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DETECTION OF FINANCIAL STATEMENT FRAUD THROUGH THE FRAUD HEXAGON APPROACH IN STATE-OWNED AND REGIONAL-OWNED ENTERPRISES LISTED ON THE INDONESIA STOCK EXCHANGE

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Abstrak

Kecurangan laporan keuangan masih menjadi perhatian utama karena dapat mengurangi keandalan informasi keuangan dan berpotensi menyesatkan para pemangku kepentingan dalam mengambil keputusan. Penelitian ini bertujuan untuk menguji efektivitas model Fraud Hexagon dalam mendeteksi kecurangan pelaporan keuangan pada Badan Usaha Milik Negara (BUMN) dan Badan Usaha Milik Daerah (BUMD) yang terdaftar di Bursa Efek Indonesia selama periode 2019–2023. Kerangka Fraud Hexagon direpresentasikan oleh enam faktor, yaitu target keuangan (*financial targets*), ketidakefektifan pengawasan (*ineffective monitoring*), pergantian auditor (*auditor changes*), pergantian direksi (*changes in directors*), arogansi CEO (*CEO arrogance*), dan koneksi politik (*political connections*). Penelitian ini menggunakan pendekatan kuantitatif dengan memanfaatkan data sekunder yang diperoleh dari laporan tahunan dan laporan keuangan perusahaan. Sampel penelitian terdiri atas 26 perusahaan yang dipilih menggunakan metode purposive sampling, sehingga diperoleh 130 observasi perusahaan-tahun (*firm-year observations*).

Data dianalisis menggunakan regresi data panel dengan bantuan EViews 13. Hasil penelitian menunjukkan bahwa target keuangan, ketidakefektifan pengawasan, pergantian auditor, pergantian

direksi, dan koneksi politik tidak berpengaruh signifikan terhadap kecurangan pelaporan keuangan. Hasil tersebut menunjukkan bahwa proksi Fraud Hexagon yang digunakan dalam penelitian ini memiliki kemampuan penjelas yang terbatas dalam mendeteksi kecurangan laporan keuangan pada BUMN dan BUMD selama periode pengamatan.

Penelitian ini memberikan kontribusi berupa bukti empiris mengenai penerapan model Fraud Hexagon dalam konteks perusahaan publik milik negara dan daerah di Indonesia.

Kata kunci: Fraud Hexagon, Kecurangan Laporan Keuangan, Badan Usaha Milik Negara, Badan Usaha Milik Daerah, Tata Kelola Perusahaan, Deteksi Kecurangan.

Abstract

Financial statement fraud remains a major concern because it reduces the reliability of financial information and may mislead stakeholders in decision-making. This study examines the effectiveness of the Fraud Hexagon model in detecting fraudulent financial reporting among State-Owned Enterprises (SOEs) and Regionally-Owned Enterprises (ROEs) listed on the Indonesia Stock Exchange during the 2019–2023 period. The Fraud Hexagon framework is represented by financial targets, ineffective monitoring, auditor changes, changes in directors, CEO arrogance, and political connections. This study employed a quantitative approach using secondary data obtained from annual reports and financial statements. The sample consisted of 26 companies selected through purposive sampling, resulting in 130 firm-year observations. Data were analyzed using panel data regression with EViews 13. The findings indicate that financial targets, ineffective monitoring, auditor changes, changes in directors, and political connections do not significantly affect fraudulent financial reporting. These results suggest that the selected Fraud Hexagon proxies have limited explanatory power in detecting financial statement fraud within SOEs and ROEs during the observation period. The study contributes empirical evidence regarding the application of the Fraud Hexagon model in the Indonesian public enterprise context.

Keywords: Fraud Hexagon, Financial Statement Fraud, State-Owned Enterprises, Regional-Owned Enterprises, Corporate Governance, Fraud Detection

INTRODUCTION

The banking sector plays a strategic role in supporting national economic growth. The period from 2020 to 2023 was particularly challenging for the banking industry due to the COVID-19

pandemic, global economic uncertainty, and increasing demands for corporate transparency and accountability. Under these circumstances, the implementation of Good Corporate Governance (GCG) became a crucial factor in maintaining organizational stability and improving corporate performance.

According to Jensen and Meckling (1976), conflicts of interest between shareholders and management can be minimized through effective corporate governance mechanisms. The implementation of sound GCG practices enhances transparency, accountability, responsibility, independence, and fairness in corporate management. In the banking sector, the application of GCG is increasingly important due to the high operational risks and the necessity of maintaining public trust.

Previous studies have indicated that GCG mechanisms, such as institutional ownership and audit committees, positively influence corporate financial performance. Institutional ownership serves as an external monitoring mechanism that can reduce agency conflicts and improve managerial efficiency, while audit committees contribute to the quality of financial reporting and internal control systems. However, prior empirical findings remain inconsistent, suggesting the need for further investigation, particularly within the Indonesian banking sector in the post-pandemic period.

Based on the above background, this study aims to examine the effect of Good Corporate Governance, proxied by Institutional Ownership and Audit Committee, on the financial performance of banking companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2023 period. This study is expected to provide empirical evidence regarding the role of corporate governance mechanisms in enhancing financial performance and contribute to the development of corporate governance literature in the banking industry.

The implementation of Good Corporate Governance (GCG) has become increasingly important in the banking industry, particularly following the COVID-19 pandemic, which exposed weaknesses in risk management and corporate oversight mechanisms (Jensen & Meckling, 1976; OECD, 2023).

Institutional ownership is considered an important governance mechanism because institutional investors possess stronger monitoring capabilities and greater incentives to oversee managerial actions, thereby improving firm performance (Shleifer & Vishny, 1997; Alabdullah, 2021).

RESEARCH METHOD

This study employed a quantitative research approach using secondary data obtained from the annual reports and financial statements of State-Owned Enterprises (SOEs) and Regional-Owned Enterprises (ROEs) listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The study focused on examining the effect of the Fraud Hexagon model on fraudulent financial reporting.

The population consisted of SOEs and ROEs listed on the IDX during the observation period. Samples were selected using a purposive sampling technique based on predetermined criteria, resulting in 26 companies with 130 firm-year observations. Data were collected through documentation techniques using information disclosed in annual reports and financial statements.

Fraudulent financial reporting was measured as the dependent variable. The independent variables were derived from the Fraud Hexagon framework and consisted of financial target, ineffective monitoring, auditor change, change in directors, CEO arrogance, and political connection. Financial target was proxied by Return on Assets (ROA), ineffective monitoring by the proportion of independent commissioners, auditor change by changes in external auditors, change in directors by changes in the board of directors, CEO arrogance by the frequency of CEO photographs in annual reports, and political connection by the existence of political affiliations within the company.

Data analysis was conducted using panel data regression with the assistance of EViews 13 software. Prior to hypothesis testing, descriptive statistical analysis and classical assumption tests, including normality and multicollinearity tests, were performed. Model selection was determined through the Chow Test, Hausman Test, and Lagrange Multiplier Test to identify the most appropriate panel data regression model. Hypothesis testing was conducted using the F-test for simultaneous effects, the t-test for partial effects, and the coefficient of determination (Adjusted R^2) to assess the explanatory power of the model. The panel regression model employed in this study is expressed as follows:

$$FFR = \alpha + \beta_1 FT + \beta_2 IM + \beta_3 AC + \beta_4 CD + \beta_5 CA + \beta_6 PC + \varepsilon$$

where:

- **FFR** = Fraudulent Financial Reporting
- **α** = Constant

- β_1–β_6 = Regression coefficients
- **FT** = Financial Target
- **IM** = Ineffective Monitoring
- **AC** = Auditor Change
- **CD** = Change in Directors
- **CA** = CEO Arrogance
- **PC** = Political Connection
- ε = Error term

RESULTS AND DISCUSSION

This study utilized Microsoft Excel for initial data management. Subsequently, to analyze the data statistically, descriptive analysis, panel data regression analysis, classical assumption testing, and hypothesis testing were conducted using the EViews 13 program. This study examines state-owned and regional-owned enterprises listed on the Indonesia Stock Exchange from fiscal year 2019 to 2023, totaling 33 companies. A purposive sampling strategy was used to select the sample based on predetermined criteria.

The descriptive statistical analysis results for the dependent and independent variables in this study are presented in the following matrix.

Table 1. Descriptive Statistical Analysis Results

Statistic	Y	X1	X2	X5
Mean	0.006997	0.015092	0.464216	5.676923
Median	−0.001221	0.012190	0.444444	4.000000
Maximum	7.277694	0.281738	1.000000	39.00000
Minimum	−3.608829	−0.948898	0.250000	1.000000
Std. Dev.	0.873092	0.108093	0.127884	5.400568
Skewness	3.730337	−5.410878	0.749512	2.951394
Kurtosis	40.68612	50.78427	3.893062	15.20810
Jarque-Bera	7994.488	13002.42	16.49177	996.0198
Probability	0.000000	0.000000	0.000262	0.000000

Sum	0.909671	1.961919	60.34805	738.0000
Sum Sq. Dev.	98.33547	1.507255	2.109694	3762.431
Observations	130	130	130	130

Source: Data processed by the author, 2025

The financial target (ROA) variable has a mean value of 0.0151, ranging from −0.9489 to 0.2817. Ineffective monitoring shows a mean of 0.4591, with values between 0.25 and 1.00. CEO arrogance, measured by CEO photo frequency, has a mean value of 5.6769, ranging from 1 to 39. Financial statement fraud, measured using the F-Score, has a mean value of 0.0070, with a minimum of −3.6088 and a maximum of 7.2777. Overall, the low average F-Score indicates a relatively low tendency toward financial statement fraud among the sampled firms during 2019–2023.

Panel data regression analysis was used in this study because it employs cross-sectional and time-series data, namely the financial records of state-owned and regional-owned enterprises listed on the Indonesia Stock Exchange for fiscal years 2019–2023, using the EViews 13 application to process the data.

Table 2. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.267190	(25,98)	0.9998
Cross-section Chi-square	8.571964	25	0.9991

Source: EViews 13 output results, 2025

The Chow test is used to decide whether the Common Effect Model or the Fixed Effect Model is the appropriate method. The Chow test results show a prob. F value of 0.9832, greater than 0.05; therefore, the Common Effect Model is considered more appropriate for use.

Table 3. Hausman Test Results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.809462	6	0.9918

Source: EViews 13 output results, 2025

The Hausman test is conducted to determine whether the testing model uses the Fixed Effect Model or the Random Effect Model (Azizah et al., 2022). Above are the Hausman test results. The

Hausman test findings yield a p-value of 0.9918, above 0.05, indicating that the Random Effect model is considered more appropriate.

Table 4. Lagrange Multiplier Test Results

Test	Cross-section	Time	Both
Breusch-Pagan	8.003317 (0.0047)	0.711359 (0.3990)	8.714676 (0.0032)

Note: values in parentheses denote probability values. Source: EViews 13 output results, 2025

The Lagrange Multiplier test can be applied when choosing between the Random Effect Model or the Common Effect Model as the most appropriate for panel data estimation. Based on the table results above, using Breusch-Pagan, a p-value of 0.0032 was obtained; therefore, the Random Effect Model is considered the more appropriate analytical model.

From the three tests, the results show that the Chow test selects the Common Effect Model, while the Hausman test and the Lagrange Multiplier test select the Random Effect Model. Therefore, it can be concluded that this study uses the Random Effect Model as the more appropriate panel data analysis model.

To measure the partial effect of the relationship between variables, panel data regression analysis was conducted using the Random Effect Model. Below are the panel data regression results.

Table 5. Panel Data Regression Results (Random Effect)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.215798	0.354679	0.608432	0.5440
X1	1.257294	0.811928	1.548529	0.0441
X2	0.955307	0.702181	1.360484	0.1762
X3	0.233019	0.202580	1.150255	0.2523
X4	0.207330	0.210753	0.983760	0.3272
X5	−0.011949	0.015956	−0.748860	0.4554
X6	−0.809903	0.553716	−1.462667	0.1461

Source: EViews 13 output results, 2025

The hypothesis testing results indicate that only Financial Target significantly affects Financial Statement Fraud ($p = 0.0441 < 0.05$). In contrast, Ineffective Monitoring, Auditor Change, Director Change, CEO Photo Frequency, and Political Connection do not show significant effects, as their p-values exceed the 5% significance level. These findings suggest that among the Fraud Hexagon proxies examined, only the pressure element represented by financial targets contributes to explaining the occurrence of financial statement fraud in the sampled SOEs and ROEs.

Table 6. Simultaneous Test (F) Results

Indicator	Value
R-squared	0.051008
Adjusted R-squared	0.004716
S.E. of regression	0.871031
F-statistic	1.101872
Prob(F-statistic)	0.365145
Mean dependent var	0.006997
S.D. dependent var	0.873092
Sum squared resid	93.31956
Durbin-Watson stat	2.938849

Source: EViews 13 output results, 2025

The F-test results show that the independent variables do not simultaneously affect Financial Statement Fraud ($p = 0.365145$). In addition, the adjusted R-squared value of 0.004716 indicates that the model explains only 0.47% of the variation in Financial Statement Fraud, suggesting that most variation is attributable to factors not included in the model.

Effect of Financial Target on Financial Statement Fraud

The results indicate that Financial Target significantly affects Financial Statement Fraud ($p = 0.0441 < 0.05$). This finding suggests that higher performance pressures may encourage management to manipulate financial reporting in order to achieve targeted results. The finding supports the pressure dimension of the Fraud Hexagon theory and is consistent with Luhri et al.

(2023) and Annisya et al. (2023), although it differs from Setyono et al. (2023) and Haqq and Budiwitjaksono (2020).

Effect of Ineffective Monitoring on Financial Statement Fraud

Ineffective Monitoring does not significantly affect Financial Statement Fraud ($p = 0.1762 > 0.05$). This result indicates that the presence of independent commissioners may not be sufficient to prevent fraudulent reporting. The finding is consistent with Setyono et al. (2023), Vivianita and Indudewi (2018), and Mentari and Indriani (2024).

Effect of Auditor Change on Financial Statement Fraud

Auditor Change has no significant effect on Financial Statement Fraud ($p = 0.2523 > 0.05$). This suggests that auditor rotation is not necessarily associated with attempts to conceal fraud and may instead reflect routine corporate decisions. This finding supports Imtikhani and Sukirman (2021), Vivianita and Indudewi (2018), and Sagala and Siagian (2021).

Effect of Director Change on Financial Statement Fraud

Director Change does not significantly affect Financial Statement Fraud ($p > 0.05$). The result indicates that changes in company leadership are more likely related to organizational restructuring or managerial succession than to fraudulent activities. This finding is consistent with Imtikhani and Sukirman (2021), Setyono et al. (2023), and Sagala and Siagian (2021).

Effect of CEO Arrogance on Financial Statement Fraud

CEO Arrogance, measured by CEO photo frequency, does not significantly affect Financial Statement Fraud ($p = 0.4554 > 0.05$). The number of CEO photographs in annual reports may reflect corporate communication strategies rather than managerial narcissism. This finding is in line with Setyono et al. (2023), Mentari and Indriani (2024), and Sagala and Siagian (2021).

Effect of Political Connection on Financial Statement Fraud

Political Connection has no significant effect on Financial Statement Fraud ($p = 0.1461 > 0.05$). This finding suggests that political affiliations within SOEs and ROEs do not necessarily increase the likelihood of fraudulent financial reporting. The result supports Imtikhani and Sukirman (2021), Sagala and Siagian (2021), and Setyono et al. (2023).

Effect of the Fraud Hexagon Model on Financial Statement Fraud

The simultaneous test indicates that the Fraud Hexagon variables do not collectively affect Financial Statement Fraud (F-statistic $p = 0.3651 > 0.05$). Although the pressure dimension represented by Financial Target is significant, the remaining dimensions do not show significant

effects. These findings suggest that the Fraud Hexagon model has limited explanatory power in detecting financial statement fraud among SOEs and ROEs during the 2019–2023 period.

CONCLUSION

This study examined the effect of Return on Assets (ROA) on Corporate Social Responsibility (CSR) disclosure among food and beverage manufacturing companies listed on the Indonesia Stock Exchange during the 2020–2023 period. The findings indicate that Return on Assets does not have a significant effect on Corporate Social Responsibility disclosure. Although profitability is often considered a factor that may encourage companies to disclose social and environmental information, the empirical evidence obtained in this study suggests that ROA is not a determining factor in CSR disclosure practices within the observed companies.

These findings imply that CSR disclosure may be influenced by other factors beyond profitability, such as corporate governance mechanisms, stakeholder expectations, regulatory compliance, and managerial policies. Consequently, the proposed hypothesis regarding the significant effect of Return on Assets on Corporate Social Responsibility disclosure is not supported.

Future research is recommended to incorporate additional variables that may influence CSR disclosure and to extend the scope of observation in order to provide a broader understanding of the determinants of corporate social responsibility practices. Companies are also encouraged to ensure that CSR programs are aligned with organizational objectives and stakeholder expectations through continuous evaluation and effective implementation.

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