Detection of Fraudulent Financial Statements with Fraud Diamond

Zikra Supri, Yohanis Rura, Grace T. Pontoh
(Accounting Department, Hasanuddin University)

ABSTRACT: This study aims to analyze the effect of diamond fraud elements (pressure, opportunity, rationalization and capability) toward company's financial statements on the Indonesia Stock Exchange. Financial stability, external pressure, financial target, nature of industry, effectiveness of monitoring, auditors change's and directors change's are used as proxy variables for diamond fraud elements. This study was a quantitative approach that processes secondary data in the form of annual reports of manufacturing companies. Fifty samples were obtained from thirty-five companies period 2015 to 2017 by purposive method. Data were analyzed using SPSS software with a logistic regression analysis method. The results showed that financial stability, external pressure, financial targets and auditor change's has positive and significant effect on financial statements fraud. Effectiveness of monitoring has negative and significant effect on financial statements fraud. Nature of industry and director change's has not significant effect on financial statements fraud.

KEYWORDS: fraud diamond, financial statements fraud, pressure, opportunity, rationalization, capability

Received 29 November, 2018; Accepted 17 December, 2018 © The Author(S) 2018. Published With Open Access at www.questjournals.org

I. INTRODUCTION

Financial statements provide all financial information regarding the company's financial position, company performance, and corporate entity cash flows that are useful to interested parties. Financial statements are not just a collection of numbers, but are a tool for several interested parties in making economic decisions. The importance of information content in financial statements is a motivation for management to improve its performance so that the company's existence is maintained. But in some cases sometimes when companies fail to achieve good performance, information in financial statements will not be satisfactory. This is what sometimes makes management willing to commit fraud so that the information in the financial statements looks good.

Fraud in the financial statements has been a concern since the Enron case in 2001. After that several cases of fraud or manipulation emerged that received great public attention in Asia, such as the 2009 Satyam Computer Service Ltd., Kanebo case in 2001 to 2002 and the Olympic Corporation in 2009 in Japan. In Indonesia, fraudulent financial statements have been heard, one of which is the Kimia Farma case that occurred in 2001. In addition, other cases that also attracted public attention were Waskita Karya and Batavia Air in 2013 and 2009. Last year Toshiba also surprised the whole world when it stated that its company was conducting an investigation into internal accounting scandals and had to revise the calculation of profits in the last 3 years. Thosiba as a symbol of a very strong Japanese company is not even spared from fraud cases.

Fraud cases will certainly continue to emerge and develop if the parties involved cannot detect fraud from an early age. The management has an obligation to compile and publish the company's financial statements in terms of accountability for the use of the resources entrusted to them. Therefore, business people must be able to provide accurate and relevant information and be free from fraud which will greatly mislead users of financial statements in the decision-making process. Unfortunately not all business people realize the importance of clean financial reports and are free from fraud. Fraud behavior in the presentation of important financial statements is a concern so that this action can be detected and eliminated, so that the financial statements will be trusted by the stakeholders.
Cressey introduced the concept of the Fraud Triangle which states that the cause of fraud is due to the factors of motivation / pressure, opportunity, and rationalization. Cressey’s research was then refined by [13]who added capability factors other than the three Cressey factors. This concept became known as Fraud Diamond Theory. Fraud diamond explains four elements (pressure, opportunity, rationalization and capability) can be the cause of fraud, therefore it is very interesting to prove this. Several previous studies have linked the financial statement fraud and fraud triangle, but are still not consistent in the measurement variables and research results. Detection of fraudulent financial statements with the fraud triangle model from [5] contributed a measurement of the financial ratios of the element of the fraud triangle, but not all ratios provide evidence showing a relationship with fraudulent financial statements. The ratio used in several studies is sometimes different from one another. This study will add elements of capability in testing and to measure the dependent variable using the Beneish M-Score model. The Beneish M-Score was created by Professor Messod Beneish in 1990. Beneish M-score model can indicate the existence of financial report manipulation by using several financial statement proxies.

