



Fraudulanet Financial Reporting Using Fraud Pentagon Model: Evidence form the State-Owned Companies in Indonesia

Rachmat Agus Santoso¹, Meutia², Yeni Januarsih³, Wulan Retnowati⁴

^{1,2,3,4}Faculty of Economics and Business, Sultan Ageng Tirtayasa University, Jalan Raya Palka, Km.3, Sindangsari, Serang, 42163, Indonesia

ABSTRACT: Financial statement fraud has the highest number of losses among all fraud types. In addition to harming finances of a company, false financial reports could risk the viability of the business. In the corporate sector, fraud results in losses of trillions of rupiah. This study uses the fraud pentagon theory to investigate the relationship between fraudulent financial reporting and pressure, opportunity, rationalization, competence, and arrogance. This study applied quantitative method and causally associative approach. This research using secondary data from financial reports that were obtained through the Indonesia Stock Exchanges (IDX) official website. The state-owned companies (BUMN) listed on IDX 2018-2023 period comprise the study population, and purposive sampling method used to determine sample size. One hundred eighty samples from thirty BUMN as result of the sample selection. The study method of data analysis is the Random Effect Model (REM) with EVIEWS 13. The result of this research indicate that return on assets (ROA), and change in auditor (AUDCHANGE) has significant positive effect on fraudulent financial reporting (FFR). In contrast, ineffective monitoring (BDOUT), change in director (DCHANGE), and number of CEO picture (FCEO) did not significant effect on FFR in state-owned companies. This research can contribute to the advancement of current theories and offer companies resources to lower the risk of fraud. This research advances audit company best practices for enhancing companies auditing efficacy in lowering financial reporting fraud.

KEYWORDS: Change in auditors, Change in directors, Financial target, Ineffective monitoring, Number of CEO pictures

INTRODUCTION

Financial reporting serves as a way to account for managers' actions in front of owners and investors. It also gives internal and external stakeholders relevant information for decision-making (Handayani et al., 2024). When creating financial statements, management is frequently enticed to falsify the statements in order to show that they are in conformity with financing agreements, meet investor and corporate expectations, and secure better funding or financing arrangements. For this reason, it is not unusual for management to commit fraud. Association of Certified Fraud Examiners Indonesia (2020) report that the most frauds in Indonesia are related to business ownership, and abuse of state or property (rate 21 and a total 167 point), and also corruption (rate of 70 with 167 cases). According to Sudrajat et al. (2023), the consequences of corruption can damage the economy and, society. From 2004 to 2022, the Corruption Eradication Commission recorded 1.310 cases of criminal acts of corruption, and the most of which occurred in government agencies, from the district level to the central ministry.

Today, in the business world, all companies are competing to advance the company each of them, it is not surprising that the practice of cheating is one of their efforts to develop their business. So, this fraudulent practice is no longer commonplace for business people and has become open secret to the public (Putu et al., 2023). Not only in companies, even this fraudulent practice is very well known and often occurs in the government sector. Various parties have been harmed by this action cause the information they received was not really accurate and relevant. The misstatements in fraudulent financial reports are made with the intent of manipulating the users of financial reports (K. Santoso & Marlinah, 2024). The increase in fraudulent financial reporting can disadvantage the public who heavily taking their decisions based on the financial statements. This is even more disadvantageous for the investors because they have made the wrong decision to invest their capital in these companies that commit fraudulent practices, resulting in failure to get returns from their investment activities (Anjeli et al., 2024).

BUMN as state-owned enterprise is not protected against financial statement fraud. The cases of fraud in the financial statements of BUMN, including in 2022, PT. Kimia Farma, Tbk registered a net loss, a stark contrast to its performance in 2021. From 2008 to 2018, PT Jiwasraya made investments without adequate feasibility studies and manipulated financial reports with a loss of IDR



16.81 trillion as audited by the Audit Board of the Republic of Indonesia (Gumelar, 2020; R. A. Santoso et al., 2025). In 2021, the Supreme Audit Agency of the Republic of Indonesia state that losses arising as a result of irregularities of unlawful acts in the management PT Asabri (Persero) finance and investment funds during the period 2012 to 2019 is IDR 22.78 trillion (BPK, 2021). On the other hand, Indonesian state-owned PT asuransi Jiwasraya has revealed that it lost an estimated IDR 13 trillion due to failed investment and manipulated financial reports in 2019 (Olano, 2020). While, there was a fraud case at PT. Garuda Indonesia in 2018. As a result, the company faced administrative consequences, including a IDR 100 million fine. In 2021, the alleged evil conspiracy inflated the rental value of CRJ Bombardier and also ATR aircraft with losses worth IDR 8.8 trillion (Murti, 2022). The phenomenon of the fraudulent financial reporting is involved in a state-owned companies, so it can be said that there are still many BUMN companies that are indicated to fraud financial statements.

