APPLICATION OF FRAUD PENTAGON FOR DETECTING SYMPTOMS OF SHORTFALL FINANCIAL STATEMENTS

Driya Sudaryono
PT Solusi Bangun Indonesia Tbk
email: driyasu@gmail.com

Abstract
The purpose of this study is to determine the effect of the fraud pentagon toward financial statement fraud symptoms using the modified Jones model for mining companies. The purposive sampling method was applied in this study. The sample consists of 30 listed companies on the Indonesian Stock Exchange in 2013-2016 with a total of 120 data evaluated. The results concluded that pressure which proxied with financial targets and financial stability has a positive and significant effect on financial statement fraud. Opportunity has a negative and significant effect on financial statement fraud while rationalization, capability, and arrogance have no significant influence on financial statement fraud. This finding is useful for investors in assessing the factors that influence the likelihood of financial statements fraud.

Keywords: Earnings Management; Financial Statement; Fraud Pentagon; Modified Jones Model

JEL Classification: M42, G32

INTRODUCTION

Corporate earnings information is an element in financial statements that is often the concern of investors. This concern drives management to produce maximum performance and profit for the company to ensure that the financial statements look good in the eyes of investors, and may even lead management to commit fraud in order to show better financial statements. Statement on Auditing Standards No. 99 (SAS No. 99) defines fraud as an intentional treatment that results in material misstatements in financial statements subject to audit.

There have been many recent cases of financial statement fraud. One such case involved the Toshiba Corporation in 2015, whereby the company was proven to have committed fraud since 2008 by inflating profits with an estimated value of USD1.22 billion (Suminar, 2017). Another prominent case was that of PT Kimia Farma Tbk, who committed fraud by marking up its net profits in its financial statements by IDR32.6 billion (Parsaoran, 2017). In addition, PT Cakra Mineral Tbk (CKRA) in 2015 allegedly manipulated its financial statements. For more than two years, CKRA's directors
incorrectly claimed that CKRA had a 55% stake in Murui while its Board of Directors also deliberately inflated the value of CKRA’s assets and overestimated paid-in capital. As a result, the investors suffered significant losses from these false, misleading, and incorrect disclosures (Suryana, 2018). In the same year, another mining company, PT Timah Tbk, committed fraud by providing fictitious financial reports in the first semester of 2015 (Soda, 2016).

The Association of Certified Fraud Examiners (ACFE, 2014) divides fraud into 3 forms: asset misappropriation, financial statement fraud and corruption. Fraud may occur if any member of corporate management is committed to material manipulation over financial statements (Lastanti, 2020). Albrecht (2012) defines financial statement fraud as a deviation committed by management preparing financial statements that misinterpret the financial position or performance of a company. This behavior results in manipulation, falsification, or alteration of accounting records. The form of fraud committed by most companies is related to opportunistic earnings management. Scott (2015) defines opportunistic earnings management as the opportunistic behavior of managers to maximize their utility in dealing with compensation contracts, money contracts, and political costs.

The motivation of this research stems from concerns regarding the rising of fraud cases in Indonesia, as mentioned above. Most of the company’s conditions are now growing and more complex compared to the past. Many companies today are experiencing rapid growth and in an increasingly complex environment compared to the past. There are also perpetrators of fraud who are now more clever and able to access various companies’ information.

This study examines the financial statement fraud symptoms and the factors suspected of causing fraud. The pentagon fraud theory discusses the factors that cause fraud (Crowe's fraud pentagon theory). Pentagon fraud theory is an extension of the fraud triangle theory previously proposed by Cressey. The factors examined by previous studies were limited to pressure, opportunity, rationalization, and capability, while studies with pentagon fraud that used arrogance factors were still limited as well. This research is based on the pentagon fraud theory, which discusses the four factors mentioned earlier in addition to arrogance.

This research uses the Earnings Management Modified Jones Model formula as a proxy for the symptoms of financial statement fraud. Financial statement fraud oftentimes start with intentional misstatements or financial statement earnings adjustments that are considered immaterial but ultimately become larger cases of fraud that result in misleading financial reports (Rezaee, 2002). The modified Jones model is a formula used to measure the symptoms of opportunistic earnings management that are widely used in accounting studies since it is still considered a good model for detecting earnings management (Shahzad, 2016).

**LITERATURE REVIEW**

**Agency Theory**

According to Scott (2015):

“Agency Theory is a branch of game theory that studies the design of contract to motivate a rational agent to act on behalf of a principal when the agent’s interests would otherwise conflict with those of the principal.”
Agency theory describes the contractual relationship between the party that delegates certain decision making and the party that receives the delegation. Agency theory focuses on determining the most efficient contracts that affect the principal and agent relationships.

Agency theory is based on two main axioms: (1) information asymmetries exist between principals and agents and (2) principals and agents have divergent interests. In the case of a firm, the owner (principal) provides the capital, thereby assuming a level of risk and hires a manager (agent) to perform some duties. Principals expect managers to manage the firm in the best interests of the owners. However, managers have superior information about the firm’s operations and may work against the owners’ interests because of divergent interests.

**Fraud Theory**

Fraud is an act against the law that benefits both himself and others and causes harm to others. While the definition of fraud according to (Albrecht et al., 2011) is:  
“Fraud is a generic term and embraces all the multivarious means which human ingenuity can devise, which are resorted to by one individual, to get an advantage over another by false representations. No definite and invariable rule can be laid down as a general proposition in defining Fraud, as it includes surprise, trickery, cunning and unfair ways by which another is cheated. The only boundaries defining it are those which limit human knavery.”

The above definition explains that fraud is a general concept and has many meanings, which can occur due to human ingenuity and is aimed at one individual to gain more profit through misstatement. There are no specific rules that can be used as a basis for interpreting fraud, such as those included with surprises, cunning and unnatural methods used to deceive others. One way to explain it is that fraud is something that damages human morals.

Fraud includes the following elements; representation, involving material things, wrong things, done intentionally or very carelessly, which is believed, and done to the victim, and to the detriment of the victim (W. Albrecht et al., 2011).