II. LITERATURE REVIEW

2.1 Fraud

The Institute of Internal Auditors (IIA), explains fraud is "an array of irregularities and illegal acts characterized by intentional deception" which means a set of actions that are not permitted and violate the law that are characterized by the existence of intentional elements of fraud. While International Standards of Auditing section 240 (The Auditor's Responsibility to Consider Audit Audit Financial Statement paragraph 6) defines fraud as a deliberate action by members of the company's management, parties who play a role in the management of the company, employees, or third parties who do fraud or fraud to get unfair or illegal profits.

2.2 Fraud Triangle

The concept of cheating triangles was first introduced by Cressey in 1953. This concept was discovered through a series of interviews with 113 people who were legally charged for embezzling company money called "trust violators" or "violations of trust" [7]. This Fraud triangle answers questions, why people cheat, or why fraud occurs.

2.3 Fraud diamond

Fraud diamond by Wolfe and Hermanson is a form of refinement of the theory of fraud triangle proposed by Cressey in 1953. [13] mention that in addition to using elements of fraud triangle namely pressure opportunity and rationalization to improve fraud prevention and detection also needs to consider the fourth element, namely capability.

III. HYPOTHESIS

3.1 Financial Stability and Financial Statement Fraud

Theory of fraud triangle and diamond fraud explains one reason that can cause a person to commit fraud is pressure. The pressure in this study uses a variable of financial stability. This pressure is caused by conditions that are experienced so as to encourage someone to cheat. Management sometimes gets pressure to show that the company has been able to manage assets well so that the profits it produces are also large and will later generate high returns for investors. For this reason, management utilizes financial statements as a tool to cover up conditions of poor financial stability by committing fraud. Companies try to improve good company prospects, one of them is by engineering information on asset wealth related to the growth of assets owned, so that the greater the ratio of changes in the total assets of a company, the higher the possibility of fraud in the company's financial statements [5] Therefore the asset change proxy is used in this study, and the hypothesis proposed is as follows.

H1: Financial stability has a positive effect on financial statements fraud.

3.2 External Pressure and Financial Statements Fraud

External pressure is still part of the variable for pressure elements in the triangle fraud and diamond theory. External pressure is excessive pressure for management to meet the requirements or expectations of third parties. Pressure from outside companies makes the company try to show good financial performance or ratio and high profit to attract potential investors. This is what causes companies to be motivated to manipulate earnings [8]. [5] who argue that one of the pressures often experienced by company management is the need to obtain additional debt or external financing sources to remain competitive, including research funding and development or capital expenditures. Therefore the proxy ratio of the total liabilities and total assets is used in this study, and the hypothesis proposed is as follows.

H2: External pressure has a positive effect on financial statements fraud.
3.3 Financial Targets and Financial Statements Fraud

Variables for the pressure element of the subsequent triangle fraud and diamond theory in this study are financial targets. Pressure in the financial target is the risk of excessive pressure on management to achieve financial targets set by directors or management, including the objectives of receiving incentives from sales and profits. Research by [8] shows that financial targets proxied with ROA have a positive effect on fraudulent financial statements. Comparison of earnings to total assets or return on assets is a measure of operational performance that is widely used to show how efficiently assets have worked [5]. The higher the ROA targeted by the company, the more vulnerable the management will make profit manipulation which is one form of fraud so that it has a positive relationship with fraudulent financial statements [11]. Based on these explanations, the hypothesis proposed is as follows.

H3: Financial targets have a positive effect on the tendency of financial statements fraud.

3.4 Nature of Industry and financial statements fraud.

The factor that drives a person to commit fraud according to the triangle and diamond fraud theory is the opportunity. Cheating can be caused by the opening of opportunities that give access to individuals to manipulate [12]. The opportunity element uses industry properties as the first measurement proxy. The nature of industry is the ideal condition of a company in the industry. In financial statements there are certain accounts whose amount of balance is determined by the company based on an estimate, for example uncollectible accounts and obsolete inventory accounts [11].

