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HOW FRAUD HEXAGON MODEL ON FINANCIAL STATEMENT FRAUD IN ENERGY SECTOR COMPANIES?

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Abstract
Financial statement fraud is a discrepancy between the application of accounting principles and the preparation of financial statements with the aim of deceiving users of financial statements This study aims to analyze the effect of Hexagon Fraud on financial statement fraud. There are 10 variables used, namely financial targets, financial stability, change of directors, monitoring, ideal condition of the company, change of auditor, photo of the CEO, government projects, political connections, managerial ownership. Financial statement fraud is measured using the Beneish M-Score Model. The samples in this study are energy sector companies listed on the Indonesia Stock Exchange (IDX) in 2020-2021 with the number of samples used being 50 companies with 100 units of analysis taken based on the purposive sampling method. Data analysis in this study used panel data regression analysis with the EViews 13 analysis tool. The results of this study show that a company's Financial Target has an influence on the potential for financial statement fraud. Meanwhile, financial stability, change of directors, monitoring, ideal condition of the company, change of auditor, CEO photo, government projects, political connections, managerial ownership have no influence on the potential for financial statement fraud.

Keywords: Fraud, Fraud Hexagon, Financial Statements Fraud

1. Introduction

Fraud is an act that utilizes lies intentionally and criminally to obtain wealth for individuals / groups and can harm other parties. According to Johnstone et al. in Nurani &; Oktavia (2017) stated that fraud is a deliberate activity where fraud occurs by certain parties that cause false statements or misstatements in financial statements

According to the Association of Certified Fraud Examiners (ACFE), fraud is an unlawful act carried out intentionally for a specific purpose (manipulation or providing false reports to other parties). The Association of Certified Fraud Examiners (ACFE) report in 2018 shows that the losses suffered by an organization due to fraud are around 5% of an organization's gross revenue. The results of the ACFE Indonesia survey in 2019 showed the fact that losses due to financial statement fraud (9%) resulted in losses of Rp240 billion.

2. Theoretical Background

2.1 Agency Theory

According to Jensen and Meckling (1976), agency theory is a design that explains the contextual relationship between principals and agents, namely between two or more people, a group or organization.

2.2 Signaling Theory

Is an action taken by company management that gives investors clues about how management views the company's prospects. This theory provides an explanation of the reason why companies have the urge to convey or provide information related to the company's financial statements to external parties. (Bergh et al., 2014).

2.3 Fraud

Fraud is an act that utilizes lies intentionally and criminally to obtain wealth for individuals / groups and can harm other parties. According to Johnstone et al. in Nurani & Oktavia (2017) states that fraud is a deliberate activity in which there is fraud by certain parties that cause false statements or misstatements in financial statements.

2.4 Fraudulent Financial Statements

According to Damayani et al. (2017), financial statement fraud is a fraudulent act committed by company management in the form of material misstatements in financial statements so that they cannot be relied upon for their truth which can mislead users in making decisions.

2.5 Fraud Hexagon Model

The Hexagon Model of Fraud is a theory that explains why a company or certain party commits fraud. The theory originated from the fraud triangle or also called Cressey's Theory by Donald R. Cressey in 1953. Then there is a new view developed Wolfe & Hermanson (2004) by adding a fourth element, namely ability or known as fraud diamond. Then Crowe (2011) redeveloped the theory by adding elements of arrogance to perfect it so that it is also called pentagon fraud. The latest and more complex theory in detecting fraud is the hexagon fraud theory developed and introduced by Vousinas (2019) by adding a new element that makes the sixth element collusion.

2.6 Research Hypothesis

2.6.1 Financial Target

Pressure can be measured using financial targets which are usually reflected through the acquisition of a company's profit level which can be calculated through the value of ROA (Return On Assets) (Skousen et al., 2009). So that the hypotheses that can be proposed are:

H1: Financial target affects fraudulent financial statements

2.6.2 Financial Stability

Financial stability is a state to see whether the company's financial condition is stable or not. Skousen et al. (2009) argue this can be measured by looking at changes in total company assets from year to year and stating that if a manager feels the company's financial stability is depressed in various situations, it can trigger him to do various ways to beautify the company's appearance such as fraudulent financial statements. So that the hypotheses that can be proposed are:

H2: Financial stability affects fraudulent financial statements

2.6.3 Capability

The capability described here is the ability of fraudsters to commit fraud without being noticed by the company's controllers. According to Wolfe & Hermanson (2004) states that it is impossible for individuals who do not have the right individual abilities or capabilities to carry out acts of fraud.

2.6.4 Change in Director

Not always the change of directors will encourage the company's performance to be better. Changes in directors can cause a stress period that can increase the likelihood of fraud occurring (Wolfe & Hermanson, 2004). So that the following research hypothesis is obtained:

H3: Change of directors affects fraudulent financial statements

2.6.5 Opportunity

Opportunity is an opportunity for someone to commit fraud. According to Mulya et al. (2019), the condition that encourages someone to commit fraud is the absence of good control, so they feel there is an opportunity to cheat without being detected.