The first indication of fraudulent financial reporting (FFR) through the fraud pentagon theory can be seen through the return on assets ratio, which is a proxy for pressure. According to Nanda et al. (2019), return on assets (ROA) usually used as an indicator of efficiency of assets usage, so that ROA fit as proxy of the financial targets. Every company shall set targets as a measure of the performance to be achieved as well as to assess the success or failure of the work program that has been arranged. On the other hand, Sawangarreerak & Thanathamatee (2021), states that management is required to constantly show good performance for the company in order to achieve of financial targets that have been preplanned. The pressure to achieve financial targets to earn bonuses for performance results and maintaining the existence of company performance can lead to the possibility of the influence of pressure on fulfilling financial targets on the fraudulent financial reporting incidence. Research by Anggraini & Suryani (2021); Kusumawati et al. (2021), return on assets have a significant effect on fraudulent reporting across different sectors. In contrast, Koharudin & Januarti, (2021); Sari & Subkhi (2021) research found that fraudulent reporting not significantly impacted by ROA.

The second element of fraudulent financial reporting can be seen through how effective the company monitoring is as a proxy for opportunity. According to Supriadi (2024), effective monitoring in the corporate environment narrows the opportunity for management to commit fraud. The party responsible governance is presence of the board of commissioners (R. A. Santoso, 2022). The board of commissioners comes from inside and outside the company. Independent outside commissioners are expected to be able to carry out better supervision. Alfarago & Mabur (2022) obtained the result that an independent board of commissioners was important for the prevention of fraudulent financial reporting. This means that when the number of independent commissioners is large, fraud is less likely to occur. Research conducted by Kharimah et al. (2024); Yadiati et al. (2023) stated that ineffective monitoring affect fraudulent financial statements. Meanwhile, study by Haqq & Budiwitjaksono (2020) state that ineffective monitoring does not affect fraudulent in financial reporting (Fitriana et al., 2021).

The third component in the fraud pentagon theory is rationalization, which is justification of a fraudulent behavior due to a lack of personal integrity in an employee or due to other moral reasons. The rationalization factor is proxied by change in auditors (Ozcelik, 2020). Rationalization means attitude of justification for a crime committed by himself. This element is an impressive reason to justify fraud, and also consider fraud as something that is justified and reasonable to do. According to Teguh & Kristanto (2020), changes in auditors are rationalization of the organization since they are supposed to assist in concealing the fraud trail discovered by previous auditors. Meanwhile, change in auditors can influence the rationalization of fraud because when there is change of, there will be a transition period in the company. Research by Achmad et al. (2022); Sari et al., 2020) found that change in auditors affects fraudulent financial reporting. While, research by Indriani & Rohman (2022); Pujiyono & Januarti (2024) shows that change in auditors does not affect fraudulent in financial statement.

The fourth element, namely competence, refers to the skills or authority that enable individuals within an organization to commit fraud. Change of directors is chosen as a proxy from competence. The change of directors is indicated as being able to illustrate the ability to perform stress management. Wijaya & Witjaksono (2023) stated that changing the board of directors can be a company effort to improve the performance of the previous directors. Fraud will not occur without the right people with the right abilities to carry out every detail of the fraud. By making changes to the composition of the board of directors or by recruiting new directors who are considered more competent in their field, the change of directors also indicates a certain political interest to replace the previous board of directors (Almaqatari et al., 2024). Research by Arifian & Januarti (2023); Nikmah & Arjoen (2023) states that there is have a significant positive effect between change of directors on fraudulent in financial reporting. Meanwhile, research by Sawaka & Ramantha (2020); Situngkir & Triyanto (2020) found that changes of directors do not effect on financial reporting fraud.



The last component in the fraud pentagon is arrogance. In this study, CEO picture is used as a proxy for arrogance. The arrogance can lead CEOs to act in ways they believe are beyond scrutiny, displaying the CEO picture in the financial report symbolizes their authority and influence within the company (Al-ahdal & Hashim, 2022). The number of CEO photo displayed in a company annual report can represent the level of arrogance or superiority. The number of CEO photos in the company annual report also shows that the CEO wants their status and glory to be known by the public. This gives an illustration that having a CEO will provide better monitoring result (Amin et al., 2025). The possibility that some CEO prefer to maintain a low profile to hide their fraudulent financial statements activities for public exposure and detection. Research carried out by Nurhakim & Harto (2023); Qintharah & Riyanti (2023) which show that fraudulent financial reporting fraud are significantly affected by number of CEO picture. Meanwhile, research by (Anwar et al., 2025; Fathmaningrum & Anggarani, 2021) which contend that number of CEO picture does not affect fraudulent in financial statement.