The increase in the number of corporate receivables from the previous year can be an indication that the company's cash turnover is not good. A significant increase in trade receivables can be a serious indication of financial stability in a company. So that management has the potential to commit fraud in attracting investors as possible by manipulating the accounts receivable, either due to the billing period (Sihombing and Shiddiq, 2014). Therefore the hypothesis proposed is as follows.

H4: The nature of industry has a positive effect on financial statements fraud.

3.5 Effectiveness of Monitoring and Financial Statements Fraud

The second variable for the opportunity element of the tringle and diamond fraud theory in this study is the effectiveness of monitoring. The practice of fraud that occurs within the company is the result of the ineffectiveness of supervision. This provides opportunities for company agents, namely managers behave deviant [8].

Monitoring is one of the important things to prevent fraud. Audit committee meetings that are routinely carried out will improve the monitoring function of management. With increasingly tight supervision, management will lose the opportunity to commit fraudulent actions related to financial statements. Fraud can be minimized one of them by a good supervision mechanism. The frequency of meetings or meetings of the audit committee is believed to increase the effectiveness of company supervision. This means that the greater the number of meetings of the audit committee, the more effective the monitoring process will be, thereby reducing the potential for management to commit financial report fraud. Therefore the hypothesis proposed is as follows.

H5: Effectiveness of monitoring has a negative effect on the tendency of financial statements fraud.

3.6 Auditors Change’s and Financial Statements Fraud

The third element in the theory of fraud triangle and diamond is rationalization. Rationalization which is a decision made consciously by the actor who places his personal interests above the needs of others. The variable used for the rationalization element in this study is the auditor change. The existence of an auditor is important in monitoring financial statements. Companies that commit fraud often make auditor changes, because company management tends to try to reduce the possibility of detection by old auditors regarding fraudulent financial statements [11], therefore, auditor turnover is used as a proxy for rationalization that can be measured by auditor changes [5], so the hypothesis proposed is as follows.

H6: Auditor changes have a positive effect tendency of financial statements fraud.

3.7 Directors' Changes and Financial Statements Fraud

The fourth element of fraud diamond, namely capability or capability, Wolfe and Hermanson stated that many frauds would not occur if someone did not have the capability of the fraud. Therefore, the capability factor is an improvement of the model fraud proposed by Cressey [13] who stated that one of the traits related to the capability element is very important in the person of the fraud, namely positioning. Substitution of directors may be an attempt by the company to get rid of directors who are considered to know that fraud committed by the company and changes in directors are considered to require adaptation time so that initial performance is not optimal. Therefore the hypothesis proposed is as follows.

H7: Directors changes have a positive effect on financial statements fraud.
Detection of Fraudulent Financial Statements with Fraud Diamond

IV. METHODOLOGY

4.1 Population and Samples
The population in this study are manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2017. The sample in this study was determined by purposive sampling technique, so that from all population numbers only companies that meet the criteria. The criteria used to select samples include: 1) The company publishes annual financial reports on the IDX website during the 2015-2017 period which are expressed in rupiahs (Rp), 2) Information about data relating to the research variables is available in full (overall data is available in publications during the period 2015-2017). The total sample of this study is 105 consisting of 35 companies that have passed the sample selection criteria for 3 years of observation (35x3 = 105).

4.2 Variable
The dependent variable is determined using the Beneish M-Score calculation model. This model has eight measurement ratios. If Beneish M-Score is greater than -2.22 indicates that the financial statements have been manipulated and if the score is smaller than -2.22 then the company is categorized as a company that does not do manipulation (non fraud).