**Earnings Management**

Scott (2015) states that earnings management is the managers’ selection of accounting policies of existing accounting standards and can naturally maximize the company’s utility or market value. According to Healy and Wahlen in Sulistyanto (2008), earnings management arises when managers change transactions in the financial statements to mislead stakeholders or influence contracts using reported accounting numbers.

Understandings or perspectives of earnings management can be divided into two; opportunistic perspectives and efficient perspectives. Each perspective is explained as follows:

a. **Opportunist perspective**

Scott (2015) states that the understanding of opportunistic earnings management is the managers’ behaviour to maximize their utility regarding compensation contracts, money contracts, and political costs.
b. Efficient Perspective

Scott (2015) states that efficient earnings management is a situation where earnings management gives managers the flexibility to protect themselves and the company to anticipate unexpected events for the benefit of parties involved in the contract.

**Fraud Tree**

The Association of Certified Fraud Examiners (ACFE, 2014) describes occupational fraud in the form of fraud trees. This occupational fraud tree has three main branches; corruption, asset misappropriation, and fraudulent statements.

1. **Corruption**

   Corruption according to the fraud tree is divided into four forms: conflicts of interest, bribery, illegal gratuities, and economic extortion.

2. **Asset Misappropriation**

   Asset Misappropriation is the illegal taking of assets by someone authorized to manage or supervise these assets. This action is also called darkening.

3. **Fraudulent Statements**

   Fraudulent statements can either be for preparing financial statements or for preparing non-financial statements. In preparing financial statements, fraud is usually a form of misstatement that can be done in two ways: presenting assets or income that are higher than actual and presenting assets or income that are lower than actual.

   Fraud in preparing non-financial reports can be in the form of submitting non-financial reports in a misleading manner and often is a forgery or a reversal of the situation. According to Arens (2008) the definition of financial statement fraud is intentional misstatement or omission of numbers or disclosures with a view to deceive users. Most financial statement fraud cases involve intentional misstatement of amounts as opposed to disclosures.

**Fraud Model (Fraud Pentagon)**

Marks discovered the development of the latest fraud model (2012) referred to as The Crowe's Pentagon Fraud. Pentagon Fraud is the development of the older fraud triangle and diamond fraud theories. The main difference between the fraud triangle and the pentagon fraud is that the fraud triangle focuses on fraud committed at the middle management level. In contrast, the pentagon fraud has a broader fraud scheme involving CEO or CFO manipulation.

Below are the elements of pentagon fraud:

1. **Pressure** is the existence of a motivation to commit and hide fraud.
2. **Opportunity** is created by weak control which makes it easier to commit fraud.
3. **Rationalization** is thought justifying the fraud committed.
4. **Competence/capability** is the employees’ ability to compromise the company’s internal controls, develop sophisticated embezzlement strategies, and influencing others to cooperate to control social situations to their benefits (Marks, 2012).
5. **Arrogance** is an attitude of superiority or belief that internal control cannot be enforced personally (Marks, 2012).

**Pressure**

Pressure is the existence of a motivation to commit and hide fraud. According to Cressey, the pressure on fraud perpetrators is usually in the form of financial and non-
financial pressures. According to SAS No. 99, there are four common pressure conditions that can lead to fraud:
1. Financial stability is a condition that illustrates where the company's financial condition is stable.
2. External pressure is pressure for management to meet expectations or requirements from third parties.
3. Personal financial need is a situation where the financial condition of company executives also influences company finances.
4. Financial target is pressure to achieve financial targets from directors or management.

Opportunity
This study aims to examine the factors that influence the effectiveness of risk management, through direct testing and indirect testing. Direct testing is conducted between risk awareness variables on the effectiveness of risk management. Meanwhile, indirect testing tests the effect of risk awareness on the effectiveness of risk management through strategy integration and risk assessment. The research framework is illustrated in Figure 1 below.

Opportunity is a chance that a rise is due to weak internal control that opens the opportunity to commit fraud. According to SAS No. 99, financial statement fraud can occur in three kinds of opportunities:
1. Ineffective monitoring is a situation where the company lacks an effective supervisory unit monitoring the company's performance.
2. The nature of industry is related to the increased risks for companies involved in industries that have significant estimates and considerations.
3. Organization structure that is complex and unstable.

Rationalization
Rationalization is thought to justify cheating that has already happened. According to SAS No. 99, rationalization is the attitude of board members, management, or employees that enables them to engage in and/or justify financial statement fraud. Skousen et al. (2009), Manurung & Hardika (2015), and Tessa & Harto (2016) use AUDCHANGE (auditors change) to measure rationalization, by providing code 1 for companies that change auditors during the research year and code 0 for companies that do not change auditors. In addition to AUDCHANGE, the proxy used to measure rationalization is TATA (total accrual). Iqbal & Murtanto (2016), and Skousen et al. (2009) use total accruals to measure rationalization by dividing total accruals with total assets.

Capability
According to Yesiriani & Rahayu (2016) capability is the employees’ ability to compromise the company’s internal controls, develop sophisticated embezzlement strategies, and influencing others to cooperate to control social situations to their benefits. There are six components in capability, including positioning, intelligence, confidence/ego, coercion skills, effective lying/deceit, and stress management. Yesiariani & Rahayu (2016), Saputra (2016) and Annisya et al. (2016) use directors change (DCHANGE) to measure capability.
Arrogance

According to Mark (2014) arrogance is an attitude of superiority or belief that internal control cannot be enforced personally. Crowe (2011) suggests that a CEO’s arrogance and superiority can lead them to commit fraud due to the belief that internal controls will not apply to them because of their status and position. A large number of CEO photos displayed in a company's annual report might represent the CEO’s arrogance level.

Conceptual Framework

This conceptual framework explains the relationship between independent variables and dependent variables. The independent variables consist of pressure, opportunity, rationalization, capability, and arrogance. The dependent variable is financial statement fraud symptoms.

For the theory first introduced by Cressey (1953), there are three conditions in a fraud situation described in the fraud triangle, namely pressure. According to SAS No. 99 in Skousen et al. (2009), there are five proxies of pressure and two proxies of opportunity that have a significant impact on financial statements fraud, namely: financial stability and financial targets, and opportunity. SAS No. 99 also states that one of the categories of opportunities for financial statement fraud is ineffective monitoring and rationalization. SAS No. 99 explains that rationalization is a thought to justify fraud that has occurred. Skousen et al. (2009) state someone can measure rationalization with auditor turnover. These conditions or factors trigger fraud.