Currently, there are different solutions for detecting fraud which are focused on the use of different tools that perform statistical and parametric analyses based on data mining techniques, as well as analyses of behavior, but none of them solve the problem of timely fraud detection (Fathmaningrum & Anggarani, 2021). The fraud pentagon theory is chosen in this research because the researchers consider the theory is more complete, and also able to explain factors of people committing fraud. The fraud pentagon model states that the elements in fraud pentagon consist of pressure, opportunity, rationalization, competence and arrogance (Dewi, 2021; Putri & Setiyorini, 2024; Sudrajat et al., 2023). Research indicates that the detecting and mitigating these practices can be enhanced by using structured fraud detection models like the pentagon model. With the development of the times, the science of fraud can be seen from previous studies that provide an overview of fraudulent financial reporting practices. According to Anwar et al. (2025), management can use policies in financial statements to reduce and increase profits according to their interests by not violating accounting principles.

With the development of the times, the science of fraud can be seen from previous studies that provide an overview of fraudulent financial reporting practices. Some of the aforementioned phenomena are evidence that the fraud in profits is still common. According to Fitriyah & Novita (2021), management can use policies in financial statements to reduce and increase profits based on their interests by not violating accounting principles. The inconsistent results across studies suggest that the effectiveness of the deception pentagon model may vary depending on the specific context, signaling the need for further research in this area. This study is intended to fill the research gap where research using the pentagon fraud model approach is still limited. This research was to test the pentagon fraud theory as the detection of fraudulent financial reporting using pressure (financial target), opportunity (ineffective monitoring), rationalization (change in auditors), competence (change in directors), and also arrogance (number of CEO picture).

By conducting this study, it is committed to establishing contributions both theoretically and also practically. The theoretical contribution of this research is to offer the development of accounting study, especially in the field of auditing. The results are supposed to provide additional knowledge about what factors affect fraudulent financial reporting reviewed by using the theory of fraud pentagon. The study contributes to the literature on the relationship between the fraud pentagon and financial statement fraud. In addition, this research is expected to be utilized as a reference for other research. The practical value of this research will provide reference for investors in making decisions. Moreover, this research can underlie managers to be more cautious in presenting financial statements to reduce the likelihood of fraudulent financial reporting.

MATERIALS AND METHODS

This study employs quantitative approach using panel data regression. This study using secondary data from financial reports that were obtained through the Indonesia Stock Exchanges (IDX) official website, the data is generated in numerical form. The state-owned companies (BUMN) listed on IDX 2018-2023 period comprise the study population, and purposive sampling method used to determine sample size. In this research, one hundred eighty samples from thirty BUMN as result of the sample selection. Based on the criteria, these state-owned companies has complete, and also consistent financial records as reported in their annual reports from 2018 to 2023.



Table 1. Sample Determination Technique

No	Sample Criteria	Amount
1	During 2018-2023 period, state-owned companies (BUMN) in Indonesia registered with the Financial Services Authority (OJK)	37
2	BUMN which did not publish annual financial reports for the 2018-2023 period and published them on the OJK website	(2)
3	BUMN not complete data required for this study, including ROA, BDOOUT, AUDCHANGE, DCHANGE, FCEO	(5)
4	Total research data (total sample companies that meet the criteria during six years of research)	180

Source: Data processed (2025)

The study method of data analysis is the Random Effect Model (REM) with EViews 13. This study employed the following four methods, namely descriptive statistics, pairwise correlation analysis, the classical assumption test, determination coefficient test (R²), the F-test, and the T-test. Hypothesis testing used multiple linear regression analysis and can be formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Y = Fraud in Financial Reporting (F-score)
 α = Constant
 β₁₋₅ = Regression Coefficient
 X₁ = Financial Target (ROA)
 X₂ = Ineffective Monitoring (BDOOUT)
 X₃ = Change in Auditor (AUDCHANGE)
 X₄ = Change in Director (DCHANGE)
 X₅ = Frequent Number of CEO Picture (FCEO)
 e = error

Table 2. Variable Measurements

Variable	Measurements	Source
Fraudulent Financial Reporting	F-score = Accrual quality + Financial Performance	Aviantara (2021)
Return on Assets	$ROA = \frac{\text{Earning After Tax}}{\text{Total Assets}}$	Khamainy et al. (2022)
Ineffective Monitoring	$BDOOUT = \frac{\text{Number of Independent Commisioners Board}}{\text{Total of Commisioners Boards}}$	Sari et al. (2024)
Change in Auditors	ΔCPA dummy variabel 1 = If there was a change in the public accounting firm 0 = If there was no change in the public accounting firm	Situngkir & Triyanto (2020)
Change in Directors	DCHANGE dummy variable 1 = If there was a change in the director structure 0 = If there was no change in the director structure	Nizarudin et al. (2023)
Number of CEO Picture	Frequency of CEO picture in annual reports	Indriaty & Thomas (2023)

Source: Data processed (2025)

RESULTS

Descriptive Statistics Analysis

The purpose of descriptive analysis was to provide an overview of each variables research characteristics.