Table 1: Financial Ratios for Beneish-M Score

<table>
<thead>
<tr>
<th>No</th>
<th>Financial Ratio</th>
<th>Formulas</th>
</tr>
</thead>
</table>
| 1  | Days Sales in Receivable Index (DSRI) | Receivable t-1 - Sales t-1 /
|    |                             | Receivable t-1 - Sales t-1 |
| 2  | Gross Margin Index (GMI) | Sales t-1 - Cost of Goods Sold t-1 / Sales t-1 |
| 3  | Asset Quality Index (AQI) | \(1 - \frac{\text{Current asset t-1 + PPE t-1}}{\text{Total asset t-1}}\) |
| 4  | Sales Growth Index (SGI) | Sales t-1 / Sales t-2 |
| 5  | Depreciation Index (DEPI) | Depreciation t-1 / Depreciation t-2 |
| 6  | Sales General and Administrative Expenses Index (SGAI) | Sales t-1 / Sales t-2 |
| 7  | Leverage Index (LVGI) | Long Term Debt t-1 / Current Liabilities t-1 |
| 8  | Total Accruals to Total Assets (TATA) | Current Asset t - Cash t - Current Liabilities t - Current Maturities of LTD - Income tax payable - Depreciation / Total Asset |

Source: [2]

After calculating the eight ratios, then formulated into the Beneish M Score Model formula:

\[ M = -4.84 + (\text{DSRI} + \text{GMI} + \text{AQI} + \text{SGI} + \text{DEPI} + \text{SGAI} + \text{TATA} + \text{LVGI} \]  

Independent variable consists of seven variables representing elements of diamond fraud including financial stability (X1), external pressure (X2), financial target (X3), industrial nature (X4), effectiveness of monitoring (X5), auditor change (X6), and change of directors (X7).

Table 2: Independent Variables and Measurements

<table>
<thead>
<tr>
<th>Fraud Risk Factor</th>
<th>Variable</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure</td>
<td>Financial Stability</td>
<td>A CHANGE = (\text{Total Asset t} - \text{Total Asset t-1} / \text{Total Asset t-1})</td>
</tr>
<tr>
<td></td>
<td>External pressure</td>
<td>LEV = (\text{Total Liability t} / \text{Total Asset t})</td>
</tr>
<tr>
<td></td>
<td>Financial Targets</td>
<td>ROA = (\text{Profit after tax t-2} / \text{Total Asset t-1})</td>
</tr>
<tr>
<td>Opportunity</td>
<td>Nature of Industry</td>
<td>RECEIVABLE = (\text{Sales t} - \text{Receivable t-1} / \text{Sales t-1})</td>
</tr>
<tr>
<td></td>
<td>Effectiveness of Monitoring</td>
<td>ACMEET = the number of audit committee meetings in a year</td>
</tr>
<tr>
<td>Rationalization</td>
<td>Auditor Change’s (AUD CHANGE)</td>
<td>Dummy variable for auditor changes, where 1 = there is an auditor change and 0 = no auditor change</td>
</tr>
<tr>
<td>Capability</td>
<td>Directors Change’s (D CHANGE)</td>
<td>Dummy variable for change of directors, where 1 = there is a change of directors and 0 = no change of directors.</td>
</tr>
</tbody>
</table>

Source: [5], [4]

4.3 Analysis Method
Testing of the hypothesis in this study uses logistic regression analysis. The model or logistic regression formula used to test hypotheses is as follows:

\[ Y_{1-p} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + e \]

\( p / 1-p \) is the probability of the company experiencing fraudulent financial statements

\( \alpha = \text{constant} \)
Detection of Fraudulent Financial Statements with Fraud Diamond

\(\beta_1-\beta_7 = \) coefficient regression
X1 = financial stability
X2 = external pressure
X3 = financial target
X4 = nature of industry
X5 = effectiveness of monitoring
X6 = auditor change
X7 = directors change

V. RESULTS AND DISCUSSION

5.1 Descriptive Analysis
The following is a table of descriptive statistical analysis that gives an overview of the data seen from the minimum, maximum, average, and standard deviations of the values of the tested variables.