2.6.6 Ineffective Monitoring

In supervision, the company is closely related to the board of commissioners. Siddiq et al. (2017) explained that fraud in the company can be prevented by increasing the ratio of the board of commissioners. So, the hypotheses found are:

H4: Ineffective monitoring affects fraudulent financial statements

2.6.7 Nature of industry

Nature of Industry due to weak oversight allows some parties to commit fraud, especially on accounts receivable and inventory accounts that are part of the nature of industry. Sari &; Nugroho (2020) stated that accounts receivable and inventory accounts are subjective accounts because the amount of balance stated in the financial statements is subjective.

H5: Nature of industry affects financial statement fraud.

2.6.8 Rationalization

Rationalization means that individuals who commit fraud will seek justification for activities that contain fraud. This action is believed to occur because fraudsters demand that they must generate more profits from the actions they take (Andriani, 2019).

2.6.9 Change in Auditor

The auditor's responsibility in supervising financial statements is crucial, where the auditor's opinion can be used as a basis for evaluating users of financial statements. Thus, Tiffani & Merfuah (2015) argue that the frequent change of auditors in a company reflects that the company avoids the detection of fraudulent financial statements by previous auditors. On this concluded the following hypothesis:

H6: Change in Auditor affects fraudulent financial statements

2.6.10 Ego (Arrogance)

The arrogance described here is the attitude of someone who feels that there is no internal supervision or corporate wisdom does not apply to him, and he believes that he is not bound by these things, so he does not believe that he has committed fraud (Bawekes et al., 2018).

2.6.11 Frequent Number of CEO's Picture

The frequency of appearance of the CEO image is a factor that affects financial statement fraud. A CEO tends to be more satisfied if he shows his position to everyone so that his position can be considered and with a sense of arrogance and superiority, they consider that any policy cannot be attached to him because of the position he has (Bawekes et al., 2018; Crowe, 2011). Research that fraudulent financial statements are influenced by frequent numbers of CEO's picture is supported by Sari & Nugroho (2020). So found the hypothesis is:

H7: Frequent number of CEO's picture affects fraudulent financial statements.

2.6.12 Collusion

Vousinas (2019) reasoned that many acts of fraud and white collar-crime occur due to collusion factors, namely agreements or cooperation between two or more individuals to achieve a criminal act or fraud. Collusion can be reviewed in several factors:

2.6.13 Government Projects

The government project referred to here is the acquisition of cooperation between the company and the government project. In line with Sari & Nugroho (2020) which states that collusion calculated by government projects has a significant effect on fraudulent financial statements. So that the eighth hypothesis can be produced is:

H8: Government projects affect fraudulent financial statements

2.6.14 Political Connection

Political connections tend to benefit companies. Companies that have political connections will get assistance from the government in case of economic crisis and other problems (Butje &; Tjondro, 2014). So, the ninth hypothesis is:

H9: Political connections affect fraudulent financial statements

2.6.15 State Owned Enterprises

State-owned Enterprises are companies that are partly owned or even fully owned by the government either in the form of state-owned (BUMN) or regionally owned (BUMD). Shawtari et al. (2017) stated that business entities owned by the government have weak supervision so that the profits generated are also not large. So, the tenth hypothesis is:

H10: State-owned Enterprises affect fraudulent financial statements

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3. Methods

3.1 Definition and measurement of variables

3.1.1 Dependent Variables

The dependent variable used in this study is the potential for financial statement fraud. Financial statement fraud can be measured using the Beneish M-Score Model. The Beneish M-Score Model consists of eight financial ratio indices, which are as follows:

Table 1. Measurement of Dependent Variables

	Pengukuran
DSRI	$\frac{\text{Piutang t / Penjualan t}}{\text{Piutang t−1 / Penjualan t−1}}$
GMI	$\frac{\text{Laba Kotor t−1 / Penjualan t−1}}{\text{Laba Kotor t / Penjualan t}}$
AQI	$\frac{(1-((\text{Aset Lancar t + Aset Tetap t)/ Total Aset t}))}{(1-((\text{Aset Lancar t−1 + Aset Tetap t−1}) / \text{ Total Aset t−1}))}$
SGI	$\frac{\text{Penjualan t}}{\text{Penjualan t−1}}$
DEPI	$\frac{(\text{Depresiasi t−1 / (Aset Tetap t−1 + Depresiasi t−1}))}{(\text{Depresiasi t / (Aset Tetap t + Depresiasi t}))}$
SGAI	$\frac{\text{SGA t / Penjualan t}}{\text{SGA t−1 / Penjualan t−1}}$
LVGI	$\frac{\text{Total Liabilitas t / Total Aset t}}{\text{Total Liabilitas t−1 / Total Aset t−1}}$
TATA	$\frac{\text{Laba Usaha − Arus Kas Operasional}}{\text{Total Aset}}$

After calculating the eight ratios above, it can then be formulated into the Beneish M-Score formula:

$$\textbf{M-Score} = -4{,}84 + 0.920\,\text{DSRI} + 0.528\,\text{GMI} + 0.404\,\text{AQI} + 0.892\,\text{SGI} + 0.115\,\text{DEPI} - 0.172\,\text{SGAI} - 0.327\,\text{LVGI}\ 4.697\,\text{TATA}$$

If the results obtained are more than -2.22, it can be categorized as a company that is indicated to be fraud or commit cheating, whereas if the result obtained is less than -2.22 then.

The company is categorized into companies that do not commit fraud. If the company is indicated to have committed fraud, the financial statements will be given a score of 1, while if it is not indicated, a score of 0 will be given.

