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The Influence of Fraud Triangle Elements on Indications of Financial Statement Fraud in Non-Financial State-Owned Enterprises in Indonesia During the 2021–2024 Period

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ABSTRACT

This study examines the influence of Fraud Triangle elements pressure, opportunity, and rationalization on indications of financial statement fraud in non-financial State-Owned Enterprises (SOEs) in Indonesia during the 2021–2024 period. Financial statement fraud is proxied by discretionary accruals (DACC), while pressure, opportunity, and rationalization are measured using return on assets (ROA), total asset change (ACHANGE), leverage (LEV), proportion of independent commissioners (BDOUT), receivables to sales ratio (REC), and audit opinion (AO). Using secondary data from 80 firm-year observations of audited financial statements, this study applies multiple linear regression analysis. The results indicate that pressure variables (ROA, ACHANGE, and LEV) and rationalization (AO) have a significant effect on DACC, whereas opportunity variables (BDOUT and REC) show no significant effect. Simultaneously, all variables significantly influence indications of financial statement fraud. This study contributes theoretically by reinforcing the relevance of the Fraud Triangle framework in explaining fraud risk within non-financial SOEs, and practically by providing insights for auditors, regulators, and SOE management to strengthen fraud risk assessment and internal control mechanisms.

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INTRODUCTION

Financial statements play a central role in realizing transparency and accountability, especially for State-Owned Enterprises (SOEs) that manage public funds and carry out strategic functions in the national economy. Despite being supervised through regulations such as OJK (2016) Regulation No. 29/POJK.04/2016 and the Ministry of SOEs Regulation PER-5/MBU/04/2021 (Ministry of State-Owned Enterprises 2021), the risk of financial statement fraud within SOEs remains high. In addition, the Audit Board of the Republic of Indonesia (BPK RI), through its Overview of Audit Results for the Second Semester (IHPS) 2023, reported significant findings related to weaknesses in internal control and non-compliance with regulations across government entities, including state-owned enterprises. These findings indicate that the risk of financial reporting irregularities remains relatively high. Based on the Report to the Nations published by the Association of Certified Fraud Examiners (ACFE, 2024), financial statement fraud is one of the forms of fraud with the largest loss impact globally, with a median loss of millions of dollars per case. The findings confirm that fraud is not just a technical issue, but a serious threat that can weaken the accountability, effectiveness of governance, and the performance of organizations, including SOEs in Indonesia.

Several major fraud cases involving Indonesian State-Owned Enterprises (SOEs)

have been documented by credible national media. Revenue manipulation at Garuda Indonesia was revealed in 2018 and sanctioned in 2019 (Detik Finance, 2019). Earnings manipulation through inventory misstatement occurred at Kimia Farma (Tempo.co, 2002), while large-scale investment mismanagement was identified in the Jiwasraya and Asabri cases, resulting in substantial state losses (Kompas.com, 2020; Kompas.com, 2021). In addition, audit findings also revealed procurement-related financial irregularities at Indofarma (CNBC Indonesia, 2024). These cases demonstrate that financial statement fraud can still occur despite formal oversight mechanisms, indicating persistent pressure, weak supervision, internal control deficiencies, and managerial rationalization within SOEs.

The phenomenon of financial statement fraud is theoretically explained through the Fraud Triangle Theory which was first introduced by Cressey (1953), that fraud does not occur randomly, but arises when three elements complement each other, namely pressure, opportunity, and rationalization. In addition, (Association of Certified Fraud Examiners [ACFE], 2022) states that fraud generally arises due to the presence of pressure, opportunity, and rationalization, which are the three main components of the Fraud Triangle. The use of the Fraud Triangle in empirical research was then expanded by Skousen, et al. (2009), who operationalized the elements of pressure, opportunity, and rationalization into quantitative variables to detect potential fraud in financial statements through accrual analysis and other financial indicators. Pressure refers to goal-driven motivation, opportunity arises from weak internal controls, and rationalization represents the justification used to legitimize fraudulent actions. The relevance of the Fraud Triangle is also affirmed in international auditing standards. Statement on Auditing Standards (SAS) No. 99, issued by the (American Institute of Certified Public Accountants [AICPA], 2002), classifies fraud risk factors into three groups pressure, opportunity, and rationalization which are aligned with the Fraud Triangle concept. SAS 99 is an important reference for auditors in assessing the risk of financial statement fraud, thus supporting the theoretical foundation of this research.