The theory then was developed by Marks (2012) by adding two other factors, capability and arrogance. There are six components in capability, including positioning, intelligence, confidence/ego, coercion skills, effective lying/deceit and stress management. All of these components can be found in a director. Therefore, the director’s replacement is considered capable of influencing financial statement fraud.

Crowe (2011) argues that a CEO’s arrogance and superiority can lead to fraud due to the belief that internal controls will not apply to them because of their status and position. A large number of CEO photos displayed in a company's annual report might represent the CEO’s arrogance level.

These factors are supported by previous studies, such as Manurung & Hardika (2015) research, Marsono's (2014) research, Saputra (2016) research and Tessa & Harto (2016). Based on this description, the conceptual framework of the research is as follows:

| Pressure:                     |
|-------------------------------|
| - Financial Stability ($X_1$) |
| - Financial Target ($X_2$)    |

| Opportunity:                 |
|-------------------------------|
| - Effective Monitoring        |

| Rationalization:             |
|-------------------------------|
| - Auditors Change ($X_4$)     |

| Capability:                  |
|-------------------------------|
| - Directors Change ($X_5$)    |

| Arrogance:                   |
|-------------------------------|
| - Frequent Number of CEO’s Picture ($X_6$) |

Financial Statement Fraud Symptoms ($Y$):

(Earnings Management Modified Jones Model)

Figure 1
Conceptual Framework
Hypothesis Development

Effect of Financial Stability on the Financial Statement Fraud Symptoms

Financial stability can be measured by looking at the level of change in a company's assets (A\text{CHANGE}). Meanwhile, if the level of change in assets is small, the company cannot operate properly. This creates pressure for management to do everything they can to produce good financial reports. Therefore, large or significant asset growth is often seen as a result of fraud by companies to make their financial statements look good to investors (Iqbal & Murtanto, 2016). This theory follows the research of Arsyad et al. (2014) and Iqbal & Murtanto (2016), which state that financial stability pressure has a positive and significant impact on financial statement fraud. Skousen et al. (2009) also prove that high growth positively influences the likelihood of fraud.

**Hypothesis 1:** Financial stability has a positive effect on financial statement fraud symptoms

Effect of Financial Targets on the Financial Statement Fraud Symptoms

In addition to financial stability, financial targets are also a pressure factor for companies (SAS No. 99 in Skousen et al. (2009)). Financial targets are excessive pressure on management to achieve financial targets set by the board of directors. This target can lead to differences in interests between the company owner (principal) and management (agent). Agents and principals have hopes to fulfill their own interests. In this case, the manager will set the profit at a certain level according to the requirements to receive a bonus (Sulistyanto, 2008). This theory is consistent with the research of Arsyad et al. (2014) and Iqbal & Murtanto (2016), which states that pressure as measured by financial targets (return on assets / ROA) has a positive and significant effect on financial statement fraud. Based on the description, the hypothesis can be formulated as follows:

**Hypothesis 2:** Financial targets have a positive effect on financial statement fraud symptoms

Effect of Effective Monitoring on the Financial Statement Fraud Symptoms

To avoid misuse of opportunity requires supervision starting from the top organizational structure. This research uses the effective monitoring category proxied by the ratio of the number of independent commissioners. Effective monitoring is a situation where the company has a supervisory unit that can monitor the company's performance well. Sulistyanto (2008) finds a negative relationship between the proportion of independence of the board of commissioners and the level of earnings management or fraud. This happens because independent commissioners generally have better oversight of managers, thereby affecting irregularities in presenting financial statements. This is in line with the results of research by Manurung & Hadian (2013), which states that effective monitoring has a negative and significant effect on financial statement fraud.

Based on this description, the hypothesis can be formulated as follows:

**Hypothesis 3:** Effective monitoring has a negative effect on financial statement fraud symptoms

The Effect of Auditors Change on the Financial Statement Fraud Symptoms

The attitude or rationalization of board members, management, or employees allows them to be involved in and or justify financial statement fraud. Changes in auditors by companies are usually considered as a form of eliminating traces of fraud
found by previous auditors. This tendency encourages companies to change auditors to cover up the fraud that is in the company. This is in line with Yesiariani & Rahayu (2016) which states that the effect of auditors change in the company can be an indication of fraud. The above theory is in line with Marsono (2014) research which states that the change of auditors influences financial statement fraud. Based on the description, the hypothesis can be formulated as follows:

**Hypothesis 4: Auditors change has a positive effect on financial statement fraud symptoms**

**The Effect of Directors Change on the Financial Statement Fraud Symptoms**

Wolfe & Hermanson (2004) in Annisya et al. (2016) suggested that fraud will not occur if someone does not have the capability (capability) about the fraud. Changes in directors are transfers in authority made in an attempt to boost performance of the previous management. However, changing directors too quickly can often create a stress period that results in the opening of opportunities for fraud. Sihombing & Rahardjo in Annisya et al. (2016) states that changes in directors can lead to initial performance that is not optimal because it takes time to adapt. This theory is in accordance with Saputra (2016) research which states that changes in the board of directors positively affect financial statement fraud. Based on the description, the hypothesis can be formulated as follows:

**Hypothesis 5: Directors change has a positive effect on financial statement fraud symptoms**

**Effect of Frequent Number of CEO’s Picture on Financial Statement Fraud Symptoms**

According to Crowe in Tessa & Harto (2016), a CEO’s arrogance and superiority can lead to fraud due to the belief that internal controls will not apply to them because of their status and position. The number of CEO photos displayed in a company's annual report can represent the CEO’s arrogance level. Tessa & Harto (2016) research results state that arrogance as measured through a frequent number of the CEO’s picture, has a positive and significant effect on financial statement fraud. This result follows the research conducted by (Simon et al., 2015), who discovered a new measurement that can be used to measure arrogance among CEOs in companies located in Malaysia. This proxy is represented by observing the frequency of the CEO's picture appearing in the annual report. Based on the description, the hypothesis can be formulated as follows:

**Hypothesis 6: Frequent number of CEO’s picture has a positive effect on financial statement fraud symptoms**

**METHOD**

**Operational Definition and Variable Measurement**

This research uses purposive sampling method with the population of 30 mining companies listed on the Indonesian Stock Exchange in 2013-2016. The dependent variable (Y) in this study is financial statement fraud. Financial statement fraud is calculated using the modified Jones Earnings Management Model formula adopted in 1991. Financial statement fraud is the intentional misstatement or omission of financial statement amounts or disclosures to deceive users of the financial statements (ACFE, 2018)
The discretionary accruals are obtained by measuring the total accruals first. The formula is as follows:

$$TACC_t = NI_t - CFO$$

Whereas;
- $TACC_t$ = Total company accruals i in year t
- $NI_t$ = Net income in year t
- $CFO$ = Operating cash flow in year t

The total accrual components were decomposed into components discretionary accrual with nondiscretionary accrual. This decomposition is carried out by referring to the following modified Jones model (Dechow et al., 1995):

$$\frac{TACC_t}{TA_{it-1}} = \alpha_1 \left( \frac{1}{TA_{it-1}} \right) + \alpha_2 \left( \frac{\Delta REV_t}{TA_{it-1}} \right) + \alpha_3 \left( \frac{PPE_t}{TA_{it-1}} \right)$$

Whereas;
- $TA_{it-1}$ = Total assets before research year
- $\Delta REV_t$ = Changes in income of the research year and the previous year
- $PPE_t$ = Plant, property, and equipment
- $PPE_t$ = Operating cash flow in year t
- $\alpha$ = Coefficient

Then the value of the nondiscretionary accrual (NDACC) can be calculated using the formula:

$$NDACC = \alpha_1 \left( \frac{1}{TA_{it-1}} \right) + \alpha_2 \left( \frac{\Delta REV_t}{TA_{it-1}} \right) + \alpha_3 \left( \frac{PPE_t}{TA_{it-1}} \right)$$

Whereas;
- $NDACC$ = Non-discretionary accruals
- $\Delta REC_i$ = Change in receivables from the research year with the previous year

The discretionary accrual (DACC), which is a management measure of profit, can be calculated using the formula:

$$DACC_{it} = TACC_{it} - NDACC_{it}$$

Whereas;
- $DACC_{it}$ = Discretionary accruals of company i in year t
- $TACC_{it}$ = Total company accruals i in year t
- $NDACC_{it}$ = Non-discretionary accruals of company i in year t

**Pressure**

In this study, pressure is measured using two variables, financial stability and financial targets. Each of the variables is explained as follows:
1. **Financial Stability**

   Financial stability is the financial condition of a company when its condition is stable. According to SAS No. 99 in Skousen et al. (2009), the managers face pressure to manipulate financial statements when economic, industrial or operational conditions threaten the company’s financial stability and/or profitability. Financial stability is calculated by changes in assets (ACHANGE), which is the difference between the total assets of the current year and the previous year divided by the total assets of the current year.

2. **Financial Target**

   According to SAS No. 99 in Anisykurlillah & Arfiyadi (2016), financial target is defined as fraud caused by excessive pressure on management or personnel operations. Financial targets are excessive pressure on management to achieve financial targets set by the directors or management. Financial targets in this research were measured using Return on Assets (ROA). ROA is used as a proxy for financial targets variables in this study. ROA is part of the profitability ratio in the analysis of financial statements or measurement of company performance according to Skousen in Annisya et al. (2016). ROA is calculated by dividing Earnings After Interest and Tax by Total Assets.

**Opportunity**

   The opportunity refers to the circumstances that allow fraud to occur. Without it, fraud becomes impossible. This is the only component of the fraud triangle over which the company exercises significant control (Kniepmann, 2020). SAS No. 99 classifies opportunities that may lead to financial statement fraud into three categories. In this study, opportunities are measured using the effective monitoring variable (BDOUT). Ineffective monitoring describes a situation where the company does not have a supervisory unit that effectively monitors the performance of the company so there is a possibility of management committing fraud. In contrast, effective monitoring is a condition where existing supervisory units can conduct oversight of company performance. Manurung & Hadian (2013) state that effective monitoring is measured by the number of independent commissioners, which divides the number of independent boards by the total board of commissioners.

**Rationalization**

   Suyanto in Saptarini & Erna (2019) defined rationalization as the attitudes and behaviors that arise from the mind of someone who justifies the crimes, cheating and fraud he committed. In this study, rationalization was measured using auditor turnover (AUDCHANGE). According to Yesiariani & Rahayu (2016), the influence of the change of auditors in the company can indicate fraud. A dummy variable measures changes in auditors. If there is a change of auditors during the study year, it is coded 1. If the company does not make changes to auditors, it is coded 0.

**Capability**

   Wolfe & Hermanson (2004) in Saptarini & Erna (2019) defined capability as the ability of a person to commit fraud to realize certain goals. In this study, competency is measured using the board of directors’ change (DCHANGE) variable. Wolfe & Hermanson (2004) in Annisya et al. (2016) suggested that changes in directors will cause a stress period creating more opportunities for fraud. Board of directors’ change
(DCHANGE) is measured by a dummy variable. If there is a change of directors during the study year, it is coded 1. If there is no change of directors during the study year, it is coded 0.

**Arrogance**

Saptarini (2019) defined arrogance as the character of someone who feels that he has power over everything in the company. In this study, arrogance was measured using the frequent CEO’s picture (CEOPIC) variable. The basis of this variable is referred to research by Simon et al. (2015) who discovered a new method to measure arrogance among CEOs in companies located in Malaysia. This proxy is represented by looking at the frequency of the CEO's picture published in the annual report.