3.1.2 Dependent Variables

The independent variable used in this study is fraud hexagon which is proxied with 9 factors, namely Financial Target, Financial Stability, Change in Director, Ineffective Monitoring, Nature of Industry, Change in Auditor, Frequent Number of CEO's Picture, Government Project, Political Connection, and State Owned Enterprises. Here are the measurements of each independent variable:

Table 2. Operational Definition Variable

Fraud Risk Factor	Variable	Operational Definition Variable	Source
Pressure	Financial Target (ROA)	$\text{ROA} = \frac{\text{Laba bersih}}{\text{Total Aset}}$	Skousen et al. (2009)
	Financial Stability (ACHANGE)	$\text{ACHANGE} = \frac{\text{Total Aset}_t - \text{Total Aset}_{t-1}}{\text{Total Aset}_{t-1}}$	Skousen et al. (2009)
Capability	Change of Board of Directors (DCHANGE)	Dummy variable If the company experiences a change / change of directors in 2020-2021 is given the code 1If the company does not experience a change / change of directors in 2020-2021 is given the code 0	Wolfe & Hermanson (2004)
Opportunity	Ineffective Monitoring (BDOUT)	$\text{BDOUT} = \frac{\text{Jumlah Dewan Komisaris Independen}}{\text{Total Dewan Komisaris}}$	Skousen et al. (2009)
	Nature Of Industry	$\text{RECEIVABLE} = \frac{\text{Receivable (t)}}{\text{Sales (t)}} - \frac{\text{Receivable (t-1)}}{\text{Sales (t-1)}}$	
Rationalization	Change in Auditor (ΔCPA)	Dummy variable If the company changes its public accounting in 2020-2021, it is coded 1, if the company does not change its public accounting in 2020-2021, it is coded 0	Skousen et al. (2009)
Ego (Arrogance)	Frequent Number of CEO's Picture (CEOPIC)	The number of photos or images of CEOs displayed in the annual report in 2020-2021	Crowe (2011)
Collusion	Governmen t Projects (PROPEM)	Dummy variable If the company cooperates with government projects in 2020 – 2021 is coded 1If the company does not cooperate with government projects in 2020 – 2021 is coded 0	Vousinas (2019)
	Political Connection s (POLCON)	Dummy variable If the company's president commissioner and/or independent commissioner has political connections during 2020 – 2021, it is coded 1If the company's president commissioner and/or independent commissioner does not have political connections during 2020 – 2021, it is coded 0It is said to have political connections if the president commissioner and/or Independent Commissioner	Fan et al. (2007)

		concurrent or former acting of: (a) politicians associated with a political party; (b) government; (c) military (Fan et al., 2007; Matangkin et al., 2018).	
	State-owned Enterprises (SOE)	The dummy variable if the ownership of the company is owned by the government in 2020 – 2021 is given the code 0if the ownership of the company is not owned by the government in 2020 – 2021 is given the code 1	

4. Results and Discussion

This research uses companies in the energy sector listed on the IDX in 2020-2021 with the number of analysis units that can be used as many as 100 energy companies. Criterion:

Table 3. Research Sample Selection

Information	Sum
Energy companies listed on IDX from 2020-2021	71
Energy companies that did not publish financial statements during 202-2021	(4)
Energy companies that suffered losses during 2020-2021	(17)
Number of companies that Qualified as a sample	50
Number of units of analysis	50x2= 100
Total units of analysis	100

4.1 Descriptive Statistical Analysis

Descriptive statistical analysis aims to provide an overview of a data by looking at the mean, minimum, maximum and standard deviation values of each research variable. Below are the results of descriptive statistical analysis presented in the following table:

Table 4. Descriptive Statistical Analysis

	ROA	ACHANGED	CHANGE	BDOUT	NOI	CPA	CEOPIC	PROPEM	POLCON	SOE	MSCORE
Mean	11.21402	601812.7	0.160000	0.547048	158.2671	0.040000	0.750000	0.500000	0.030000	0.940000	-1.440332
Median	0.059996	0.048059	0.000000	0.500000	0.009520	0.000000	1.000000	0.500000	0.000000	1.000000	-2.957576
Maximum	389.8390	36123702	1.000000	2.000000	16234.11	1.000000	1.000000	1.000000	1.000000	1.000000	690.9320
Minimum	0.000000	-5.843168	0.000000	0.000000	-665.9242	0.000000	0.000000	0.000000	0.000000	0.000000	-328.1220
Std. Dev.	52.18045	4319829.	0.368453	0.258109	1625.927	0.196946	0.435194	0.502519	0.171447	0.238683	83.26490

Explain the mean, minimum, maximum and standard deviation values of each research variable. The results of the table above provide information on descriptive statistics on the dependent variable, namely financial statement fraud, and the independent variables, namely Financial Target, Financial Stability, Change in Director, Ineffective Monitoring, Nature of Industry, Change in Auditor, Frequent Number of CEO's Picture, Government Projects, Political Connection, and State Owned Enterprises.

