Detecting Financial Statement Fraud Using Diamond Model:

Evidence in Indonesia

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Abstract—**This study aims to determine the factors that affect financial statement fraud. The number of observations is 72 which 18 companies of transportation and infrastructure sectors listed in the Indonesian Stock Exchange during 2015-2018. The methods used in this study are balanced panel data with a random effect model. The result showed is only the nature of the industry affects financial statement fraud. The scientific contribution of this research shows the important role of the high receivables which is an indication that the company's cash turnover is not good and will reduce the amount of cash for operating activities and cause management to manipulate financial statements.**

Keywords—financial statement fraud, fraud diamond, nature of the industry, receivable

I. INTRODUCTION

Fraud is an intentional error. Fraud is classified into a fraud tree that consists of corruption, asset misappropriation, and financial statement fraud [1]. Types of fraud in companies that often occur are financial statement fraud (FSF). This type of fraud is a very significant problem [2–5].

The perpetrators of fraud can be divided into two, namely: 1) employee fraud, committed by employees within a company or organization, and 2) management fraud, carried out by management using financial reports or transactions as a means, usually cheating company stakeholders [1].

The first research which states that fraud is influenced by three main variables or better known as the fraud triangle consists of pressure, opportunity, and rationalization [6]. First, the pressure that encourages committing fraud. Second, known opportunities are then used by certain parties to commit fraud. Third, rationalization is a justification for fraud. Then, Wolfe and Hermanson [7] added the fourth factor of the fraud triangle, namely capability so-called diamond fraud. Capability, one's position in the company, intelligence, and creativity to take advantage of the company's internal control weaknesses. This study originated from the concern over the cases in Indonesia, especially in the state-owned enterprises

(BUMN) sector. Although empirically, the data obtained are only four state-owned companies from the total sample that were observed, namely PT Garuda Indonesia (Persero) Tbk, PT Jasa Marga (Persero) Tbk, PT Perusahaan Gas Negara (Persero) Tbk, and Telekomunikasi Indonesia (Persero) Tbk.

Based on the background, this study aims to analyse the fraud diamonds on FSF at transportation and infrastructure companies in Indonesia. This sector was chosen because it has a fairly large role, the existence of transportation supports the improvement of the quality of life of the community. Physical infrastructure is part of a cultural strategy in facing current and future challenges. Development must be sustainable. One of the pillars of sustainable development is the availability of infrastructure [8].

II. LITERATURE REVIEW

Capability makes a major contribution as a cause of fraud, so it needs to be reviewed explicitly and separately. The number of frauds, especially those worth billions, would not happen without the right people with the right abilities [7].

Financial stability is a condition that provides an overview of the company's financial condition in a stable condition. Management will try to make financial stability look good. If financial stability is threatened by economic, industrial, and entity situations, managers will face pressure to commit fraudulent financial statements [9,10]. The results showed that financial stability affected FSF [4,9].

H1: Financial stability affects FSF.

External pressure is the need to find external sources of financing to remain competitive [4]. Several research results concluded that external pressure affects FSF [4,11].

H2: External pressure affects FSF.

Personal financial needs are the financial condition of the company which is also influenced by the financial condition of company executives. This study concludes that personal

financial needs can significantly detect the possibility of fraud [9].

H3: Personal financial needs affect FSF.

Management is required to produce the best performance to achieve predetermined financial targets [9]. The target that is not achieved will also affect the compensation he will receive [4]. The results of several studies conclude that financial targets affect FSF [3,12].

H4: Financial target affects FSF.

Industrial conditions are the ideal conditions for a company in an industry. Receivables and supplies are a form of industry nature. Accounts receivable and inventory policies must be determined properly to improve company performance [4,9]. If it is not managed properly and the company's performance is not optimal, then management will commit fraud on the financial report. Research results in the conclusion that the nature of industry affects FSF [4].

H5: The nature of the industry affects FSF.

Supervision ineffectiveness is the ineffective monitoring of the company because the company's audit committee system is weak [4,9]. Significant ineffectiveness of supervision can predict fraud [9].

H6: Ineffective monitoring affects FSF.

Rationalization appears as justification for fraud by perpetrators of fraud [9]. The role of the auditor is as a supervisor to find out that a company is committing fraud [4]. Some studies conclude that auditor changes affect the occurrence of FSF [2,4,11].