Table 3: Descriptive Statistics Analysis

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Stability (X1)</td>
<td>11,804</td>
<td>19,504</td>
<td>14,762</td>
<td>1,624</td>
</tr>
<tr>
<td>External Pressure (X2)</td>
<td>0,061</td>
<td>0,819</td>
<td>0,418</td>
<td>0,193</td>
</tr>
<tr>
<td>Financial Target (X3)</td>
<td>0,001</td>
<td>0,415</td>
<td>0,091</td>
<td>0,090</td>
</tr>
<tr>
<td>Nature of Industry (X4)</td>
<td>-0,360</td>
<td>0,422</td>
<td>0,007</td>
<td>0,079</td>
</tr>
<tr>
<td>Effectiveness of Monitoring (X5)</td>
<td>3</td>
<td>33</td>
<td>7,19</td>
<td>5,41</td>
</tr>
<tr>
<td>Auditor Change (X6)</td>
<td>0</td>
<td>1</td>
<td>0,26</td>
<td>0,44</td>
</tr>
<tr>
<td>Director Change (X7)</td>
<td>0</td>
<td>1</td>
<td>0,31</td>
<td>0,47</td>
</tr>
<tr>
<td>Financial Statement Fraud (Y)</td>
<td>0</td>
<td>1</td>
<td>0,69</td>
<td>0,47</td>
</tr>
</tbody>
</table>

Source: Data processed in 2018

5.2 Hypothesis Test Results
In testing the hypothesis, the Wald test is used to test whether there is a significant effect of each independent variable on the dependent variable. Testing the hypothesis in this study was conducted by looking at the significance level (sig) of each independent variable with a confidence level of 5 percent.

Table 4: Summary of Results of Testing Hypothesis

<table>
<thead>
<tr>
<th>Correlation</th>
<th>Hypothesis</th>
<th>Test Result</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>1,603</td>
<td>.0045</td>
</tr>
<tr>
<td>X2 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>1,792</td>
<td>.0005</td>
</tr>
<tr>
<td>X3 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>.191</td>
<td>.0320</td>
</tr>
<tr>
<td>X4 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>.091</td>
<td>.1115</td>
</tr>
<tr>
<td>X5 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>.183</td>
<td>.0070</td>
</tr>
<tr>
<td>X6 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>1,138</td>
<td>.0485</td>
</tr>
<tr>
<td>X7 \rightarrow Y</td>
<td>(+) signifikan</td>
<td>1,116</td>
<td>.0640</td>
</tr>
</tbody>
</table>

Source: Data processed in 2018

5.3 Effect of Financial Stability and Financial Statement Fraud
Results of the 1st hypothesis testing that financial stability have a significant positive effect on fraudulent financial statements. This shows that any increase in the ratio of changes in total assets will increase the risk of fraudulent financial statements. Pressure which is proxied by financial stability uses changes in the company's total assets as a measurement ratio. Company assets can be used to see the company's financial condition, because assets can describe the assets owned by the company. The unstable condition of the company can be caused by the performance of management that is unable to maximize the assets it has so that it can lead to changes in assets that are too high or even too low in a given year. The small amount of company assets in the past, can motivate companies to increase their total assets. It's just that companies that have small assets or have large assets, but also large cash outflows, have the opportunity to manipulate so that the stability of the company looks good [4].

5.4 External Pressure and Financial Statements Fraud
Results of testing the second hypothesis that external pressure has a significant positive effect on fraudulent financial statements. This means that the greater the pressure from external parties it will increase the potential of management to commit financial report fraud. External pressure uses leverage ratio, which is the ratio between total assets and total debt. The company must be able to provide confidence in being able to repay the loan it has obtained from a third party. When a company has high leverage, it means that the company has large debt and high credit risk. If this happens, there will be concern for the company that the company is unable...
to return the capital loan provided. Therefore, companies must try to save themselves from these conditions so that they are still considered capable of controlling loans. The pressure on this can only encourage management to tend to manipulation.