4.1.1 Descriptive Statistical Analysis of Financial Statement Fraud (MSCORE)

The results of the descriptive analysis showed a mean value of -1.4403. The mean value of negative MSCORE indicates that the company that is the object of research is indicated to have a fraud value. Of the 100 units of analysis, there are 26 units of analysis that have positive MSCORE results which show that 26% of the analysis units are indicated to have a fraudulent value of financial reports. The minimum value of -328.22 is owned by PT. Indo Tambangraya Megah Tbk (ITMG) in 2021 which has the lowest indication of fraud. While the maximum value of 690,932 is owned by PT. Dwi Guna Laksana Tbk (DWGL) in 2020 there were the highest indications of financial statement fraud from other companies. The standard value of the division for the variable of financial statement fraud is 83.264 > mean, so that data on financial statement fraud spreads heterogeneously.

4.1.2 Financial Target Descriptive Statistical Analysis

The results of the descriptive analysis show that the mean value of the financial target is 11,214 which shows the average value of the company's ability to generate profits. The company with the highest financial target value of 389,839 which means the level of profit capability of PT. Indo Tambangraya Megah Tbk (ITMG) in 2020 is the highest among other companies. Meanwhile, the lowest value is 0.0018 which means that the level of profit capability of PT. Dian Swastatika Santosa Tbk (DSSA) in 2020 was the lowest among other sample companies. The standard value of the revision is 52,180. This value is greater than the mean value, thus showing a varied distribution of data.

4.1.3 Descriptive Statistical Analysis of Financial Stability

The results of the descriptive analysis show a mean value of 601812.7 which shows the average value of the company's ability to manage its assets. The company with the highest financial stability score of 807,695 which means the level of capability by PT. Dwi Guna Laksana Tbk (DWGL) in 2020 is the highest among other companies. Meanwhile, the lowest value is -0.0012 which means that the ability level of PT. Transcoal Pacific Tbk (TCPI) in 2020 the Lowest among other sample companies. The standard value of the revision is 4319829. This value is greater than the mean, thus showing a varied distribution of data.

4.1.4 Descriptive Statistical Analysis Change in Director

The results of the descriptive analysis show a mean value of 0.160 which means that 16 units of analysis or 16% of the company's directors changed during 2020-2021 (code 1). Meanwhile, the remaining 84 analysis units or 84% did not change the company's directors during 2020-2021 (code 0). The standard value of the revision is 0.368. The value is greater than the mean, thus showing a varied distribution of data.

4.1.5 Descriptive Statistical Analysis Ineffective Monitoring

The results of the descriptive analysis show a mean value of 0.5470 which shows the average value of the proportion level of the company's independent board of commissioners. The company with the highest Ineffective Monitoring value is 2 which means it has a proportion level of independent board of commissioners of PT. Buana Lintas Lautan Tbk (BULL) in 2020 was the highest among other sample companies. Meanwhile, the lowest value is 0.333 which means that it has a level of proportion of the independent board of commissioners of PT. Bayan Resources Tbk (BYAN) in 2020 was the lowest among other sample companies. The standard value of the revision is 0.258. The value is smaller than the mean value, which indicates the presence of homogeneous data.

4.1.6 Nature of Industry Descriptive Statistical Analysis

The results of the descriptive analysis showed a mean value of 158,267 which shows the average value of the receivables account level in the company. Companies with the highest Nature of industry score of 435,566 which means having a receivable account level on the financial statements of PT. Dwi Guna Laksana Tbk (DWGL) in 2020 was the highest among other sample companies. Meanwhile, the company with the lowest Nature of industry value of -0.006 which means it has a receivables account level on the financial statements of PT. Perdana Karya Perkasa Tbk (PKPK) in 2021 is the highest among other sample companies. The standard value of the revision is 1625.9, the value is greater than the mean value, thus showing a varied distribution of data.

4.1.7 Descriptive Statistical Analysis of Change in Auditor

The results of the descriptive analysis show a mean value of 0.040 which means that 4 units of analysis or 4% of the company's public accounting firm turnover during 2020-2021 (code 1). Meanwhile, the remaining 96 units of analysis or 96% did not change the company's public accounting firm during 2020-2021 (code 0). The standard value of the revision is 0.196. The value is greater than the mean, thus showing a varied distribution of data.

4.1.8 Descriptive Statistical Analysis of Frequent Number of CEO’s Picture

The results of the descriptive analysis showed a mean value of 0.750 which means that 75 units of analysis or 75% used photos of the company's CEO during 2020-2021 (code 1). Meanwhile, the remaining 25 analysis units or 25% did not use photos of the company's CEO during 2020-2021 (code 0). The standard value of the revision is 0.435. The value is smaller than the mean, thus indicating a homogeneous distribution of data.

4.1.9 Descriptive Statistical Analysis of Government Projects

The results of the descriptive analysis show a mean value of 0.500 which means that 50 units of analysis or 50% occur Government projects of the company during 2020-2021 (code 1). Meanwhile, the remaining 50 units of analysis or 50% did not occur in corporate government projects during 2020-2021 (code 0). The standard value of the revision is 0.502. The value is greater than the mean, thus showing a varied distribution of data.

4.1.10 Descriptive Statistical Analysis, Political Connection

The results of the descriptive analysis show a mean value of 0.030 which means that 3 units of analysis or 3% occurred in the political relationship between the CEO and the

company's board of commissioners during 2020-2021 (code 1). Meanwhile, the remaining 97 analysis units or 97% did not occur political relations between the CEO and the company's board of commissioners during 2020-2021 (code 0). The standard value of the revision is 0.171. The value is greater than the mean, thus showing a varied distribution of data.