H7: Auditor changes affect FSF.

The amount of power a person has in a company greatly affects his ability to commit fraud [4]. Fraud can occur when the right people understand and take advantage of the opportunities that exist [7]. Changes in the board of directors can affect FSF [7].

H8: Capability affects FSF

III. METHODS

The research sample was 18 transportation and infrastructure companies listed on the Indonesia Stock Exchange (IDX) for 2015-2018.

TABLE I. VARIABLE AND MEASUREMENT

Variables	Measure	Literature
FSF	M-SCORE = −4.84 + 0.92DSRI + 0.528GMI + 0.404AQI + 0.892SGI + 0.115DEPI −0.172SGAI + 4.679TATA − 0.327LVGI	[13]
Pressure:		
Financial stability (ACHANGE)	Percent change in assets for the two years before the fraud	[4,5,9]
External pressure (LEV)	The ratio of total liabilities to total assets	c
Personal financial needs (OSHIP)	The cumulative percentage of shares owned by an insider from the total shares outstanding	[5,9]
Financial target (ROA)	The ratio of net income to total assets	[4,5,9]
Opportunity:		
Nature of industry (RECEIVABLE)	The ratio of accounts receivable to sales in year t is reduced by the ratio of Receivables to sales in year t - 1, where t is the year before the fraud occurred.	[4,5,9]
Ineffective monitoring (IND)	Percentage of members of the board of independent commissioners to the total members of the board of commissioners	[4,5,9]
Rationalisation		
Auditor changes (CPA)	1 = Big four and 0 = non-big four	[4,9]
Capability		
Capability (DTENURE)	1 = if there is a change of directors and 0 = if there is no change of directors	[4,5,7]

The balance panel data used in this study with the most appropriate model selection is the random effect model which goes through the following stages:

TABLE II. CHOW TEST

Effects Test	Statistic	d.f.	Prob.
Cross-section F	5.201745	(17,46)	0.0000
Cross-section Chi-square	77.212785	17	0.0000*

*Significance level of 0.05, respectively

From table 2 the probability value is 0.0000 <0.05, the selected model is the fixed effect, then proceed to the next stage:

TABLE III. HAUSMANN TEST

Test Summary	Chi-Sq. Statistic	Chi-Sq d.f.	Prob.
Cross-section random	6.258027	8	0.6184*

From table 3 the probability value of 0.6184> 0.05, the selected model is the random effect, then proceed to the next stage:

TABLE IV. LAGRANGE MULTIPLIER TEST

Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both.
Breusch-Pagan	21.57321 (0.0000)*	0.646204 (0.4215)	22.21941 (0.0000)

From table 4, the One-sided Cross-section value is 0.0000 <0.05, the most appropriate model in this study is the random effect. the following is the panel data regression equation:

M-SCORE = -5.296767 -0.424782 ACHANGE -2.560148 LEV + 2.386761 OSHIP + 8.953029 ROA + 8.205224 RECEIVABLE +6.772217 IND +0.300934 CPA -0.155322 DTENURE + e

IV. RESULT AND DISCUSSION

A. Result

TABLE V. DESCRIPTIVE STATISTICS

	Observations	Minimal	Maximal	Mean	Standard Deviation
M-SCORE	72	-7.941160	29.79781	-1.514173	5.165517
ACHANGE	72	-0.835890	4.209250	0.140841	0.527636
LEV	72	0.286380	0.943660	0.573672	0.155977
OSHIP	72	0.000000	0.551160	0.072420	0.145148
ROA	72	-0.371660	0.177980	0.024669	0.077066
RECEIVABLE	72	0.030850	1.226360	0.259613	0.250665
IND	72	0.166670	0.750000	0.397948	0.151909
CPA	72	0.000000	1.000000	0.500000	0.503509
DTENURE	72	0.000000	1.000000	0.375000	0.487520

Source: Data processed 2020

M-SCORE has the highest maximal value and standard deviation compared to all variables, namely 29.79781 and 5.165517. Linear with the previous explanation, that M-SCORE also has the highest minimum and mean values, namely -7.941160 and -1.514173. Meanwhile, financial stability was the independent variable with the most prominent among the seven, with a maximum value of 4.209250 and a minimum value -0.835890. Meanwhile, the other independent variables have an average value that is not too extreme or nearly the same, indicating that the data in this study have a good data distribution.