**Variable Measurement**

Here is a table measuring research variables:

| No. | Research Variables | Measurement | Scale |
|-----|--------------------|-------------|-------|
| 1   | DACC$_it$ (Modified Jones) (Y) Arsyad et al. (2014) | DACC$_it$ = TACC$_it$ – NDACC$_it$ | ratio |
| 2   | ACHANGE (X$_1$) Manurung & Hadian (2013) | ACHANGE = total asset t – total asset$_{t-1}$ / total asset$_{t-1}$ x 100 | ratio |
| 3   | ROA (X$_2$) Manurung & Hadian (2013) | ROA = EAT$_{t-1}$ / Total asset$_{t-1}$ | ratio |
| 4   | BDOUT (X$_3$) Manurung & Hadian (2013) | BDOUT = Independent board/Total Commissioners | ratio |
| 5   | AUDCHANGE (X$_4$) Yesiariani & Rahayu (2016) | Variable dummy 1 = there is a change of auditors during the study year 0 = there is no change of auditors during the study year | nominal |
| 6   | DCHANGE (X$_5$) Daniel & Hardika (2015) | Variable dummy 1 = there is a change of director during the study year 0 = there is no change of director during the study year | nominal |
| 7   | CEOPIC (X$_6$) Tessa & Harto (2016) | CEOPIC = Frequent number of CEO’s picture / frequency of appearance of the image CEO | ratio |

**Regression Equation**

This study’s regression equation can be formulated as follows:

$$DACC$_{it}$ = \beta_0 + \beta_1.ACHANGE + \beta_2.ROA – \beta_3.BDOUT + \beta_4.AUDCHANGE + \beta_5.DCHANGE + \beta_6.CEOPIC + \varepsilon$$

Explanation:

- DACC$_{it}$ = Discretionary company accruals i year t
- $\beta_0$ = Constant regression coefficient
- $\beta_{1,2,3}$ = Regression coefficient of each proxy
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ACHANGE = Asset Change
ROA = Return on Assets (proxy for financial targets variable)
BDOUT = Board of Directors Outside / Proportional number of boards of Commissioners
AUDCHANGE = Auditors Change
DCHANGE = Board of directors’ change
CEOPIC = Frequent number of CEO’s picture / frequency of appearance of the image CEO
ε = Error

RESULT

Descriptive Statistics

| Variable   | N  | Minimum | Maximum | Mean  | Std. Deviation |
|------------|----|---------|---------|-------|----------------|
| DACC       | 120| -0.7629 | 1.0779  | 0.0920| 0.1940         |
| ACHANGE    | 120| -0.4208 | 9.7115  | 0.1947| 0.9242         |
| ROA        | 120| -0.6441 | 0.6543  | 0.0221| 0.1257         |
| BDOUT      | 120| 0.1667  | 0.7500  | 0.3994| 0.1139         |
| CEOPIC     | 120| 2.0000  | 23.0000 | 10.1700| 3.7670         |

Source: processed data SPSS 23

Based on descriptive statistical testing the following results are obtained:
1. Financial Statement Fraud Variable proxied by DACC with total data of 120. Company code which has a minimum value of -0.76 is KKGI in 2014 and company code with a maximum value of 1.08 is SMRU in 2014. The average value of 0.09 and standard deviation of 0.19 or 19% (mean value < standard deviation).
2. Pressure variable with ACHANGE proxy with total data of 120. Company code which has a minimum value of -0.4208 is BUMI in 2015 and its maximum value of 9.7115 is SMRU in 2014, with an average value of 0.1947 and the standard deviation is 0.9242 or 92.42% (mean value < standard deviation).
3. Pressure variable with ROA proxy with a total data amount of 120. The company code that has a minimum value of -0.6441 is EARTH in 2015 and its maximum value of 0.6543 is MITI in 2015, with an average value of 0.0221 and the standard deviation is 0.1257 or 12.57% (standard deviation > mean).
4. The opportunity variable is proxied using BDOUT by looking at the percentage of the number of independent commissioners with 120 data. The company code that has a minimum value of 0.1667 is TINS in 2013 and the maximum value of 0.7500 is the 2015 SMRT with an average value of 0.3994 and a standard deviation of 0.1139 or 11.39% (standard deviation < mean).
5. The arrogance variable is proxied by the frequency of CEO pictures (CEOPIC) with a total data of 120. The company code that has a minimum value of 2 is ARTI in
2016 and a maximum value of 23 is DOID in 2013, with an average value of 10.1700 and the standard deviation of 3.7670 (standard deviation < mean).

Test results frequency of changes of directors explained that the Change of Directors variable in mining companies during the 2013-2016 periods had a turnover frequency of 11 companies or 9.2% of the total sample population. In contrast, there are 109 companies permanent or not replacing Directors, or 90.8%.

Test results frequency of auditor turnover explains that the Auditor Change variable in mining companies during 2013-2016 has a frequency of 61 companies or 50.8% of the total sample population. While companies that have permanent or not replaced Auditors are 59 companies or 49.2%.

Normality Test (One Sample Kolmogorov Smirnov)

| Variable          | Sig.  | Decision |
|-------------------|-------|----------|
| Unstandardized residual (DACC) | 0.054 | Normal   |

Source: processed data SPSS 23

The Kolmogorov-Smirnov Test results in Table 3 show that the significance probability value (sig.) Produced is 0.054, which is greater than 0.05 or \( \alpha > 0.05 \). Then it can be concluded that the pattern of data distribution in the model used in this study is normal.

Classic Assumption Test

Classic assumption testing includes multicollinearity test, autocorrelation test and heteroscedasticity test. The result of the classic assumption test is presented in the following table:

| Variable | Collinearity Tolerance | Stat VIF | Auto correlation |
|----------|------------------------|----------|------------------|
| ACHANGE  | 0.975                  | 1.026    |                  |
| ROA      | 0.979                  | 1.022    |                  |
| BDOUT    | 0.962                  | 1.040    |                  |
| AUDCHANGE| 0.935                  | 1.069    |                  |
| DCHANGE  | 0.972                  | 1.029    |                  |
| CEOPIC   | 0.934                  | 1.070    |                  |
| Durbin Watson | 2.125 |          |                  |

Based on the multicollinearity test results, it was found that all independent variables had a VIF value of less than 10 or VIF <10, i.e., ACHANGE 1.026; ROA 1.022; BDOUT 1.040; AUDCHANGE 1.069; DCHANGE 1.029; CEOPIC 1.070. Therefore, \( H_0 \) is accepted, which means that all independent variables used in the equation model show no symptoms of colinearity or avoid multicollinearity problems.
The autocorrelation test results explained that the results of the Durbin-Watson statistical test were 2.125 in the $d_U < D < 4-d_U$ area, or in the area of no autocorrelation. It was concluded that there were no positive or negative autocorrelations in the regression model used.