Table 3. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FFR	180	0.1866	4.8150	0.6685	0.8898
ROA	180	-0.0814	3.2468	1.0270	0.0468
BDOUT	180	0.4000	1.0000	0.5700	0.1166
AUDCHANGE	180	0.0000	1.0000	0.2350	0.4235
DCHANGE	180	0.0000	3.0000	0.3340	0.7444
FCEO	180	3.0000	8.0000	0.9282	4.0556

Source: Data processed (2025)

Table 3, which shows descriptive statistics of variable, indicate that the mean value for fraudulent financial reporting (FFR) is 0.8898, with a highest value of 4.8150 and a lowest value of 0.1866, indicates that the level of fraudulent financial reporting is high. ROA (return on assets) financial targets range from -0.0814 at the lowest to 3.2468 at the highest, with an average of 1.0270 which shows that state-owned businesses are less able to turn a profit This suggests that a few of the sample companies have ambitious financial goals. The ratio of independent commissioners, or BDOUT, has a minimum value of 0.4000 for ineffective monitoring, maximum value of 1.0000 and average value of 0.5700, which indicates that state-owned companies lack the ability to conduct fraud or create possibilities for it. With an average value of 0.2350, rationalization as determined by change in auditor (AUDCHANGE) ranges from a low of 0.0000 to a maximum of 1.0000. This indicates that 23% of state-owned businesses switched auditors, while 77% of state-owned businesses retained their current auditors. The change of directors (DCHANGE) measure of competence has a minimum value of 0.0000, a maximum value of 3.0000, and an average value of 0.3340. This indicates that 33% of state-owned enterprises have changed their directors, while 67% of companies do not. The frequent number of CEO pictures in the annual report indicates arrogance, which ranges from a minimum of 3.0000 to a maximum of 8.0000, with an average of 0.9282. The data indicates variation in CEO visibility or image among the examined state-owned companies.

Regression Model Selection

Many tests are conducted on model specification to make sure that optimal model is utilized in panel data analysis to approximate panel data regression. The Chow test aims to identify which of the common effect and fixed effect models best fits the data. If the value of Probability higher than 5% (0.05), the Common Effect Model is the right choice for this research. While, acceptance of the Fixed Effect Model is based on probability cross section value of the Chow test being less than 5% (0.05).

Table 4. The Chow-test results

Redundant Fixed Effects Tests			
Effects Test	Statistic	d.f	Prob.
Cross-Section F	2.737882	(29.50)	0.0005
Cross-Section Chi-Square	170.884110	29	0.0001

Source: Data processed (2025)

The Chow test findings indicate that Prob. 0.0001 is less than 0.05, so the Fixed Effect Model is selected. With the Hausman test, the optimal fixed effect or random effect model can be determined. If the random probability cross-section value of fixed effect models is less than 5% (0.05), the model is considered acceptable. For the random effect model to be accepted, the random probability cross-section value needs to be higher than 5% (0.05).

Table 5. Hausman-test results

Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob.
Cross-Section Random	8.667350	5	0.1261

Source: Data processed (2025)



Random effect model is selected, the probability value of 0.1261, which is higher than 0.05, as indicated by the Hausman test. Based on the results of the aforementioned Chow and Hausman tests, random effect model was determined to be the best model in the model goodness test.

Classical Assumption Test

To find out if the data distribution is expected or not, one can perform a normality test. The data may be considered normal if Jarque-Bera profitability value is greater than 0.05.

Table 6. The Normality test

Jarque-Bera	Probability
3.559444	0.167880

Source: Data processed (2025)

According to the results of the normalcy test, probability of 0.167880 is greater than 0.05. The study data are therefore normally distributed.

Should the data lack multicollinearity, the VIF value should to be lower than 10.

Table 7. The Multicollinearity test results

Variable	Coefficient Variance	Uncertered VIF	Centered VIF
C	1.370440	22.61305	NA
ROA	0.065090	3.688755	1.456619
BDOUT	0.163552	16.20765	1.113440
AUDCHANGE	0.017959	1.192755	1.056488
DCHANGE	0.008899	2.202335	1.170615
FCEO	0.002070	7.740274	1.120518

Source: Data processed (2025)

Based on the Multicollinearity test result, the probability value of centered variance inflation factor (VIF) is less than 10.00, so there are no multicollinearity symptoms.

To ascertain whether variables from observations or residuals are unequal to additional findings within the regression model, one can employ heteroscedasticity tests. Heteroscedasticity may not be present in the data if the profitability value is higher than 0.05.

Table 8. The Heteroscedasticity test results

Dependent Variable: Fraudulent Financial Reporting				
Variabel	Coefficient	Std. Error	t-Statistic	Prob.
C	0.588418	0.749522	1.860633	0.1840
ROA	0.087618	0.375983	1.121833	0.2937
BDOUT	0.580042	0.778560	0.886388	0.3310
AUDCHANGE	0.065889	0.086800	0.766977	0.4544
DCHANGE	0.008760	0.020740	0.226000	0.7901
FCEO	0.006452	0.012750	0.502272	0.5195

Source: Data processed (2025)

Based on heteroscedasticity test findings, there are no heteroscedasticity symptoms occur, where the probability value is higher than 0.05.

Durbin-Watson and LM tests are useful for identifying autocorrelation. An autocorrelation is not formed by the signifier when the F-count is greater than 0.05. If the Durbin-Watson (DW) value is between dU to 4-dU, autocorrelation does not exist, as indicated by the correlation coefficient of 0.



Table 9. The Autocorrelation Test Results

Statistic	Value
R-squared	0.528786
Adjusted R-squared	0.455345
S.E. of regression	0.199420
F-statistic	7.621044
Prob(F-statistic)	0.000000
Mean dependent var	0.602604
S.D. dependent var	0.249015
Sum squared resid	0.495577
Durbin-Watson stat	1.776620

Source: Data processed (2025)

According to autocorrelation test, $DW = 1.776620$, $dL = 1.7449$, $dU = 1.7673$ and $4-dU = 2.2327$ also $4-dL = 2.2551$. It can be concluded that $dL < dU < dw < 4-dU < 4-dL$ and probability value $0.000000 < 0.05$, it can be said that there is no formation of autocorrelation.

Panel Data Regression Coefficient Estimation and Hypothesis Testing

The probability value is $sig < 0.05$, then the effect of exogenous variable on endogenous variable is significant. While, if the probability value is $sig > 0.05$, then exogenous variables have no effect on endogenous variables.

Table 10. Estimation of Panel Data Regression Coefficient Values

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ROA	1.522775	0.554262	2.750782	0.0110
BDOU	-0.343558	-0.153455	0.458042	0.6360
AUDCHANGE	0.136307	0.058860	6.460878	0.0001
DCHANGE	0.044207	0.034290	1.122020	0.1828
FCEO	0.022882	0.022057	1.030282	0.2058
C	0.544608	0.165277	4.170145	0.0010
R-squared	0.528786			
Adjusted R-squared	0.455345			
F-statistic	7.621044			
Prob(F-statistic)	0.000000			

Source: Data processed (2025)

Based on the table above, the constant (α) is positive value (7.621044), this shows that if the ROA, BDOU, AUDCHANGE, DCHANGE and FCEO are 0 percent or unchanged, then the fraudulent financial reporting is 7.621044. The return on assets (ROA) have a significant positive effect on fraudulent financial reporting (FFR). This is demonstrated by the probability value of 0.0110 which is less than 0.05. The ineffective monitoring (BDOU) did not significant effect on FFR with probability value of 0.6360, which is higher than 0.05. Change in auditor (AUDCHANGE) have a significant positive effect on FFR with probability value of 0.0001 which is less than 0.05. Meanwhile, change in director (DCHANGE) did not significant effect on FFR with probability value of 0.1828 which is greater than 0.05. On the other hand, number of CEO picture (FCEO) insignificant effect on FFR with probability value of 0.2058 which is greater than 0.05.

The percentage impact of the exogenous variable (X) on the endogenous variable (Y) can be ascertained using the results of the coefficient determination test (R^2).



Table 11. Test Coefficient of Determination (R^2)

	R-Square (R^2)	Adjusted R-squared
Fraudulent Financial Reporting (Y)	0.528786	0.455345

Source: Data processed (2025)

According to table 11, R-squared value of 0.528786 (52.8%) indicates that ROA, BDOUT, AUDCHANGE, DCHANGE and FCEO has moderate effect on fraudulent financial reporting. However, 47.2% may be impacted by other factors not considered.

DISCUSSION

Effect of Financial Targets on Fraudulent Financial Reporting

Based on the data analysis findings, return on assets (ROA) has a significant positive effect on fraudulent financial reporting in state-owned companies. Based on fraud pentagon theory, when this goal is present, businesses would engage in financial reporting fraud to show that they have met their predetermined profit goals. Fraud often originates from managerial pressure to meet financial targets. The client expects their efforts to be recognized, and the owner continues to establish goals in order to expand the firm. When a company generates profits through asset utilization in the current period, management faces additional pressure to sustain or increase these returns in future periods. This implies that as ROA targets increase, so does the pressure on management, thereby raising the potential for fraudulent reporting. A high ROA figure shows that the business can make a lot of money and aim for more in the future. The organization needs to have a high financial aim in order to have a high ROA. Therefore, financial target has an impact on identifying financial reporting fraud. Company managers that set unrealistic goals sometimes produce more ambitious managers who will use any number of strategies, including false financial reporting, to reach the established goals. The possibility of dishonest financial reporting is increased as a result of this activity. The result of this study are supported by the research results of Anggraini & Suryani (2021); Kusumawati et al. (2021) which show that financial targets has a significant influence on financial statement fraud.

Effect of Ineffective Monitoring on Fraudulent Financial Reporting

Based on data analysis findings, ineffective monitoring did not significant effect on fraudulent financial reporting in state-owned companies. Based on this, a high or low BDOUT value cannot be used as a benchmark for fraudulent acts in financial statements. The presence of an independent board of commissioners, the company should be able to monitor and evaluate how the company is operating. In actuality, a corporation establishment of an independent board of commissioners, which should serve as controller, is only a formality to meet corporate requirements; it has no bearing on preventing fraud. The board of commissioners was established purely to fulfill the official requirements of the firm; it was not intended to realize Good Corporate Governance (GCG). The effectiveness of the company's performance monitoring cannot be measured by selection of the commissioners board. It cannot guarantee whether or not the business engages in fraud. Furthermore, the presence of POJK No. 33/POJK.04/2014 concerning appointment of independent commissioners lessens the possibility that the financial statements might be questioned. The findings of this study are consistent with earlier research by Haqq & Budiwitjaksono (2020) state that ineffective monitoring does not affect fraudulent in financial reporting .

Effect of Change in Auditor on Fraudulent Financial Reporting

Based on the results of data analysis, change in auditor have a significant positive effect on fraudulent financial reporting in state-owned companies. This suggests that a corporation was more inclined to commit fraud the more often auditor changeover took place within the organization. A conflict of interest between the auditor (an agent) and the corporation (a principal) may arise in the framework of agency theory. The mission of auditors is to evaluate the quality of financial accounts objectively and independently, whereas businesses frequently aim to secure positive audit opinions. An auditor change that deviates from applicable regulations could indicate that the business purposefully switched out its auditor because it was worried the latter had discovered possible fraud. This could be a defensive move to keep financial reporting problems from being revealed. Switching auditors can be used to conceal fraudulent incident and erase the fraud trail that the prior auditor has examined. A dishonest business might use a number of justifications to make its behavior seem regular, and also acceptable. A company's ability to commit fraud increases with its capacity to justify or regard wrongdoing as right. The findings of this research are consistent with previous study by Achmad et al. (2022); Sari et al. (2020) which concluded that changes in auditors has significant effect on fraudulent financial reporting.



Effect of Change in Director on Fraudulent Financial Reporting

Based on the results of data analysis, change in director did not have significant effect on fraudulent financial reporting in state-owned companies. This suggests that the firm management cannot engage in false financial reporting as a result of change in directors or the appointment of new directors. If the board of director changes, it may result in a delegation of accountability to the newly appointed board, and if action is not taken, maintain the prior board of directors fraud a secret. The potential for financial statement fraud cannot be identified by a change in directors. This is because the change of directors is carried out to comply with regulations and improve company performance. Based on the fraud hexagon theory, without someone who has the right abilities, fraud will not occur. This study shows that the ability of the board of directors is not used to commit fraud in the financial statements. Because the changes are implemented to enhance the performance of the previous directors, the change of directors also does not result in a stressful period. It is anticipated that the new directors will be able to meet shareholder expectations and make a contribution to the company. This is impacted by the internal control and integrity of a company. It is improbable that a director who is devoted to the company and competent will conduct fraud. The presence of fake financial statements is unaffected by the directors' greater skill. The results of this study support research conducted by Sawaka & Ramantha (2020); Situngkir & Triyanto (2020), change in the directors does not affect fraud in financial statements.