4.1.11 Descriptive Statistical Analysis of State Owned Enterprises

The results of the descriptive analysis show a mean value of 0.940 which means that 94 units of analysis or 94% did not occur share ownership by the government during 2020-2021 (code 1). Meanwhile, the remaining 6 analysis units or 6% of shares ownership by the government during 2020-2021 (code 0). The standard value of the revision is 0.238. The value is smaller than the mean, thus indicating a homogeneous distribution of data.

4.2 Panel Data Regression Estimation

There are three approaches to panel data regression models, namely common effect model, fixed effect model, and random effect model. The three models will be reselected in testing the panel data regression model to determine which model is most appropriate to be used as a basis for describing this research:

4.2.1 Common Effect Model (CEM)

Table 5. CEM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.20971	37.65967	-0.271105	0.7869
ROA	-0.815879	0.148343	-5.499957	0.0000
ACHANGE	-3.95E-08	1.80E-06	-0.021946	0.9825
DCHANGE	-7.006995	22.51350	-0.311235	0.7563
BDOUT	-3.505650	33.04633	-0.106083	0.9158
NOI	0.001137	0.004738	0.239899	0.8110
CPA	5.617358	40.15368	0.139896	0.8891
CEOPIC	13.77720	18.60495	0.740512	0.4609
PROPEM	4.878253	16.39649	0.297518	0.7668
POLCON	-12.30324	48.16285	-0.255451	0.7990
SOE	8.695557	32.55685	0.267088	0.7900

R-squared	0.255647	Mean dependent var	-1.440332
Adjusted R-squared	0.172012	S.D. dependent var	83.26490
S.E. of regression	75.76595	Akaike info criterion	11.59664
Sum squared resid	510902.7	Schwarz criterion	11.88321
Log likelihood	-568.8321	Hannan-Quinn criter.	11.71262
F-statistic	3.056689	Durbin-Watson stat	1.903756
Prob(F-statistic)	0.002238		

From table 5 the results of the common effect model (CEM) test resulted in an adjusted R-square of 0.172012 or 17.20%, while the remaining 82.80% can be explained by other variables outside the panel data regression model in this study

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4.2.2 Fixed Effect Model (FEM)

Table 5. FEM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.442433	108.8200	-0.059203	0.9531
ROA	0.184401	1.041518	0.177050	0.8604
ACHANGE	-1.87E-07	9.19E-06	-0.020375	0.9838
DCHANGE	4.300290	32.16193	0.133707	0.8943
BDOUT	2.882223	89.54428	0.032188	0.9745
NOI	0.001963	0.006728	0.291739	0.7720
CPA	24.38103	77.60792	0.314157	0.7550
CEOPIC	-4.662830	114.3694	-0.040770	0.9677
PROPEM	0.450239	80.77204	0.005574	0.9956
POLCON	-5.532190	131.7474	-0.041991	0.9667
SOE	3.121540	77.04090	0.040518	0.9679
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.648996	Mean dependent var		-1.440332
Adjusted R-squared	0.131264	S.D. dependent var		83.26490
S.E. of regression	77.60787	Akaike info criterion		11.82492
Sum squared resid	240919.3	Schwarz criterion		13.38803
Log likelihood	-531.2462	Hannan-Quinn criter.		12.45754
F-statistic	1.253538	Durbin-Watson stat		3.921569
Prob(F-statistic)	0.226255			

From table 5 the Fix effect model (FEM) test results in an adjusted R-square of 0.131264 or 13.12%., while the remaining 86.88% is explained by other variables.

4.2.3 Random Effect Model (REM)

Table 6. REM Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.10006	39.94440	-0.252853	0.8010
ROA	-0.812982	0.159977	-5.081872	0.0000
ACHANGE	-3.27E-08	1.94E-06	-0.016822	0.9866
DCHANGE	-6.401819	23.50594	-0.272349	0.7860
BDOUT	-3.566806	35.20463	-0.101316	0.9195
NOI	0.001187	0.004974	0.238611	0.8120
CPA	6.019871	42.65702	0.141123	0.8881
CEOPIC	13.77963	20.01649	0.688414	0.4930
PROPEM	4.790385	17.64956	0.271417	0.7867
POLCON	-12.35073	51.52167	-0.239719	0.8111
SOE	8.493246	34.53694	0.245918	0.8063
Effects Specification			S.D.	Rho
Cross-section random			18.33609	0.0529
Idiosyncratic random			77.60787	0.9471
Weighted Statistics				
R-squared	0.245074	Mean dependent var		-1.366092
Adjusted R-squared	0.160251	S.D. dependent var		80.51454
S.E. of regression	73.78176	Sum squared resid		484493.6
F-statistic	2.889240	Durbin-Watson stat		2.006305
Prob(F-statistic)	0.003599			

From table 6 the results of the Random effect model (REM) test resulted in an adjusted R-square of 0.1602 or 16.02%, while 83.98% was explained by other variables outside the panel data regression model in this study

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4.3 Panel Data Regression Model Technique Selection

4.3.1 Test Chow

This chow test is used to compare between CEM and FEM. The Chow test has the following hypotheses:

H0: Common effect model (CEM) selected if Cross-section F value > 0.05

H1: Fixed effect model (FEM) selected if Cross-section F value < 0.05

The results of the chow data test are seen in table 4.6, as follows:

Table 7. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.914807	(49,40)	0.6196
Cross-section Chi-square	75.171736	49	0.0095

From the table above, the probability result of Cross-section F shows a value of 0.6196 which indicates greater than the level The predetermined significance is α = 5%. The value indicates that H0 is rejected and H0 is recorded. So based on the chow test, the right model is CEM.