Heteroscedasticity Test

| Table 5. Heteroscedasticity Test (Glejser Test) |
|-----------------------------------------------|
| Variable | Coeff. | Sign. |
| Constant | 0.14   | 0.000 |
| ACHANGE  | 0.001  | 0.570 |
| ROA      | 0.041  | 0.390 |
| BDOUT    | -0.094 | 0.079 |
| AUDCHANGE| -0.014 | 0.248 |
| DCHANGE  | 0.022  | 0.298 |
| CEOPIC   | -0.002 | 0.216 |

a. Dependent Variable: ABRES_DACC

Based on heteroskedasticity testing using the Glejser method, it is known that all the independent variables used in the study have sig values > 0.05, i.e., ACHANGE 0.857; ROA 0.390; BDOUT 0.079; AUDCHANGE 0.248; DCHANGE 0.298; CEOPIC 0.216. Then H0 fails to reject, meaning that the variance error is declared homogeneous. Therefore, it was concluded that there was no heteroscedasticity problem.

Hypothesis Testing

Based on the calculation results obtained, the coefficient of determination $R^2$ on the model used is equal to 0.675 with an adjusted $R^2$ value of 0.658. This explains that the independent variables ACHANGE, ROA, BDOUT, AUDCHANGE, DCHANGE and CEOPIC can account for almost all variations of the dependent variable Fraud (DACC) of 67.5%. The remaining 32.5% can be influenced by other factors not included in the research model.

| Table 6. Hypothosis Testing |
|------------------------------|
| Hypothesis   | Description                                      | Coefficient | Prob. | Result |
| (Constant)   | Financial stability as measured by changes in    | 0.182       | 0.000 |       |
| H1            | assets has a positive and significant effect on   |             |       |       |
|               | financial statement fraud symptoms               |             |       |       |
| H2            | Financial targets have a positive and significant| 0.713       | 0.000 | Supported |
|               | effect on financial statement fraud symptoms     |             |       |       |
| H3            | Effectiveness of supervision has a negative and  | -0.310      | 0.000 | Supported |
|               |                                                  |             |       |       |
| Hypothesis | Description                                                                 | Coefficient | Prob.  | Result            |
|------------|------------------------------------------------------------------------------|-------------|--------|-------------------|
| H4         | Rationalization which is proxied by the change of auditors has a significant effect on financial statement fraud symptoms | 0.025       | 0.202  | Not Supported     |
| H5         | Capability that is proxied by the change of directors has no significant effect on financial statement fraud symptoms | -0.015      | 0.658  | Not Supported     |
| H6         | Arrogance that is proxied by the frequency of CEO pictures has no significant effect on financial statement fraud symptoms | -0.001      | 0.775  | Not Supported     |

|          | R²                          | 0.675       |
|          | Adj R²                      | 0.658       |
|          | F test                      | 38.794      | 0.00   |

a. Predictors: (Constant), CEOPIC, ROA, DCHANGE, ACHANGE, BDOUT, AUDCHANGE
b. Dependent Variable: DACC

The statistical test F using variance (ANOVA) analysis explains that the F count value obtained in the model used is 38.794 with a probability value of 0.000 or smaller than a significant level of 5% or p-value <α 0.05. This indicates that simultaneously Pressure, Opportunity, Rationaization, Capability and Arrogance can significantly influence the dependent variable Fraud. Based on Table 6 the following results were obtained:

**Hypothesis 1**

The test results in Table 6 explain that the coefficient value obtained has a positive value of 0.110 with a T value of 10.514 > T table 1.658. Probability value of 0.000 / 2 = 0.000 in the model used. The resulting probability value is smaller than the significant level of 5% so it can be stated that financial stability (ACHANGE) has a significant effect on fraudulent financial reporting. Then it can be concluded that Hypothesis 1 is accepted.

**Hypothesis 2**

The test results in Table 6 explain that the coefficient value obtained has a positive value of 0.713 with T count 9.280 > T table 1.658. Probability value of 0.000 / 2 = 0.000 in the model used. The resulting probability value is smaller than the significant level of 5% so it can be stated that the financial target (ROA) has a significant effect on financial statement fraud. Then it can be concluded that Hypothesis 2 is accepted.
Hypothesis 3
The test results in Table 6 explain that the coefficient values obtained have a negative value of -0.310 with T arithmetic 3.630 > T table 1.658. Probability value of 0.000 / 2 = 0.000 in the model used. The resulting probability value is smaller than the significant level of 5% so it can be stated that Opportunity as, measured by effective monitoring (BDOUT), has a significant effect on financial statement fraud. Then it can be concluded that Hypothesis 3 is accepted.

Hypothesis 4
The test results in Table 6 explain that the coefficient value obtained has a positive value of 0.025 with a calculated T 1.282 < T table 1.658. Probability value of 0.202 / 2 = 0.101 in the model used. The resulting probability value is greater than the significant level of 5% so it can be stated that the Rationalization measured by auditors change (AUDCHANGE) does not have a significant effect on financial statement fraud. Then it can be concluded that Hypothesis 4 is rejected.

Hypothesis 5
The test results in Table 6 explain that the coefficient value obtained has a negative value of -0.015 with T arithmetic 444 < T table 1.658. Probability value of 0.658 / 2 = 0.329 in the model used. The resulting probability value is greater than the significant level of 5% so it can be stated that the Capability as measured by changes in directors (DCHANGE) does not have a significant effect on financial statement fraud. Then it can be concluded that Hypothesis 5 is rejected.

Hypothesis 6
The test results in Table 6 explain that the coefficient value obtained has a negative value of 0.001 with a count of 287 < T table 1.658. Probability value of 0.775 / 2 = 0.3875 in the model used. The resulting probability value is greater than the significant level of 5% so it can be stated that arrogance as measured by frequent number of CEO’s picture (CEOPIC) does not have a significant effect on financial statement fraud. Then it can be concluded that Hypothesis 6 is rejected.