Effect of CEO Picture on Fraudulent Financial Reporting

The findings of study demonstrated that number of CEO picture did not have effect on fraudulent financial reporting in state-owned companies significantly. This implies that the company or its executives cannot be convinced to produce misleading financial statements by the number of CEO photos published in the annual report. The purpose of the CEO portrait is to identify the CEO to stakeholders or financial statement users, not to convey a sense of corporate arrogance. Several CEO photos show that he tries to gain recognition from the general public, which will boost his self-confidence based on his accomplishments, values, and enforced standards. The frequency of CEO photos in the company's annual report, regardless of how often they are, has no bearing on the ability to identify fake financial reporting, according to empirical evidence from this study. This is the conclusion because including the CEO's photo in the annual report is customary and does not indicate a display of the CEO's haughtiness or superiority. The more CEOs a company has, the more different ideas are given to operations. The business will gain if these concepts are advantageous to both parties. The last step is to reduce the amount of misleading financial reporting that occurs when the company prepares financial statements. The amount of hubris that will raise the likelihood of dishonest financial reporting is unaffected by the frequent appearance of firm CEO photos. The results of this study support research conducted by Anwar et al. (2025); Fathmaningrum & Anggarani (2021), frequent number of CEO picture does not affect fraudulent in financial statements.

CONCLUSIONS

The study findings, which are based on the data analysis, and discussion, demonstrate that return on assets (ROA), and change in auditor (AUDCHANGE) have a significant positive effect on fraudulent financial reporting (FFR). On the other hand, ineffective monitoring (BDOUT), change in director (DCHANGE), and number of CEO picture (FCEO) did not significant effect on FFR in state-owned companies 2018-2023 period.

This study can contribute to the advancement of current theories and offer companies resources to lower risk of fraud. This study advances audit company best practices for enhancing companies auditing efficacy in lowering fraudulent financial reporting. Based on the result of this study, there are several suggestions that researchers can recommend, and considered for further research. Companies should strengthen effective monitoring by enhancing the independence, and also competence of audit committees and aligning financial target with long term goals to reduce fraud risks. Regulators should establish clearer governance guidelines emphasizing transparency, and also accountability. Firms in financially unstable industries must adopt robust risk management frameworks to detect and mitigate fraud. Future study should focus on high-risk industries in state-owned companies to explore fraud dynamics in sectors with complex financial operations, and also regulatory pressures. Qualitative methods, such as case studies or interviews could also better capture nuanced variables like external pressure and director changes. While not feasible in this study due to resource constraints, these approaches can provide deeper insights into organizational and behavioral drivers of fraud, enhancing the applicability of findings in varied contexts.



Ethical considerations

This study adheres to ethical research principles to ensure integrity, transparency, and the protection of all participant involved. Ethical considerations have been obtained in accordance with institutional guidelines to ensure compliance with established research standards. Participants were informed about the research objectives, the voluntary nature of their participation and their right to withdraw at any time without any conditions. The research methodology adheres to ethical standards by employing reliable data collection and also analysis techniques to prevent bias and misinterpretation. Funding sources have been transparently disclosed, and no financial or institutional pressures have influenced the research outcomes.

Conflict of Interest

The authors declare no conflicts of interest.

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REFERENCES

1. Achmad, T., Hapsari, D. I., & Pamungkas, I. D. (2022). Analysis of Fraud Pentagon Theory to Detecting Fraudulent Financial Reporting using F-Score Model in State-Owned Companies Indonesia. *WSEAS Transactions on Business and Economics*, 19, 124–133. <https://doi.org/10.37394/23207.2022.19.13>
2. Al-ahdal, W. M., & Hashim, H. A. (2022). Impact of audit committee characteristics and external audit quality on firm performance: Evidence from India. *Corporate Governance*, 22(2), 424–445. <https://doi.org/10.1108/CG-09-2020-0420>
3. Alfarago, D., & Mabur, A. (2022). Do fraud hexagon components promote fraud in Indonesia? *Etikonomi*, 21(2), 399–410. <https://doi.org/10.15408/etk.v21i2.24653>
4. Almaqtari, F. A., Farhan, N. H. ., Alahdal, W. M., Hashim, H. A., & Ibrahim, A. (2024). Board characteristics and audit quality: The moderating effect of board independence change. *Cogent Social Sciences*, 10(1), 2414506. <https://doi.org/10.1080/23311886.2024.2414506>
5. Amin, M. ., Abdelmaged, E. ., Ibrahim, A. ., & Abdelfattah, T. (2025). CEO characteristics and audit report lag: Evidence from Egypt. *International Journal of Accounting & Information Management*, 33(1), 32–67. <https://doi.org/10.1108/IJAIM-03-2024-0096>
6. Anggraini, W. R., & Suryani, A. W. (2021). Fraudulent financial reporting through the lens of the fraud pentagon theory. *Jurnal Akuntansi Aktual*, 8(1), 1–12. <https://doi.org/10.17977/um004v8i12021p001>
7. Anjeli, R., Novianti, N., Rahmawati, N., & Rifa, D. (2024). Deteksi fraudulent financial reporting menggunakan fraud pentagon. *JKAA: Jurnal Kajian Akuntansi Dan Auditing*, 20(2), 90–104. <https://doi.org/10.37301/jkaa.v21i2.143>
8. Anwar, M. A., Zakaria, A., & Musyaffi, A. M. (2025). Pengaruh fraud pentagon dalam mendeteksi kecurangan pelaporan keuangan pada perusahaan BUMN. *Jurnal Akuntansi, Perpajakan Dan Auditing*, 6(1), 69–86. <https://doi.org/10.21009/japa.0601.06>
9. Arifian, F. D., & Januarti, I. (2023). Fraudulent financial reporting indications in banking before and during the covid-19 pandemic. *Jurnal Akuntansi*, 27(3), 505–524. <https://doi.org/10.24912/ja.v27i3.1701>
10. Association of Certified Fraud Examiners Indonesia. (2020). Survei Fraud Indonesia 2020. In *ACFE Indonesia Chapter* (Vol. 53).
11. Aviantara, R. (2021). The association between fraud hexagon and government's fraudulent financial report. *Asia Pacific Fraud Journal*, 6(1), 26–42. <https://doi.org/10.21532/apfjournal.v6i1.192>
12. BPK. (2021). *BPK reveals the state loss rp 22.78 trillion in the Asabri*. BPK Public Relations.
13. Dewi, M. A. (2021). The effect of fraud pentagon on fraudulent financial statement of banking in Indonesia. *Esensi: Jurnal Bisnis Dan Manajemen*, 11(2), 189–206. <https://doi.org/10.15408/ess.v11i2.23031>
14. Fathmaningrum, E. S., & Anggarani, G. (2021). Fraud pentagon and fraudulent financial reporting: Evidence from manufacturing companies in Indonesia and Malaysia. *Journal of Accounting and Investment*, 22(3), 625–646. <https://doi.org/10.18196/jai.v22i3.12538>
15. Fitriana, Saepudin, D., & Santoso, R. A. (2021). Fraud Diamond Theory Detect Financial Statement Fraud in Manufac-turing