4.3.2 Hausman Test

The Hausman test is used to determine the best regression model between FEM and REM. The Hausman test has the following hypothesis:

H0: Random effect model

H1: Fixed effect model

The results of the Hausman test can be seen in table 4.7 as follows:

Table 8. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.440832	10	0.9991

From the table above, the probability of random cross section shows a value of 0.9991 which shows greater than the predetermined level of significance, which is α = 5%. The value indicates H0 is accepted and H1 is rejected. So based on the Hausman test, the right model is REM.

4.3.3 Lagrange Multiplier Test

The Lagrange Multiplier test is used to select the best regression model between CEM and REM. The LM test has the following hypotheses:

H0: Common effect model

H1: Random effect model

The results of the Lagrange multiplier test can be seen in table 4.8 as follows:

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Table 9. Lagrange Multiplier Test Results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.042296 (0.8371)	0.209275 (0.6473)	0.251571 (0.6160)

From the table above, the results of both Breusch-pagan show a value of 0.6160 which indicates greater than the predetermined level of significance, which is α = 5%. The value indicates H0 is accepted and H1 is rejected. So based on the Lagrange Multiplier test, the right model is CEM.

4.4 Classical Assumption Test

4.4.1 Multicollinearity Test

The multicollinearity test was used to detect and ensure that the independent variables in the study were not correlated with each other. The results of the multicollinearity test between independent variables can be seen in table 4.9 as follows:

Table 10. Multicollinearity Test Results

	ROA	ACHANGE	DCHANGE	BDOUT	NOI	CPA	CEOPIC	PROPEM	POLCON	SOE
ROA	1.000000	0.012744	-0.093458	-0.042885	-0.020933	-0.043761	0.124029	0.046177	-0.037925	0.054034
ACHANGE	0.012744	1.000000	-0.061108	-0.116516	-0.013717	-0.028581	0.080838	-0.140012	-0.024624	0.035374
DCHANGE	-0.093458	-0.061108	1.000000	0.229836	-0.042650	0.189310	-0.062994	0.163663	0.243051	-0.119452
BDOUT	-0.042885	-0.116516	0.229836	1.000000	-0.085405	-0.004277	0.198690	0.274053	0.310174	-0.035697
NOI	-0.020933	-0.013717	-0.042650	-0.085405	1.000000	-0.019973	0.056465	-0.094079	-0.017204	0.024719
CPA	-0.043761	-0.028581	0.189310	-0.004277	-0.019973	1.000000	-0.117851	0.102062	-0.035898	0.051571
CEOPIC	0.124029	0.080838	-0.062994	0.198690	0.056465	-0.117851	1.000000	0.161658	0.101535	0.048622
PROPEM	0.046177	-0.140012	0.163663	0.274053	-0.094079	0.102062	0.161658	1.000000	0.175863	-0.084215
POLCON	-0.037925	-0.024624	0.243051	0.310174	-0.017204	-0.035898	0.101535	0.175863	1.000000	0.044431
SOE	0.054034	0.035374	-0.119452	-0.035697	0.024719	0.051571	0.048622	-0.084215	0.044431	1.000000

Based on the table above, it can be concluded that between independent variables has a low correlation. This is shown at the correlation rate of one variable with another independent variable below 0.80. The highest correlation occurred in Ineffective Monitoring with government projects of 0.274053 While the lowest correlation level occurred in Nature of Industry with political connections of -0.017204 with such get It was concluded that in this study the panel data regression model was free from the problem of multicollinearity, so that the next stage of classical assumption testing could be carried out.

4.4.2 Heteroscedasticity Test

The heteroscedasticity test is performed to detect and ensure that the residual variance of the unit of analysis is fixed or heteroscedasticity. The authors used the Breusch-Pagan test to identify the possibility of heteroscedasticity in this research model. The results of the Breusch-Pagan test can be seen in the table as follows:

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Table 11. Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.186540	Prob. F(10,89)	0.9969
Obs*R-squared	2.052924	Prob. Chi-Square(10)	0.9959
Scaled explained SS	64.01085	Prob. Chi-Square(10)	0.0000

Based on the Breusch-Pagan test, it shows that the results of the independent variable have no influence on the absolute residual regression of the panel data regression model because the p-value (0.9959) is greater than 0.05. Thus, the panel data regression model used in this study H0 is free from heteroscedasticity problems.

4.5 Test the hypothesis

Based on the regression model, the most appropriate panel data for this study is: common effect model (CEM). Thus, the regression results of panel data with CEM are used as the basis for regression analysis in determining the influence of independent variables.

4.5.1 F Test

Table 12. F Test Result

R-squared	0.255647	Mean dependent var	-1.440332
Adjusted R-squared	0.172012	S.D. dependent var	83.26490
S.E. of regression	75.76595	Akaike info criterion	11.59664
Sum squared resid	510902.7	Schwarz criterion	11.88321
Log likelihood	-568.8321	Hannan-Quinn criter.	11.71262
F-statistic	3.056689	Durbin-Watson stat	1.903756
Prob(F-statistic)	0.002238		

The hypothesis in Test F is as follows:

H0 : Insignificant

H1 : Significant

Based on the table above, the F-statistic value is 3.0566 > the F table is 2.042 and the prob(F-statistical) value is 0.002238 < 0.05. Then H0 is rejected and H1 is accepted, which means that Financial Target, Financial Stability, Change In Director, Ineffective Monitoring, Nature Of Industry, Change In Auditor, Frequent Number Of CEO's Picture, Government Project, Political Connection, and State Owned Enterprises have a significant effect on fraudulent financial statements of companies in the energy sector.

4.5.2 Test Coefficient of Determination (R2)

Table 13. Test Results of Coefficient of Determination

R-squared	0.255647	Mean dependent var	-1.440332
Adjusted R-squared	0.172012	S.D. dependent var	83.26490
S.E. of regression	75.76595	Akaike info criterion	11.59664
Sum squared resid	510902.7	Schwarz criterion	11.88321
Log likelihood	-568.8321	Hannan-Quinn criter.	11.71262
F-statistic	3.056689	Durbin-Watson stat	1.903756
Prob(F-statistic)	0.002238		

Based on the table above, the adjusted R squared value of 0.172012 is the value of the coefficient of determination shows that Financial Target, Financial Stability, Change in Director, Ineffective Monitoring, Nature Of Industry, Change In Auditor, Frequent Number Of CEO's Picture, Government Project, Political Connection, and State Owned

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Enterprise can explain financial statement fraud by 17.20%. While the remaining 82.80% can be explained by other variables outside the panel data regression model in this study.

4.5.3 T Test

The T test is used to determine whether each independent variable can have a significant effect on the dependent variable. By comparing the t-statistic value with the t-table value of 100 units of analysis (df: N-k = 100-11 = 89) then the t-table value is 1.662

Table 14. T Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.20971	37.65967	-0.271105	0.7869
ROA	-0.815879	0.148343	-5.499957	0.0000
ACHANGE	-3.95E-08	1.80E-06	-0.021946	0.9825
DCHANGE	-7.006995	22.51350	-0.311235	0.7563
BDOUT	-3.505650	33.04633	-0.106083	0.9158
NOI	0.001137	0.004738	0.239899	0.8110
CPA	5.617358	40.15368	0.139896	0.8891
CEOPIC	13.77720	18.60495	0.740512	0.4609
PROPEM	4.878253	16.39649	0.297518	0.7668
POLCON	-12.30324	48.16285	-0.255451	0.7990
SOE	8.695557	32.55685	0.267088	0.7900

Based on the table above, the results of the hypothesis test can be known as:

1) Results of Hypothesis Test 1 (H1)
   The results of the t test between financial targets against financial statement fraud obtained a regression coefficient value of -0.815879 and had a t-statistical value of -5.499957 which was smaller than the t-table value (-5.499957 < 1.662) with a probability value of 0.000 (sig < 0.05). So, it can be stated that the financial target has a significant positive effect on report fraud finance. Thus, it is concluded that H1 is acceptable.
2) Test Results of Hypothesis 2 (H2)
   The results of the t-test between financial stability and financial statement fraud obtained a regression coefficient value of -0.00000000395 and had a t-statistic value of -0.021946 which was smaller than the t-table value (-0.021946 < 1.662) with a probability value of 0.9825 (sig > 0.05). So, it can be stated that Financial Stability has no effect on financial statement fraud. Thus, it is concluded that H2 is rejected.
3) Test Results of Hypothesis 3 (H3)
   The results of the t-test between Change in Director on financial statement fraud obtained a regression coefficient value of -7006995 and had a t-statistical value of -0.311235 which was smaller than the t-table value (-0.311235 < 1.662) with a probability value of 0.7563 (sig > 0.05). So, it can be stated that Change In Director has no effect on financial statement fraud. Thus, it is concluded that H3 is rejected.
4) Test Results of Hypothesis 4 (H4)
   The results of the t-test between ineffective monitoring of financial statement fraud obtained a regression coefficient value of -3.505650 and had a t-statistic value of -0.106083 which was smaller than the t-table value (-0.106083 < 1.662) with a probability value of 0.9158 (sig > 0.05). So, it can be stated that ineffective monitoring has no effect on financial statement fraud. Thus, it is concluded that H4 is rejected.

5) Test Results of Hypothesis 5 (H5)
The results of the t-test between Nature of Industry on financial statement fraud obtained a regression coefficient value of 0.001137 having a t-statistic value of 0.239899 which is smaller than the t-table value (0.239899 < 1.662) with a probability value of 0.8110 (sig > 0.05). So, it can be stated that the nature of industry has no effect on financial statement fraud. Thus, it is concluded that H5 is rejected.
6) Test Results of Hypothesis 6 (H6)
The results of the t-test between Change in Auditor on financial statement fraud obtained a regression coefficient value of 5.617358 and had a t-statistic value of -0.139896 which was smaller than the t-table value (-0.139896 < 1.662) with a probability value of 0.8891 (sig > 0.05). So, it can be stated that Change in Auditor has no effect on financial statement fraud. Thus, it is concluded that H6 is rejected.
7) Test Results of Hypothesis 7 (H7)
The results of the t-test between the Frequent Number of CEO's Picture against financial statement fraud obtained a regression coefficient value of 13.77720 and had a t-statistic value of 0.740512 which was smaller than the t-table value (0.740512 < 1.662) with a probability value of 0.4609 (sig > 0.05). So, it can be stated that the Frequent Number of CEO's Picture has no effect on financial statement fraud. Thus, it is concluded that H7 is rejected.
8) Test Results of Hypothesis 8 (H8)
The results of t-test between Government Projects against financial statement fraud obtained a regression coefficient value of 4.878253 and a t-statistic value of 0.297518 which is smaller than the t-table value (0.297518 < 1.662) with a probability value of 0.7668 (sig > 0.05). So, it can be stated that the Government Project has no effect on financial statement fraud. Thus, it was concluded that H8 was rejected.
9) Test Results of Hypothesis 9 (H9)
The results of the t-test between Political Connection on financial statement fraud obtained a regression coefficient value of -12.30324 and had a t-statistical value of -0.255451 which was smaller than the t-table value (-0.255451 < 1.662) with a probability value of 0.7990 (sig > 0.05). So, it can be stated that the Political Connection has no effect on financial statement fraud. Thus, it is concluded that H9 is rejected.
10) Test Results of Hypothesis 10 (H10)
The results of the t-test between State Owned Enterprises on financial statement fraud obtained a regression coefficient value of 8.695557 and had a t-statistic value of 0.267088 which was smaller than the t table value (0.267088 < 1.662) with a probability value of 0.7900 (sig > 0.05). So, it can be stated that government ownership has no effect on financial statement fraud. Thus, it is concluded that H10 is rejected.

4.6 Panel Data Regression Analysis

Based on model testing conducted through the chow test, Hausman test and previous Lagrange multiplier test, the most appropriate panel data regression model for this study is the common effect model (CEM). Thus, the regression results of panel data with CEM are used as the basis for regression analysis in determining the influence of independent variables. Regression results of panel data with CEM done using Eviews13 can be seen in the following table 14:

1) The value of the Financial Target coefficient is -0.815879. Shows that Financial Target has a negative direction towards financial statement fraud.
2) The value of the Financial Stability coefficient is -0.0000000395. Shows that Financial Stability has a negative direction towards financial statement fraud.
3) The value of the Change in Director coefficient is -7.006995. Shows that Change In Director has a negative direction towards financial statement fraud.
4) The value of the Ineffective Monitoring coefficient is -3.505650. Shows that ineffective monitoring has a negative direction towards financial statement fraud.
5) The value of the Nature of Industry coefficient is 0.001137. Shows that government ownership has a positive direction against financial statement fraud
6) The value of the Change in Auditor coefficient is 5.617358. Shows that the nature of industry has a positive direction towards financial statement fraud.
7) The value of the Frequent Number Coefficient of Ceo's Picture is 13.77720. Shows that the Frequent Number of CEO's Picture has a positive direction towards financial statement fraud.
8) The value of the Government Project coefficient is 4.878253. Shows that managerial ownership has a positive direction towards financial statement fraud.
9) The value of the Political Connection coefficient is -12.30324. Shows that the Political Connection has a negative direction towards financial statement fraud.
10) The value of the State Owned Enterprises coefficient is 8.695557. Shows that State Owned Enterprises has a positive direction towards financial statement fraud

5. Conclusion

The conclusion contains a brief summary of the research results and a discussion that answers the research objectives.

1) Based on the results of the data that has been presented, the following conclusions can be obtained:
2) Financial Target has a significant positive effect on fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to achieve financial targets indicates the occurrence of financial statement fraud as evidenced by a significance value smaller than 0.05, which is 0.00.
3) Financial Stability does not affect the fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to achieve financial stability does not indicate financial statement fraud, as evidenced by a significance value greater than 0.05, which is 0.9825.
4) Change In Director does not affect the fraud of financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to achieve changes in directors does not indicate financial statement fraud, as evidenced by a significance value greater than 0.05, which is 0.7563.
5) Ineffective Monitoring does not affect the fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to achieve an increase in company size does not indicate financial statement fraud, as evidenced by a signification value greater than 0.05, which is 0.9158.
6) Nature Of Industry does not affect the fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to manage Accounts receivable do not indicate financial statement fraud, as evidenced by a significance value greater than 0.05, which is 0.8110.

7) Change In Auditor does not affect the fraud of the company's financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to achieve audit turnover does not indicate financial statement fraud, as evidenced by a signification value greater than 0.05, which is 0.8891.
8) Nature Of Industry does not affect the fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to post a photo of the CEO does not indicate financial statement fraud, as evidenced by a signification value greater than 0.05, which is 0.4609.
9) Government projects have no effect on fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability in government projects does not indicate financial statement fraud, as evidenced by a significance value greater than 0.05, which is 0.7668.
10) Political Connection has no effect on fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability to connect with the government does not indicate financial statement fraud, as evidenced by a significance value greater than 0.05, which is 0.7990.
11) State Owned Enterprises has no effect on fraudulent financial statements of energy companies listed on the IDX for 2020-2021. The company's ability in government ownership does not indicate financial statement fraud, as evidenced by the value Significance greater than 0.05 is 0.7900.

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