From Table 6, the regression model equation in this study is as follows:

\[
DACC = 0.182 + 0.110ACHANGE + 0.713ROA – 0.310BDOUT + 0.025AUDCHANGE – 0.015DCHANGE – 0.001CEOPIC + e
\]

DISCUSSION
From the research that has been done, the following conclusions can be drawn:
1. **Discussion of the First Hypothesis: Financial Stability and Financial Statement Fraud Symptoms.** Based on the results of statistical tests, financial stability as measured by changes in assets has a positive and significant effect on fraudulent financial reporting. The results of this study are in line with research by Manurung & Hadian (2013) and Iqbal & Murtanto (2016), which states that financial stability as measured by ACHANGE has a positive effect on financial statement fraud and following with research by Arsyad et al. (2014) which states that financial stability positively influences earnings management practices. This is in line with the theory
that fraud is caused by pressure. A common pressure for companies is the decline in the company's financial prospects.

2. **Discussion of the Second Hypothesis: Financial Target and Financial Statement Fraud Symptoms.** Based on the results of statistical tests, financial targets have a positive and significant effect on financial statement fraud. The results of this study are in line with research by Manurung & Hadian (2013) which states that financial targets (ROA) have a positive effect on financial statement fraud and in accordance with Arsyad et al. (2014) research which states that financial targets (ROA) have a positive effect on earnings management practices. This is in line with the theory of fraud, which says that financial targets are one common condition under pressure that can lead to fraud (SAS 99).

3. **Discussion of the Third Hypothesis: Effectiveness of Supervision and Financial Statement Fraud Symptoms.** Based on the results of statistical tests that have been conducted, the effectiveness of supervision has a negative and significant effect on financial statement fraud. The results of this study are in line with research by Manurung & Hadian (2013) and Arsyad et al. (2014) which states that effective monitoring has a negative and significant effect on financial statement fraud. This can occur due to influence over management by one person or small group, without compensation control, as well as ineffective supervision of the board of directors and audit committee over the financial reporting and internal control processes. This is in line with the theory of fraud which states that opportunity is an opportunity because of the weak control that opens the opportunity to commit fraud (SAS 99).

4. **Discussion of the Fourth Hypothesis: Rationalization and Financial Statement Fraud Symptoms.** Based on the results of statistical tests, the rationalization which is proxied by the change of auditors (AUDCHANGE) does not have a significant effect on financial statement fraud. The results of this study are in line with research by Yesiariani & Rahayu (2016), Tessa & Harto (2016) and Saputra (2016) which state that the rationalization measured by auditor change has no significant effect on fraud. This means that the change of auditors cannot be used to measure the alleged financial statement fraud because the company could have changed auditors, not to eliminate any trace of fraud, but because it is in compliance with Government Regulation No. 20 of 2015 article 11 paragraph 1 ([www.pppk.kemenkeu.go.id](http://www.pppk.kemenkeu.go.id)) concerning public accounting services, which states that the provision of audit services on financial statements to an entity by a public accountant is limited to a maximum of five consecutive financial years.

5. **Discussion of the Fifth Hypothesis: Capability and Financial Statement Fraud Symptoms.** Based on the results of statistical tests, the capability proxied by the change of directors (DCHANGE) has no significant effect on financial statement fraud. The results of this study are in line with the results of Anisya et al. (2016) which states that the capability proxied by board of directors change has no significant effect on financial statement fraud. This can occur because the company may change directors due to the assignment period being over. This study’s results contradict with the theory stated by Wolfe & Hermanson (2004), which states that fraud will not occur if someone does not have the capability (capability) of fraud. Wolfe & Hermanson (2004) stated that changes in directors will cause a stress period which results in more opportunities for fraud.

6. **Discussion of the Sixth Hypothesis: CEO Arrogancy and Financial Statement Fraud Symptoms.** Based on the results of statistical tests that have been conducted,
the arrogance that is proxied by the frequency of CEO pictures do not have a significant effect on financial statement fraud. The results of this study are in line with the results of Aprilia (2016) study which states that the number of photos displayed (the frequency of CEO images) in many financial statements shows that the CEO is considered a public figure by the company. This is because the CEO is considered an important figure in the company and is contrary to Tessa & Harto's (2016) research which states that the frequent number of a CEO’s picture has a significant effect on financial statement fraud. This result also contradicts Crowe's theory (2011) which states that a high level of arrogance can lead to fraud because the arrogance and superiority of a CEO makes the CEO feel that internal controls will not apply to him, and the number of CEO photos/images displayed in a company's annual report can present the level of arrogance that the CEO has.

CONCLUSION

The results of this study can be concluded as follows:
1. Financial stability variable (ACHANGE) has a positive and significant effect on the alleged financial statement fraud symptoms.
2. Financial target variable (ROA) has a positive and significant effect on the alleged financial statement fraud symptoms.
3. The effective monitoring variable (BDOUT) has a negative and significant effect on the alleged financial statement fraud symptoms.
4. The auditor change variable (AUDCHANGE) does not significantly influence the alleged financial statement fraud symptoms.
5. Variable change of directors (DCHANGE) does not significantly influence the alleged financial statement fraud symptoms.
6. The frequent number of CEO’s picture (CEOPIC) variable does not significantly influence the alleged financial statement fraud symptoms.

This study has several limitations: (1) other measurements (proxies) are needed for the pentagon fraud variable because the variables used in this study are not suitable to describe the factors that influence fraud. For example, CEOs who are also politicians can act as a measurement for the arrogance variable proxy. (2) Data used were secondary data obtained from companies’ financial reports and annual reports. These data might have possibilities of error in the management of data sources caused by system or human errors.

The study contributes to the literature in several ways. Firstly, it provides a basis for the preparation, development of regulations and professional organizations regarding early warning signs, fraud prevention measures, organizational risk management and building public fraud awareness. Secondly, it also provides a basis for the internal control aspect of good corporate governance and thus provides enhanced value for companies through fraud control.

Future studies can utilise more proxies for pentagon fraud factors in order to obtain more valid results. For example, the turnover of head of internal auditors for opportunity factors, undeclared policies on doubtful debts and accounts receivable for capability factors and CEO who is also a politician for arrogance factors could be used.
Considering the limitations of the research results, it is suggested that further research use companies that have committed fraud as samples for the research, such as companies that have been reprimanded by the Financial Services Authority (OJK).