However, empirical studies applying the Fraud Triangle framework report inconsistent findings. Mangeka and Rahayu (2020) found that financial stability and external pressure do not significantly affect fraud, while personal financial needs and the nature of industry show significant effects. In contrast, Rinjani et al. (2025) reported that financial targets significantly influence fraud, whereas financial stability, external pressure, ineffective monitoring, nature of industry, and auditor change have no effect in mining companies. Mappadang (2023) found that only pressure, proxied by return on assets (ROA), was significant, while other variables showed no effect. Further inconsistencies are also observed in the rationalization element, where Wibawa and Suprasto (2023) reported no significant effect, while Wicaksono and Prabowo (2022) found that audit opinions influence fraud tendencies. Moreover, Narsa et al. (2023) documented differing effects of asset change (ACHANGE) and leverage on earnings management behavior. It is important to note that earnings management does not necessarily constitute fraud; however, it may serve as an early indicator or proxy of potential financial statement fraud when conducted opportunistically. These mixed findings indicate that the influence of Fraud Triangle elements on fraud-related behavior remains context-dependent and warrants further investigation.

The differences in prior research findings indicate a research gap, particularly in non-financial State-Owned Enterprises (SOEs), which operate under distinctive institutional pressures. These pressures stem from government-imposed performance targets, political expectations to demonstrate financial sustainability, bureaucratic organizational structures, and dual mandates to fulfill public service functions while maintaining profitability. Furthermore, the 2021–2024 period represents a post-COVID-19 economic recovery phase characterized by declining revenues, rising operational costs, and heightened financial risk. Such conditions may intensify pressure on management to present favorable financial performance, thereby increasing the likelihood of opportunistic accrual-based

earnings management to preserve performance perceptions and meet stakeholder expectations.

In this study, the measurement of Fraud Triangle variables is grounded in the fraud risk factor framework proposed by Skousen, Smith, and Wright (2009) and the guidelines of SAS No. 99. Pressure variables are operationalized using Return on Assets (ROA) to represent financial targets, Asset Change (ACHANGE) to capture financial stability, and Leverage (LEV) to reflect external pressure related to debt dependence. Opportunity variables are measured using the proportion of independent commissioners (BDOUT) as a proxy for ineffective monitoring and the receivables-to-sales ratio as a proxy for the nature of industry, as commonly applied in Indonesian fraud studies (Mangeka & Rahayu, 2020; Wibawa & Suprasto, 2023; Mappadang, 2023). Furthermore, rationalization is proxied by audit opinion, consistent with auditing standards and prior empirical research that utilize audit-related indicators to capture managerial justification in financial reporting behavior (SAS No. 99; Wicaksono & Prabowo, 2022; Adha & Indriyani, 2024).

Based on empirical phenomena, theories, and inconsistencies of previous research, this study aims to analyze the influence of pressure, opportunity, and rationalization elements on the indication of financial statement fraud in non-financial SOEs in Indonesia for the period 2021–2024 measured using discretionary accruals (DACC). This research is expected to make a theoretical contribution to the development of forensic accounting studies as well as practical benefits for auditors, regulators, and management of SOEs in strengthening internal control systems and mitigating fraud risks.

METHODS

Data Collection and Research Design

This study uses a quantitative research design with secondary data obtained from the annual reports and audited financial statements of non-financial State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange (IDX) for the 2021–2024 period. The analysis is restricted to non-financial SOEs because they operate under different regulatory and accounting environments compared to financial SOEs and exhibit greater discretion in accrual estimation, revenue recognition, and asset valuation, making them more suitable for examining fraud risk using accrual-based measures. SOEs were selected due to their high level of public accountability and heightened exposure to fraud risk, particularly during the post COVID-19 recovery period.

Population and Sample

The population in this study consists of all non-financial State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange (IDX) that published audited annual financial statements during the 2021–2024 period. The sample was selected using a purposive sampling technique based on the completeness and availability of financial data. 1) Companies included in the sample are non-financial SOEs that were consistently listed on the IDX throughout 2021–2024, 2) Issued audited annual reports consecutively during the observation period, and 3) Did not experience delisting, mergers, or operational discontinuation. Companies that met these criteria were designated as the final research sample.

Research Variables and Measurement

Dependent Variable

The dependent variable in this study is discretionary accruals (DACC), which are estimated using the Modified Jones Model developed by Dechow et al. (1995). Discretionary accruals capture abnormal accrual behavior arising from managerial discretion in financial reporting and are used in this study to indicate potential financial statement fraud, as aggressive accrual-based earnings management is widely recognized

as an early signal of financial reporting manipulation when proven fraud cases are difficult to observe.