Hypothesis test results are:

TABLE VI. HYPOTHESIS TESTING

Variable	Coefficient	Std. Error	Prob.
Constant	-5.296767	3.793167	3.793167
ACHANGE	-0.424782	0.878525	0.6304
LEV	-2.560148	4.689505	0.5870
OSHIP	2.386761	5.200872	0.6479
ROA	8.953029	8.996106	0.3234
RECEIVABLE	8.205224	2.165687	0.0003*
IND	6.772217	4.358198	0.1252
CPA	0.300934	1.780014	0.8663
DTENURE	-0.155322	1.172195	0.8950

*Significance level of 0.05, respectively

B. Discussion

The first hypothesis shows that financial stability does not affect FSF. These results indicate that even though the higher the condition of the company's financial instability, it does not make a reason for the company to conduct financial statement fraud. The company may have a very good level of supervision carried out by the Board of Commissioners to monitor and control the actions of management that are directly responsible for business functions such as finance so that even though management faces pressure [5].

The second hypothesis shows that external pressure does not affect FSF. External pressure is not a strong factor for someone to commit fraudulent financial reporting [14]. Management does not fully experience external pressure when fulfilling its obligations, profit manipulation is not the only way to fulfil its obligations but to improve performance [2]. Besides, companies can take loans for two reasons, namely an unpredictable decrease in income and operational financing for company development [15]. In general, the company experiences a second condition when taking out loans, so the operational fund's increase which causes production, sales, and profits to increase. Therefore, the pressure on management has decreased so that there is minimal fraud [3].

The third hypothesis shows that personal financial needs do not affect FSF. This result is due to the low average share ownership in the sample companies, which is only 5%. Low share ownership indicates that in the sample company there has been a clear separation between shareholders as owners who control the running of the company and managers as managers of the company [5]. The existence of clear segregation causes managers not to have sufficient ability to commit fraudulent financial statements [16].

The fourth hypothesis shows that financial targets do not affect FSF. The ROA ratio is used for short-term goals [2,5]. This finding is also reinforced due to the uneven characteristics of the industries in the sample so that there is an extreme amount of profit between companies [4].

The fifth hypothesis shows that the nature of the industry affects FSF. High accounts receivable is an indicator that cash flow is not good, this causes a reduction in cash for operational funding and causes management to manipulate financial statements [4].

The sixth hypothesis shows that ineffective monitoring does not affect FSF. The explanation that seems relevant regarding the lack of connection between the ratio of independent commissioners to the number of commissioners [2]. However, it will be different if there is an intervention that results in the objectivity of the supervision being carried out [4,5].

The seventh hypothesis shows that rationalization does not affect FSF. The Professional Ethical Principles of the Indonesian Institute of Accountants Article 2, it is stated that this principle calls for a commitment to behave respectfully even at the sacrifice of personal gain [15]. With adherence to

this principle, the provision of services by auditors is not done fraudulently. The change of auditors is very difficult to observe as one of the proxies of rationalization with public data such as financial reports [3].

The eighth hypothesis shows that capability does not affect FSF. This happens because the sample companies that change directors are not because the company wants to cover up the fraud committed by the previous directors, but the highest stakeholders want an improvement in company performance by recruiting directors who are considered more competent than the previous directors [4,5].

V. CONCLUSIONS

From the results and discussions in the previous session, it can be concluded that there is only one fraud diamond factor that affects FSF, namely the nature of the industry. The opportunity variable has an impact, by being able to focus on the accounts receivable, which is the main trigger for bad cash flow turnover. The managerial implication of this study is to provide information to financial managers that clearing up account receivable is an important point because it can hinder cash flow turnover and become an opportunity to manipulate financial reports.

The limitations of this study are samples, periods, variables, and methods. The first suggestion for further research is to increase the number of samples and the study period so that the number of observations increasingly draws closer to the population and extends the study period so that the research patterns can be seen [5]. Second, develop a better insight into firm characteristics that serve as an effective proxy for the rationalization variables [9]. Third, using qualitative methods or combining qualitative and quantitative methods, due to the difficulty of expressing rationalization and capability variables that cannot be specifically explained [4].

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