REFERENCES

ACFE. (2014). Report To The Nation On Occupational Fraud And Abuse 2014 Global Fraud Study.
Albrecht, W., Albrecht, C., & Albrecht, C. (2011). Fraud Examination. Mason (USA): CENGAGE Learning.
Albrecht, W. S., Albrecht, C. O., Albrecht, C. C., & Zimbelman, M. F. (2012). Fraud Examination (fourth). OH, USA: South Western Cengage Learning.
Anisykurillah, I., & Arfilyadi. (2016). The Detection of Fraudulent Financial Statement with Fraud Diamond Analysis. Accounting Analysis Journal.
Annisya, M., Lindrianasari, & Asmaranti, Y. (2016). Pendeteksian Kecurangan Laporan Keuangan Menggunakan Fraud Diamond. Jurnal Bisnis Dan Ekonomi (JBE), 72–89.
Aprilia. (2016). The Analysis of The Effect of Fraud Pentagon on Financial Statement Fraud Using Beneish Model in Companies Applying The ASEAN Corporate Governance Scorecard. Jurnal Akuntansi Riset, 6(1), 96–126.
Arens, A. A., Elder, R. J., & S. Beasley, M. (2008). Auditing dan Jasa Assurance: Pendekatan Terintegrasi Edisi Keduabelas (1st ed.). Jakarta: Erlangga.
Cressey, D. R. (1953). Other People’s Money. Montclair, NJ: Patterson Smith, pp.1-300.
Crowe, H. (2011). Why the Fraud Triangle is No Longer Enough. IN Horwath: Crowe LLP.
Dechow, Patricia M., Richard G. Sloan and Amy P. Sweeney. (1995). Detecting Earnings Management. The Accounting Review Vol. 70, No. 2 (Apr., 1995), pp. 193-225 (33 pages) Published By: American Accounting Association.
Iqbal, M., & Murtanto. (2016). Analisa Pengaruh Faktor - Faktor Fraud Triangle Terhadap Kecurangan Laporan Keuangan Pada Perusahaan Property dan Real Estate yang Terdaftar di Bursa Efek Indonesia. Seminar Nasional Cendekiawan 2016.
Kniepmann, C. (2020). The Fraud Triangle: Three Conditions That Increase The Risk Of Fraud.
Lastanti, Hexana. (2020). Role of Audit Committee in the fraud pentagon and financial statement fraud. International Journal of Contemporary Accounting. Vol. 2 No. 1 July 2020: 85 - 102
Manurung, D. T. H., & Hardika, A. L. (2015). Analysis of Factors that influence financial statement fraud in the perspective fraud diamond Empirical study on banking companies listed on the Indonesia Stock Exchange year 2012 to 2014. International Conference on Accounting Studies (ICAS) 2015, 279–286.
Manurung, & Hadian, N. (2013). Detection fraud of financial statement with fraud triangle. 23rd International Business Research Conference, World Business Institute.
Marks, J. (2012). The Mind Behind The Fraudsters Crime: Key Behavioral And Environmental Elements. Crowe Howarth LLP (Presentation).
Marsono, Kurnis Kusuma Rachmwatini. (2014). Pengaruh Faktor - Faktor Dalam Perspektif Fraud Triangle Terhadap Fraudulent Financial Reporting (Studi Kasus
pada Perusahaan Berdasarkan Sanksi dari Bapepam Periode 2008-2012). Diponegoro Journal of Accounting, 3(2), 1.

Oktaviani, E., Karyawati, G., & Arsyad, N. (2014). Factors Affecting Financial Statement Fraud: Fraud Triangle Approach. 3th Economics & Business Research Festival 13 November 2014, ISBN : 978-979-3775-55-5 (hal. 1939). Salatiga: Fakultas Ekonomika & Bisnis Universitas Kristen Satya Wacana.

Rezaee. (2002). Financial Statement Fraud Prevention and Detection. New York: John Wiley & Sons, inc.

Saptarini, G., & Erna, H. (2019). Pentagon Fraud Analysis in Detecting Potential Financial Statement Fraud of Banking Companies in Indonesia. Proceeding of The 3rd International Conference on Accounting, Business & Economics (UII-ICABE).

Saputra, R. A. (2016). Pengaruh Fraud Indicators terhadap Fraudulent Financial Statement (Studi Empiris pada Perusahaan yang Listed di BEI Tahun 2013-2015). FE UMY.

Scott, W. R. (2015). Financial Accounting Theory Sevent Edition. United States: Pearson Toronto.

Shahzad, A. (2016). Detecting earning management and earning manipulation in BRIC countries; a panel data analysis for post global financial crisis period. International Journal of Accounting Research, 4(1), 1–10.

Simon, J., Ahmar, Khair, A. H., & Mohamed Yusof K. (2015). Fraudulent Financial Reporting: An Application of Fraud Models to Malaysian Public Listed kCompanies. The Macrotheme Review: A Multidisciplinary Journal Of Global Macro Trends, 4(3), 126–145.

Skousen, C. J., R.Smith, K., & Charlotte J. Wright. (2009). Detecting and Predicting Financial Statement Fraud: The Effectiveness of The Fraud Triangle And SAS No. 99.

Soda, E. (2016). PwC: Tahun 2015 Sebagai Tahun Terburuk Bagi Sektor Pertambangan. Sulistyanto, S. (2008). Manajemen Laba: Teori dan Model Empiris. Jakarta: PT Grasindo.

Suryana, F (2018). Pengaruh Corporate Governance dan Effisiensi Modal Kerja Terhadap Kinerja Keuangan. Tessa, G. C., & Harto, P. (2016). Fraudulent Financial Reporting: Pengujian Teori Fraud Pentagon Pada Sektor Keuangan dan Perbankan Di Indonesia. Simposium Nasional Akuntansi XIX Lampung, 1–21.

Toshiba Corporation Accounting Scandal. (2017). Suminar. Retrieved 24 June 2017, from https://minarahayu.wordpress.com/2016/05/08/toshiba-corporation-accounting-scandal

Wolfe, D. T., & Hermanson, D. R. (2004). The Fraud Diamond: Considering the Four Elements of Fraud: Certified Public Accountant. The CPA Journal, 74(12), 38–42. https://doi.org/DOI: