are generally caused by debt owned by the company has an insignificant positive influence on financial statement fraud. This happens because companies that have a large leverage ratio in this study will not necessarily commit fraud that can be affected by a good surveillance system so that the effect of external pressure on fraudulent financial statements is not significant. This study has results consistent with research conducted by (Annisya et al., 2016) however, the results of this study contradict the research conducted by (Sihombing & Rahardjo, 2014) which showed that external pressure variables have a significant positive effect on the possibility of fraudulent financial statements.

### 3. The Effect of Personal Financial Need on The Possibility of Fraudulent Financial Statement

Test results from personal financial need variable as proxied by OSHIP have a coefficient value of -0.885 with a significance level of 0.259 ( $0.519 \div 2$ ) greater than 0.05 so don't refuse  $H_0$ . That means it is not proven that personal financial need has a significant positive effect on the possibility of fraudulent financial statements, so that  $H_3$  is rejected. Based on the test results showed that the ownership of shares owned by company insiders, both directors, board of commissioners, and other management did not positively affect the possibility of financial statement fraud. This can happen due to the low average shareholdings held by company insiders in this sample of research so that insiders who own company shares cannot significantly influence decisions for their own benefit. This study is consistent with the results of research conducted by (Yulistyawati et al., 2019) however, the results of this study contradict the results of research conducted by (Sari & Lestari, 2020) which showed that personal financial need variables have a significant positive effect on the possibility of fraudulent financial statements.

### 4. The Effect of Financial Targets on The Possibility of Fraudulent Financial Statements

The test results of the target financial variable as proxied by ROA have a coefficient value of 2,049 with a significance level of 0.383 ( $0.767 \div 2$ ) greater than 0.05 so don't refuse  $H_0$ . That means it is not proven that the target financial variable has a significant positive effect on the

possibility of fraudulent financial statements, so that  $H_4$  is rejected. This can happen because the company management in this study will not necessarily manipulate profits on financial statements to achieve financial targets. In addition, the increase in financial targets it can be not considerable pressure because the increase in ROA accompanied by improvements in the quality of company operations such as modernization of information systems, recruitment of potential workers, effective supervision and appropriate board of director policies in solving problems. This study has results consistent with research conducted by (Annisya et al., 2016) however, the results of this study contradict the research conducted by (Sunardi & Amin, 2018) which showed that the target financial variables had a significant positive effect on the possibility of fraudulent financial statements.

#### **5. The Effect of Nature of Industry on The Possibility of Fraudulent Financial Statement**

Test results from nature of industry variable as proxied by REC have a coefficient value of 45,610 with a significance level of 0.0015 ( $0.003 \div 2$ ) that is smaller than 0.05 so refuse  $H_0$ . That means it is proven that nature of industry has a significant positive effect on the possibility of fraudulent financial statements, so that  $H_5$  is accepted. This shows that the nature of the industry projected by the average change in the company's receivables to the company's sales has a positive and significant effect on the possibility of financial statement fraud. An increase in the amount of a company's receivables from the previous year significantly or disproportionately to sales may be an indication of manipulation of financial statements. This study is consistent with the results of research conducted by (Sihombing & Rahardjo, 2014) however, the results of this study contradict the research conducted by (Sari & Lestari, 2020) which showed that the variable nature of industry has a significant negative effect on the possibility of fraudulent financial statements.

#### **6. The Effect of Ineffective Monitoring on The Possibility of Fraudulent Financial Statements**

Test results from ineffective monitoring variable as proxied by BDOOUT have a coefficient value of -2,866 with a significance level of 0.187 ( $0.375 \div 2$ ) greater than 0.05 so don't refuse  $H_0$ . That means it is not proven that ineffective monitoring has a significant positive effect on the possibility of fraudulent financial statements, so that  $H_6$  is rejected. This can happen because the existence of an independent board of commissioners in the company can provide assurance that the supervision of the company will be more effective and objective away from the intervention of certain parties. The smaller the ratio, the lower the effectiveness of corporate supervision, the higher the likelihood of fraud. This study is consistent with research conducted by (Sihombing & Rahardjo, 2014) however, the results of this study contradict the research conducted by (Damayanti & Suryani, 2019) which showed that ineffective monitoring variable have a significant positive effect on the possibility of fraudulent financial statements.

#### **7. The Effect of Rationalization on The Possibility of Fraudulent Financial Statements**

The test results of the rationalization variable as proxied by TATA have a coefficient value of 43,823 with a significance of 0.000 which is less than 0.05 so refuse  $H_0$ . That means it is proven that rationalization has a significant positive effect on the possibility of fraudulent financial statements, so  $H_7$  is Accepted. This means that the principle of accrual is utilized by the management of the company to manipulate profits which is influenced by the rationalization of management in decision making. Accrual arises due to the existence of rules, assumptions or accounting policies such as depreciation, and others. Making decisions about accounting rules is of course made by management to change income as desired. This study is consistent with (Sari & Lestari, 2020) however, the results of this study contradict the research conducted by (Agusputri & Sofie, 2019) which showed that the rationalization variable have a negative effect on the possibility of fraudulent financial statements.

## 8. The Effect of Capability on The Possibility of Fraudulent Financial Statements

The test results of the capability variable as proxied by DCHANGE have a coefficient value of -0.952 with a significance level of 0.154 greater than 0.05 so don't refuse  $H_0$ . That means that it is not proven that capability has a significant effect on the possibility of fraudulent financial statements, so that  $H_a$  is rejected. This indicates that changes in the board of directors in the company do not trigger fraudulent financial statements that can be caused by the existence of an effective supervision system from the board of commissioners. Changes to board members can also indicates the company wants changes and progress in the company by recruiting directors who are considered more competent than previous directors. This study is consistent with (Umar et al., 2020) however, the results of this study contradict the research conducted (Sunardi & Amin, 2018) which showed that the capability variable effect the possibility of fraudulent financial statements.

## CONCLUSION

Based on the results of the tests conducted, the conclusions obtained in this study that: 1) It is not proven that financial stability, external pressure, personal financial need, financial target, ineffective monitoring have a positive effect on the possibility of fraudulent financial statements. 2) It is proven that the nature of industry and rationalization have a positive effect on the possibility of fraudulent financial statements. 3) It is not proven that capability has an effect on the possibility of fraudulent financial statements.

Some suggestions based on the results of research that have been considered, for the company, it is expected that the company can take precautions by improving the surveillance system, conducting segregation of duties and making internal auditor changes. For companies that are indicated the possibility of fraudulent financial statements is expected to be an evaluation material, especially in reviewing accounts related to receivable ratios as proxies of nature of industry and the ratio of total accruals to total assets as proxy rationalization more thoroughly.

For practitioners such as investors and potential investors, with this research is expected to be more careful in assessing the company's financial statements before making decisions or investing. For further researchers, it is expected that research with similar topics can next use a sample of different or broader studies (not limited to just one industry only), use other proxies that are more accurate, use new variables in fraud analysis such as fraud pentagon, extend the research period in order to generalize the results of the study in explaining the influence of fraud risk factors.

## REFERENCE

- Agusputri, H., & Sofie, S. (2019). Faktor - Faktor Yang Berpengaruh Terhadap Fraudulent Financial Reporting Dengan Menggunakan Analisis Fraud Pentagon. *Jurnal Informasi, Perpajakan, Akuntansi, Dan Keuangan Publik*, 14(2), 105.
- Annisya, M., Lindrianasari, & Asmaranti, Y. (2016). Pendeteksian Kecurangan Laporan Keuangan Menggunakan Fraud Diamond. *Jurnal Bisnis Dan Ekonomi (JBE)*.

- Arens, A. A., Elder, R. J., & Beasley, M. S. (2015). *Auditing & Jasa Assurance: Pendekatan Terintegrasi*. Edisi Kelima Belas, Jilid I, Terjemahan oleh Herman Wibowo, Jakarta, Penerbit Erlangga.
- Beneish, M. (1999). A Note on Wiedman's (1999) Instructional Case: Detecting Earnings Manipulation. *Issues in Accounting Education*, 14(2), 369-370.
- Christy, Y., & Stephanus, D. (2018). Pendeteksian Kecurangan Laporan Keuangan dengan Beneish M-Score pada Perusahaan Perbankan Terbuka. *Jurnal Akuntansi Bisnis*, 16(2), 148.
- Damayanti E. R., & Suryani, E. (2019). Pengaruh Financial Stability, Tekanan eksternal, Ineffective Monitoring dan Opini Audit Terhadap Indikasi Kecurangan Laporan Keuangan. *e-Proceeding of Management: Vol.6, No.2 Agustus*, 3141
- Tessa, C. G & Harto, P. (2016). Pengujian Teori Fraud Pentagon Pada Sektor Keuangan Dan Perbankan Di Indonesia. *Simposium Nasional Akuntansi*, 1–21.
- Ikatan Akuntan Indonesia. (2015). Penyajian Laporan Keuangan. *Penyajian Laporan Keungan*, 1, 24.
- Indonesian Institute of Certified Public Accountants. (2014). *SA 240*. (p. 41).
- Ghozali, Imam. 2018. *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25*. Badan Penerbit Universitas Diponegoro: Semarang
- Jensen, C., & Meckling, H. (1976). *Theory Of The Firm : Managerial Behavior , Agency Costs And Ownership Structure I . Introduction and summary In this paper WC draw on recent progress in the theory of ( 1 ) property rights , firm . In addition to tying together elements of the theory of e. 3*, 305–360.
- Lestari, A. A. M., & Nuratama, I. P. (2020). Pengaruh Financial Stability, External Pressure, Nature of Industry, dan Rationalization Terhadap Financial Statement Fraud dalam Sudut Pandang Fraud Triangle pada Perusahaan Sektor Real Estate and Property yang Terdaftar di Bursa Efek Indonesia Tahun 2014-2017. *Hita Akuntansi Dan Keuangan*, 407–435.
- Norbarani, L., & Rahardjo, S. (2012, Januari). Pendeteksian Kecurangan Laporan Keuangan Dengan Analisis Fraud Triangle yang Diadopsi dalam SAS No.99. *Jurnal Akuntansi Multiparadigma*.
- Sari, T. P., & Lestari, D. I. T. (2020). Analisis Faktor Risiko Yang Mempengaruhi Financial Statement Fraud : Prespektif Diamond Fraud Theory. *Jurnal Akuntansi Dan Pajak*, 20(2), 109–125.
- Sekaran, U., & Bougie, R. (2017). *Metode Penelitian untuk Bisnis: Pendekatan Pengembangan-Keahlian*, Edisi Ke-enam, Terjemahan oleh Tim Editor, Jakarta, Salemba Empat.
- Sihombing, K., & Rahardjo, S. (2014). Pengaruh Fraud Diamond dalam Mendeteksi Financial Statement Fraud (Studi Empiris pada Perusahaan Ritel yang Terdaftar di Bursa Efek Indonesia Tahun 2014 – 2016). *Diponegoro Journal of Accounting*, 3, 1-12.
- Skousen, C., Smith, K., & Wright, C. (2009). Detecting and predicting financial statement fraud: The effectiveness of the fraud triangle and SAS No. 99. *Advances in Financial Economics*, 13, 53-81.

- 
- Sunardi, S., & Amin, M. (2018). Fraud Detection of Financial Statement by Using Fraud Diamond Perspective. *International Journal of Development and Sustainability*, 7(3), 878-891.
- Suryani, I. C. (2019). Analisis Fraud Diamond Dalam Mendeteksi Financial Statement Fraud: Studi Empiris Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2016-2018. *Seminar Nasional Cendekiawan ke 5 Tahun 2019*.
- Suryandari, Ni Nyoman A. & I Dewa, M. E. (2019). Fraudulent Financial Statement. CV. Noah Aletheia.
- Umar, H., Partahi, D., & Purba, R. B. (2020). Fraud diamond analysis in detecting fraudulent financial report. *International Journal of Scientific and Technology Research*, 9(3), 6638–6646.
- Wolfe, D. T., & Hermanson, D. R. (2004). The Fraud Diamond: Considering the Four Elements of Fraud. *The CPA Journal*.
- Yesiariani, M., & Rahayu, I. (2017). Deteksi financial statement fraud: Pengujian dengan fraud diamond. *Jurnal Akuntansi & Auditing Indonesia*.
- 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 & Auditing Indonesia*.
- Zaki, M. (2017). The Appropriateness of Fraud Triangle and Diamond Models in Assessing the Likelihood of Fraudulent Financial Statements - An Empirical Study on Firms Listed in The Egyptian Stock. *International Journal of Social Science and Economic Research*, 2(2), 2403-2433.