5.5 Financial Targets and Financial Statements Fraud

Results of the third hypothesis testing that financial targets measured by return of assets have a significant positive effect on fraudulent financial statements. The results of this analysis indicate that the greater the return of assets (ROA) will increase the potential for fraud in the financial statements. In accordance with the theory of fraud triangle by Cressey and fraud diamond by Wolfe and Hermanson that the stronger the pressure on the achievement of financial targets expected by management, the tendency towards fraudulent financial statements is also greater. SAS No.99 ([11]) explains that the financial target is the risk of excessive pressure on management to achieve financial targets set by directors or management. The financial target uses ROA as its measurement ratio which shows the company's ability to generate profits from the use of all its assets. Companies with a low level of ROA make management tend to manipulate profits because company management wants the results of their performance to be seen as good, so that high-looking corporate ROA allows financial reports to be manipulated.

5.6 Nature of Industry and financial statements fraud.

Results of testing the 4th hypothesis that the nature of industry has a positive and insignificant effect on fraudulent financial statements. This shows that the results of the analysis on industrial nature variables are partially unable to be used to detect financial statement fraud. This means that the size of the ratio of changes in accounts receivable does not trigger management to commit fraudulent financial statements. This is probably due to the fact that companies included in the fraud sub-group and non-fraud sub-sample groups have no different industrial characteristics, so the RECEIVABLE cannot be used to detect fraudulent financial statements in the company.

5.7 Effectiveness of Monitoring and Financial Statements Fraud

Results of the fifth hypothesis testing that the effectiveness of supervision have a significant negative effect on fraudulent financial statements. This shows that the higher the effectiveness of supervision, the tendency of fraudulent financial statements will be lower. The higher the number of audit committee meetings in a year will reduce the tendency of fraudulent financial statements. This research is in line with the research conducted by [6] who can predict that the number of audit committee meetings can reduce earnings manipulation.

5.8 Auditors Change’s and Financial Statements Fraud

Results of the 6th hypothesis testing that auditor changes have a significant positive effect on fraudulent financial statements. This means that the higher the frequency of auditor changes, the higher the tendency for companies to financial statement fraud. The auditor is an important supervisor who has certain qualifications in conducting audits of the financial statements of a company. Information about fraud committed within the company can be known by the auditor. [10] states that companies that commit fraud often make auditor changes because company management tends to reduce the possibility of detection by old auditors regarding fraudulent financial statements.

5.9 Directors' Changes and Financial Statements Fraud

Results of the 7th hypothesis testing that changes in directors have a negative and insignificant effect on fraudulent financial statements. The results of analysis on capability variables that are proxied by DCHANGE (change of board of directors) are partially unable to be used to detect financial statement fraud. This is possible because the highest stakeholders in the company really want an improvement in the company's performance by recruiting directors who are considered more competent than the previous directors.

VI. CONCLUSION

The results showed that the element of pressure that is proxied by financial stability, external pressure and financial targets had a significant positive effect on fraudulent financial statements. The proxy element of opportunity, namely the nature of industry does not have a significant effect on fraudulent financial statements, but for the proxy of supervisory effectiveness it has a significant negative effect on fraudulent financial statements. Auditor changes which are a proxy for rationalization have a significant positive effect on fraudulent financial statements. Capabilities proxied by changes in directors have no significant effect on fraudulent financial statements.
This study has several limitations that have affected the results of the study, namely the study sample of only 105 with 35 manufacturing companies on the Indonesia Stock Exchange and the proxy variables and measurement ratios used for diamond fraud elements are still less diverse. Based on research limitations, the suggestions that can be given are as follows; 1) further research is expected to develop research samples to other sectors such as finance and banking, 2) years of sampling can be extended to obtain more accurate comparison data, 3) further research can also add other proxies from diamond fraud elements that are not used in this research.

REFERENCES