Total Accruals (TACC): TACCit = Net Incomeit − CFOit
Non-Discretionary Accruals (NDACC) :

$$\frac{TACC_{it}}{A_{it-1}} = \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it}$$

Then,

$$NDACC_{it} = \widehat{\alpha_1}\left(\frac{1}{A_{it-1}}\right) + \widehat{\alpha_2}\left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \widehat{\alpha_3}\left(\frac{PPE_{it}}{A_{it-1}}\right)$$

Discretionary Accruals (DACC): DACCit: TACCit−NDACCit
Description:

TACC_it : Total accruals of company i in year t.
NDACC_it : Non-Discretionary Accruals, representing the normal level of accruals that cannot be manipulated, obtained from the estimated regression model.
DACC_it : Discretionary Accruals, calculated as the difference between total accruals and normal accruals, used as a proxy to measure the likelihood of financial statement manipulation.
CFO_it : Cash flow from operating activities.
A_it−1 : Total assets at the beginning of the period (previous year).
ΔREV_it : Change in revenue.
ΔREC_it : Change in accounts receivable.
PPE_it : Net property, plant, and equipment.
$\alpha_1, \alpha_2, \alpha_3$: Regression coefficients of the Modified Jones estimation model.
$\widehat{\alpha_1}, \widehat{\alpha_2}, \widehat{\alpha_3}$: Estimated coefficients derived from the sample regression model.
ε_it : Error term representing unexplained variations in the model.

Independent Variables (Fraud Triangle Proxies)

Tabel 1. Operational Definition and Measurement of Independent Variables

Variable Name	Measurement / Formula
Financial Target (ROA)	$\text{ROA} = \frac{\text{Net Income}}{\text{Total Aset}}$
Financial Stability (ACHANGE)	$\text{ACHANGE} = \frac{\text{Total Assets} - \text{Total Assets} - 1}{\text{Total Assets} - 1}$
External Pressure (LEV)	$\text{LEV} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$
Ineffective Monitoring (BDOUT)	Independent Commissioners / Total Commissioners
Nature of Industry (RECEIVABLE)	$\text{RECEIVABLE} = \frac{\text{AR}_t - \text{AR}_{t-1}}{\text{Sales}_t}$
Rationalization (AO)	Dummy variable: Nilai 1 = company receives a non-unqualified audit opinion (e.g., qualified, adverse, or disclaimer) Nilai 0 = company receives an unqualified (clean) audit opinion

Source: Processed Data (2025)

The operational definitions and measurements of the independent variables in this study are primarily adapted from the Fraud Triangle framework proposed by Skousen,

Smith, and Wright (2009). Financial target pressure is proxied by Return on Assets (ROA), financial stability by asset change (ACHANGE), and external pressure by leverage (LEV), consistent with the pressure element of the Fraud Triangle. Opportunity is measured through ineffective monitoring, proxied by the proportion of independent commissioners (BDOUT), and the nature of industry, proxied by the receivables-to-sales ratio (RECEIVABLE), as higher receivables relative to sales increase managerial discretion in revenue recognition. Consistent with Skousen et al. (2009, tabel 2), these proxies capture the opportunity dimension of financial statement fraud. Rationalization is proxied by audit opinion (AO), following auditing standards (SAS No. 99) and prior empirical fraud studies, which view audit outcomes as a reflection of management's justification in financial reporting decisions

Data Analysis Technique

Although the dataset consists of observations across firms and years, this study employs multiple linear regression using pooled data rather than panel data regression. The primary objective of the study is to examine the influence of Fraud Triangle elements on discretionary accruals, rather than to analyze firm-specific or time-specific effects. Therefore, the data are treated as pooled observations to capture general relationships among variables. In addition, the relatively short observation period limits the effectiveness of fixed-effects or random-effects panel estimation, making multiple linear regression an appropriate and widely used method in fraud-related empirical research.

The data in this study were analyzed quantitatively using several stages of statistical testing to ensure the reliability and validity of the regression model. The analysis was conducted with the assistance of the Statistical Package for the Social Sciences (SPSS) 31. The steps of the analytical procedure follows:

Descriptive Statistical Analysis

Descriptive statistics were used to summarize the characteristics of each research variable, including minimum value, maximum value, mean, and standard deviation. This analysis provides an initial overview of the distribution and variability of the financial indicators used in the study.

Classical Assumption Tests

1. Normality Test (Kolmogorov-Smirnov test)
2. Multicollinearity Test (Variance Inflation Factor and tolerance values)
3. Heteroscedasticity Test (A scatterplot between standardized residuals and predicted values)
4. Autocorrelation Test (The Durbin–Watson statistic)

Multiple Linear Regression Analysis

$$\mathbf{DACC\_it} = \boldsymbol{\beta 0} + \boldsymbol{\beta 1 ROA} + \boldsymbol{\beta 2 ACHANGE} + \boldsymbol{\beta 3 LEV} + \boldsymbol{\beta 4 BDOUT} + \boldsymbol{\beta 5 REC} + \boldsymbol{\beta 6 AO} + \boldsymbol{\varepsilon it}$$

Where:

DACC_it : Discretionary accruals of company i, in year t
β_1–β_6 : Regression coefficients
ROA : Return on Assets
ACHANGE : Assets Change
LEV : Leverage
BDOUT : Proportion of independent commissioners
RECEIVABLE : Receivable ratio
AO : Audit opinion
ε_it : Error term capturing all unexplained variations in the model.

This analysis aims to determine the direction and significance of each independent

variable in predicting the likelihood of financial statement fraud.

Hypothesis Testing

1. t-test (Partial Test), The t-test was conducted to assess the individual effect of each independent variable on DACC.
2. F-test (Simultaneous Test), The F-test was performed to evaluate whether all independent variables simultaneously affect the dependent variable.
3. Coefficient of Determination (Adjusted R^2), The Adjusted R^2 value was used to determine the explanatory power of the model, indicating how much variation in DACC can be explained by the independent variables.

RESULTS AND DISCUSSION

Statistics Descriptive

According to Sugiyono (2023), descriptive statistics are used to analyze and describe data as it is without making generalizations. These statistics display measures such as mean, median, minimum–maximum values, and standard deviations to provide an initial idea of the characteristics of the study variables. A summary of the results of descriptive statistical processing for all research variables is shown in table 2 below:

Tabel 2. Descriptive Test Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Return On Assets (ROA)	80	-0,9489	0,5987	0,0005	0,1707
Total Asset Change (ACHANGE)	80	-0,4871	0,5016	-0,0122	0,1387
External Pressure (LEV)	80	0,2727	2,0583	0,7168	0,3385
Proportion of Independent Commissioners (BDOUT)	80	0,1667	0,8333	0,4653	0,1421
Receivable Ratio to Sales (RECEIVABLE)	80	-0,3782	1,0955	0,0249	0,1979
Discretionary Accruals (DACC)	80	-0,3837	0,5292	-0,0399	0,1065

Source : SPSS processed data, (2025)

The descriptive statistical results in tabel 2 show that the Return on Assets (ROA) variable has a minimum value of –0.9489 and a maximum value of 0.5987, with a very small mean value of 0.0005, reflecting the low profitability of non-financial SOEs and the presence of several firms experiencing losses. The Asset Change (ACHANGE) variable has an average value of –0.0122, ranging from –0.4871 to 0.5016, indicating that overall asset growth tends to decline, although some firms experience asset expansion. The Leverage (LEV) variable shows a minimum value of 0.2727 and a maximum value of 2.0583, with an average of 0.7168, suggesting substantial variation in firms' dependence on debt financing. The proportion of independent commissioners (BDOUT) has an average value of 0.4653, indicating that nearly half of the board of commissioners consists of independent members. The receivables-to-sales ratio (RECEIVABLE) has a mean value of 0.0249 and ranges from –0.3782 to 1.0955, suggesting that most firms maintain relatively low receivable levels compared to sales. Meanwhile, discretionary accruals (DACC) have an average value of –0.0399, with values ranging from –0.3837 to 0.5292, indicating that overall accrual manipulation is relatively low, although both income-increasing and income-

decreasing discretionary accrual practices are observed.

Tabel 3. Distribution of Audit Opinion (AO)

Audit Opinion	Code	Frequency	Percentage
Unqualified Opinion	0	77	96.25%
Non-unqualified Opinion	1	3	3.75%
Total		80	**100%**

Source : Processed data, (2025)

Audit Opinion (AO) is a dummy variable measured on a nominal scale, where 1 indicates a non-unqualified audit opinion and 0 indicates an unqualified audit opinion. Therefore, its descriptive statistics are presented using frequency and percentage distributions.

Classical Assumption Tests

1. Normality Test

Tabel 4. Normality Test
One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			80
Normal Parameters, b	Mean		0.0000000
	Std. Deviation		0,05823001
Most Extreme Differences	Absolute		0.085
	Positive		0.063
	Negative		-0.085
Test Statistic			0.085
Asymp. Sig. (2-tailed)[c]			.200d
Monte Carlo Sig. (2-tailed)[e]	Sig.		0.202
	99% Confidence Interval	Lower Bound	.191
		Upper Bound	.212

Source : SPSS processed data, (2025)

The results of the Kolmogorov–Smirnov test showed that the value of Asymp. Sig. (2-tailed) was 0.200, which was above the significance threshold of 0.05. This value indicates that there is no significant difference between the residual distribution and the normal distribution. Thus, the residual in the regression model can be declared to be normally distributed, so that the assumption of normality is fulfilled and the model is feasible to proceed to the next stage of analysis

2. Multicollinearity Test

Tabel 5. Multicollinearity Test
Coefficient

Type		Collinearity Statistics Tolerance	VIF
1	(Constant)		
	Return On Assets (ROA)	0,476	2,101
	Total Asset Change (ACHANGE)	0,541	1,847
	External Pressure (LEV)	0,540	1,852
	Proportion of Independent Commissioners (BDOUT)	0,922	1,085
	Receivable Ratio to Sales (RECEIVABLE)	0,899	1,113
	Audit Opinion (AO)	0,833	1,201

Source : SPSS processed data, (2025)

The results of the multicollinearity test in tabel 3 show that all independent variables have a tolerance value above 0.10 and a VIF below 10. This condition confirms that the regression model does not experience multicollinearity, so all independent variables are declared feasible for use in further analysis.

3. Heteroscedasticity Test

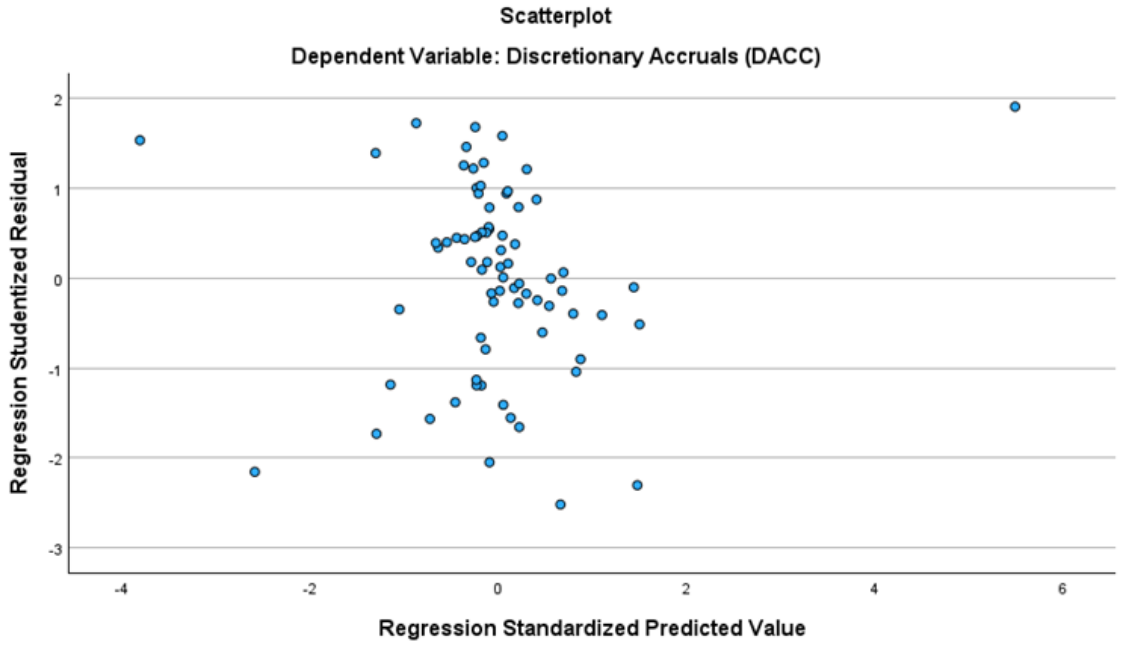

Figure 1. Heteroscedasticity Test
Source : SPSS processed data, (2025)

Based on the results of the heteroscedasticity test through the scatterplot graph in Figure 1, it can be seen that the residual points are randomly spread above and below the horizontal line without forming a specific pattern. The irregular distribution pattern suggests that the regression model does not experience symptoms of heteroscedasticity, so the residual variance can be considered constant.

4. Autocorrelation Test

Tabel 6. Autocorrelation Test

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.890a	0,793	0,774	0,05489	1,746

a. Predictors: (Constant), Return On Assets (ROA), Total Asset Change (ACHANGE), External Pressure (LEV), Proportion of Independent Commissioners (BDOUT), Receivable Ratio (RECEIVABLE), Audit Opinion (AO)
b. Dependent Variable: Discretionary Accruals (DACC)
Source : SPSS processed data, (2025)

The results of the autocorrelation test with the Durbin–Watson method showed a value of 1.746, which is still in the range of –2 to +2. This value indicates that the regression model does not experience autocorrelation, so the relationship between residuals in different periods is not a problem in this study.

Multiple Linear Regression Results
The results of multiple linear regression analysis show the following model:

Tabel 7. Multiple Linear Regression Results
Coefficient

Type		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-0,146	0,031		-4,648	<0.001		
	Return On Assets (ROA)	0,728	0,060	1,166	12,142	<0.001	0,476	2,101
	Total Asset Change (ACHANGE)	-0,320	0,069	-0,416	-4,618	<0.001	0,541	1,847
	External Pressure (LEV)	0,088	0,028	0,279	3,088	0,003	0,540	1,852
	Proportion of Independent Commissioners (BDOUT)	0,072	0,052	0,096	1,392	0,169	0,922	1,085
	Receivable Ratio to Sales (RECEIVABLE)	0,072	0,038	0,135	1,924	0,059	0,899	1,113
	Audit Opinion (AO)	0,093	0,039	0,171	2,360	0,021	0,833	1,201

a. Dependent Variable: Discretionary Accruals (DACC)

Source : SPSS processed data, (2025)

Based on the SPSS calculation presented in tabel 4, the results of the multiple linear regression model were obtained as follows:

DACC = –0.146 + 0.728ROA – 0.320 ACHANGE + 0.088LEV + 0.072BDOUT + 0.072RECEIVABLE + 0.093AO

Based on the linear equation model above, multiple linear regression analysis can be interpreted as follows:

1. Constant (a) = **–**0.146

A negative value constant value indicates that when all independent variables are considered to be zero, then the value of discretionary accruals (DACC) is at the level of –0.146. This means that without taking into account the influence of pressures, opportunities, and rationalization, companies tend to generate relatively low discretionary accruals.

2. Coefficient of Return on Assets (ROA) = 0.728

The ROA coefficient is positive, which means that every increase in ROA by 1 unit will increase the DACC by 0.728. This suggests that the higher the profitability pressure exhibited by ROA, the greater the tendency of companies to practice profit management through discretionary accruals.

3. Coefficient of Total Asset Change (ACHANGE) = −0.320

The negative coefficient of Total Asset Change (ACHANGE) indicates that lower asset growth is associated with higher discretionary accruals, suggesting increased pressure under unstable financial conditions. Any 1% increase in sales will increase the stability of the company by 0.031 (3.1%), with other variable conditions fixed. Conversely, a 1% decline in sales growth would lower financial stability at the same rate. This shows that companies with good sales growth tend to have more stable financial conditions.

4. Coefficient of Leverage (LEV) = 0.088

The LEV coefficient is positive, indicating that the higher the level of leverage, the more likely a company is to increase the value of the DACC. Dependence on debt provides external pressure for companies to perform well, thus encouraging an increase in discretionary accruals.

5. Coefficient of Proportion of Independent Commissioners (BDOUT) =0.072

The positive BDOUT coefficient shows that the increase in the proportion of independent commissioners is followed by an increase in DACC, although the effect is relatively small. This may indicate that the oversight mechanism by independent commissioners has not been fully effective in limiting accrual manipulation

6. Coefficient of Receivable Ratio (REC) = 0.072

The ratio coefficient of accounts receivable to sales is positive, which means that the larger the proportion of accounts receivable compared to sales, the higher the value of the DACC. This is in line with the nature of the industry where the flexibility of recording income provides an opportunity for companies to make accrual adjustments.

7. Coefficient of Audit Opinion (AO) =0.093

The positive audit opinion coefficient indicates that the change in audit opinion is related to the increase in the DACC score. This can illustrate the possibility of the company using a discretionary accrual pattern to adjust the quality of financial statements so as to obtain a certain opinion from the auditor.

Hypothesis Test

The F test is used to find out whether the independent variables in the regression model together have an effect on the dependent variables. The test is performed by looking at the significance values on the ANOVA tabel. The model is declared significant if the Sig. value < 0.05, which means that all independent variables simultaneously have an influence on the dependent variables. If the Sig. value ≥ 0.05, then the model is considered to be insignificant simultaneously.

1. Partial Test (t-test)

Tabel 8. T test

Coefficient

Type		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-0,146	0,031		-4,648	<0.001		
	Return On Assets (ROA)	0,728	0,060	1,166	12,142	<0.001	0,476	2,101
	Total Asset Change (ACHANGE)	-0,320	0,069	-0,416	-4,618	<0.001	0,541	1,847
	External Pressure (LEV)	0,088	0,028	0,279	3,088	0,003	0,540	1,852
	Proportion of Independent Commissioners (BDOUT)	0,072	0,052	0,096	1,392	0,169	0,922	1,085
	Receivable Ratio to Sales (RECEIVABLE)	0,072	0,038	0,135	1,924	0,059	0,899	1,113
	Audit Opinion (AO)	0,093	0,039	0,171	2,360	0,021	0,833	1,201

a. Dependent Variable: Discretionary Accruals (DACC)

Source : SPSS processed data, (2025)

Based on the results of the significance test of individual parameters (t-test), it can be concluded that the Return on Assets (ROA) has a significance value of < 0.001 so that hypothesis 1 is accepted, which shows that the financial target has a significant positive effect on the DACC. The variable of total asset change (ACHANGE) also has a significance value of < 0.001 so that hypothesis 2 is accepted, meaning that financial stability has a significant negative effect on DACC. Furthermore, leverage (LEV) has a significance value of 0.003 so that hypothesis 3 is accepted and proves that external pressure has a significant positive effect on DACC. Meanwhile, the proportion of independent commissioners (BDOUT) has a significance value of 0.169 so hypothesis 4 is rejected, which means that ineffective monitoring does not have a significant effect on DACC. The variable ratio of receivables to sales (receivable) also shows a significance value of 0.059 so that hypothesis 5 is rejected, indicating that the nature of industry does not have a significant effect on DACC. The audit opinion (AO) has a significance value of 0.021 so that hypothesis 6 is accepted, which means that rationalization has a significant positive effect on DACC.

2. F test (Goodness of Fit)

Tabel 9. F Test

ANOVA

Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0,773	6	0,129	42.749	<.001
	Residual	0,202	67	0,003		
	Total	0,975	73			

a. Dependent Variable: Discretionary Accruals (DACC)
b. Predictors: (Constant), Return On Assets (ROA), Total Asset Change (ACHANGE), External Pressure (LEV), Proportion of Independent Commissioners (BDOUT), Receivable Ratio (RECEIVABLE), Audit Opinion (AO)

Source : SPSS processed data, (2025)

Based on the results of the F test in tabel 5, the significance value was recorded at < 0.001, which is well below the limit of α = 0.05. This shows that all independent variables in the model simultaneously have a significant effect on DACC. Thus, the regression model was declared feasible and can be used for further analysis.

3. Coefficient of Determination Test (Adjusted R2)

Tabel 10. Coefficient of Determination Test (Adjusted R2)

Type	R	R Square	Adjusted Square	Std. error of Estimate
1	.890	0.793	0.774	0,05489

a. Predictors: (Constant), Return On Assets (ROA), Total Asset Change (ACHANGE), External Pressure (LEV), Proportion of Independent Commissioners (BDOUT), Receivable Ratio (RECEIVABLE), Audit Opinion (AO)
b. Dependent Variable: Discretionary Accruals (DACC)

Source : SPSS processed data, (2025)

Based on the results of the determination coefficient test, the R Square value of 0.793 shows that the variables ROA, ACHANGE, LEV, BDOUT, receivable, and audit opinion are able to explain 79.3% of the variation in discretionary accruals (DACC). The Adjusted R Square value of 0.774 confirms that after adjusting for the number of variables and samples, the regression model still has very strong explanatory capabilities. Thus, most of the DACC changes can be explained by independent variables in the model, while the remaining about 22.6% are influenced by other factors outside of the study.

DISCUSSION

1. The Effect of Return on Assets (ROA) on Discretionary Accruals (DACC)

The results show that Return on Assets (ROA) has a significant positive effect on discretionary accruals (DACC), indicating that higher profitability increases management's incentive to engage in accrual-based earnings management. In the context of non-financial State-Owned Enterprises (SOEs) in Indonesia, profitability is not only a measure of operational performance but also a key benchmark closely monitored by the government and the public. High profitability creates pressure on management to sustain performance levels, particularly during the post–COVID-19 recovery period, when SOEs face increased scrutiny over efficiency and financial sustainability. To meet government-imposed financial targets and maintain a favorable performance image, management may opportunistically adjust accruals. This finding aligns with the financial target dimension of the Fraud Triangle and is consistent with prior studies (Mangeka & Rahayu, 2020; Wicaksono & Prabowo, 2022; Adha & Indriyani, 2024), confirming that ROA represents a significant source of pressure contributing to indications of financial statement fraud in non-financial SOEs.

2. The Effect of Total Asset Change (ACHANGE) on Discretionary Accruals (DACC)

The results indicate that Total Asset Change (ACHANGE) has a significant negative effect on discretionary accruals (DACC), suggesting that more stable or increasing asset levels reduce management's incentive to manipulate accruals. In the context of non-financial State-Owned Enterprises (SOEs) in Indonesia, asset growth often reflects long-term government support, capital investment, and operational sustainability, particularly in asset-intensive sectors such as infrastructure, energy, and manufacturing. Stable asset conditions signal financial security and reduce pressure on management to present overly optimistic financial performance. Conversely, asset instability may heighten concerns over financial viability and public accountability, thereby encouraging accrual-based earnings management as a response to performance pressure. This mechanism is consistent with the financial stability dimension of the Fraud Triangle, which posits that deteriorating or unstable financial conditions increase fraud risk. The findings are in line with prior studies (Narsa et al., 2023; Wicaksono & Prabowo, 2022), confirming that asset stability plays a protective role in mitigating indications of financial statement fraud in non-financial SOEs.

3. The Effect of Leverage (LEV) on Discretionary Accruals (DACC)

The results indicate that leverage (LEV) has a significant positive effect on discretionary accruals (DACC), suggesting that higher debt levels increase managerial incentives to engage in accrual-based earnings management. In the context of non-financial State-Owned Enterprises (SOEs) in Indonesia, high leverage often reflects reliance on external financing to support large-scale projects and operational expansion. This condition creates substantial pressure from creditors and other stakeholders to maintain adequate debt-servicing capacity and comply with financial covenant requirements. To avoid negative perceptions regarding financial risk and to preserve access to funding, management may opportunistically adjust accruals to present stronger financial performance. This mechanism is consistent with the external pressure dimension of the Fraud Triangle, which posits that pressure from creditors is a key driver of fraudulent behavior. The findings align with prior studies (Mangeka & Rahayu, 2020; Adha & Indriyani, 2024), confirming that leverage constitutes an important source of pressure that increases the likelihood of indications of financial statement fraud in non-financial SOEs.

4. The Effect of the Proportion of Independent Commissioners (BDOUT) on Discretionary Accruals (DACC)

The results show that the proportion of independent commissioners (BDOUT) has no significant effect on discretionary accruals (DACC), indicating that the presence of

independent commissioners in non-financial State-Owned Enterprises (SOEs) has not been effective in constraining accrual-based earnings management. In the Indonesian SOE context, this finding may reflect the largely formal or symbolic role of independent commissioners, where appointments are often influenced by bureaucratic and political considerations, limiting their substantive independence. In addition, independent commissioners may face constraints related to limited accounting expertise, restricted access to detailed financial information, or a marginal role in strategic decision-making processes. As a result, the monitoring function expected from board independence may not operate effectively in preventing financial reporting manipulation. This condition suggests that governance effectiveness in SOEs depends not merely on structural compliance but also on the quality and authority of oversight mechanisms. These findings are consistent with prior studies (Rinjani et al., 2025; Mappadang, 2023), which report that independent boards alone are insufficient to deter accrual manipulation without strong internal audit support and effective supervisory systems.

5. The Effect of Receivable Ratio on Discretionary Accruals (DACC)

The results indicate that the receivables-to-sales ratio has no significant effect on discretionary accruals (DACC), suggesting that a high proportion of receivables does not necessarily increase accrual-based earnings management in non-financial State-Owned Enterprises (SOEs). In the Indonesian SOE context, receivable recognition is generally subject to strict internal control procedures, formal contractual arrangements, and regulatory oversight, which limit managerial discretion in manipulating revenue and receivables. Moreover, many non-financial SOEs engage in transactions with government entities or long-term strategic partners, where payment terms and receivable realization are tightly regulated and closely monitored. These conditions reduce the relevance of receivables as an opportunity-based fraud proxy, indicating that industry characteristics alone do not automatically create opportunities for manipulation. This finding implies that opportunity-related fraud risks in SOEs are more strongly influenced by governance quality than by industry structure itself. The results are consistent with Adha and Indriyani (2024), who also found that industry characteristics do not significantly affect fraud risk when effective supervisory and control systems are in place.

6. The Effect of Audit Opinion (AO) on Discretionary Accruals (DACC)

The results show that audit opinion (AO) has a significant positive effect on discretionary accruals (DACC), indicating that differences or changes in audit opinions may encourage management to engage in accrual-based earnings management as a form of rationalization. Within the Fraud Triangle framework, rationalization explains how managers justify opportunistic financial reporting behavior. In the context of non-financial State-Owned Enterprises (SOEs) in Indonesia, audit opinions function not only as assurance mechanisms but also as legitimacy signals to the government, regulators, and the public. Maintaining an unqualified audit opinion is crucial for preserving institutional credibility, public trust, and continued government support. Consequently, management may be motivated to adjust accruals to present a more favorable financial position and avoid negative audit outcomes. This finding suggests that rationalization plays a significant role in shaping financial reporting behavior in SOEs, particularly when audit results are closely linked to reputation and accountability. The results are consistent with prior studies (Wibawa & Suprasto, 2020; Wicaksono & Prabowo, 2022), which indicate that audit opinions serve as strong signals influencing managerial decisions regarding discretionary accruals.

CONCLUSION

This study concludes that Fraud Triangle elements significantly influence indications of financial statement fraud in non-financial State-Owned Enterprises (SOEs) in Indonesia during the 2021–2024 period. Financial pressure, reflected through profitability (ROA), asset changes (ACHANGE), and leverage (LEV), emerges as the primary factor driving management's tendency toward accrual-based earnings management, while opportunity-related factors, proxied by supervisory effectiveness and industry characteristics, show no significant effect, suggesting that existing governance mechanisms in SOEs provide relatively adequate control. In contrast, rationalization measured through audit opinion indicates that managerial justification plays a role in encouraging financial reporting adjustments. However, this study is limited to non-financial SOEs, relies on discretionary accruals as an indicator rather than confirmed fraud cases, and focuses on the post–COVID-19 recovery period, which may affect generalizability. Practically, these findings suggest that regulators and SOE owners should reassess performance targets, debt policies, and financial stability monitoring to reduce excessive managerial pressure, while strengthening auditor independence and audit quality to limit rationalization and enhance fraud prevention mechanisms.

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