- Companies on The Indonesia Stock Exchange. *International Business and Accounting Research Journal*, 5(2), 93–105. <https://doi.org/http://dx.doi.org/10.35474/ibarj.v5i2.183>
16. Fitriyah, R., & Novita, S. (2021). Fraud pentagon theory for detecting financial statement fraudulent. *Jurnal Riset Akuntansi Kontemporer*, 13(1), 20–25. <https://doi.org/10.23969/jrak.v13i1.3533>
17. Gumelar, G. (2020). *Value of assets seized in Jiwasraya case exceed the Rp 16.81 trillion state losses*. The Jakarta Post.
18. Handayani, Suratno, Murni, Y., Harnovinsah, & Djaddang, S. (2024). The Determinant Effect of Internal Audit Quality With Fraud Prevention Coordination as Mediation. *JPAK: Jurnal Pendidikan Akuntansi Dan Keuangan*, 12(1), 69–81. <https://doi.org/10.17509/jpak.v12i1.64222>
19. Haqq, A. P. N. A., & Budiwitjaksono, G. S. (2020). Fraud pentagon in detecting financial statement fraud. *Journal of Economics, Business, and Accountancy Ventura*, 22(3), 319–332. <https://doi.org/10.14414/jebav.v22i3.1788>
20. Indriani, N., & Rohman, A. (2022). Fraud triangle dan kecurangan laporan keuangan dengan model Beneish M-score. *JAB: Jurnal Akuntansi Bisnis*, 20(1), 85–104. <https://doi.org/10.24167/jab.v20i1.4367>
21. Indriaty, L., & Thomas, G. N. (2023). Analysis of hexagon fraud model, the S.C.C.O.R.E model influencing fraudulent financial reporting on state-owned companies of Indonesia. *Economics: Innovative and Economics Research Journal*, 11(1), 73–92. <https://doi.org/10.2478/eoik-2023-0060>
22. Khamainy, A. H., Amalia, M. M., Cakranegara, P. A., & Indrawati, A. (2022). Financial statement fraud: The predictive relevance of fraud Hexagon theory. *Journal of Accounting and Strategic Finance*, 5(1), 110–133. <https://doi.org/10.33005/jasf.v5i1.249>
23. Kharimah, K. N., Nugraha, N., Budiyo, I., & Arumsari, V. (2024). The role of fraud pentagon elements in financial statement fraud: Evidence from Islamic commercial banks in Indonesia. *Economica: Jurnal Ekonomi Islam*, 15(2), 159–185. <https://doi.org/10.21580/economica.2024.15.2.22299>
24. Koharudin, A., & Januarti, I. (2021). Lack of financial reporting using Crowe's fraud pentagon theory. *JDA: Jurnal Dinamika Akuntansi*, 13(2), 148–157. <https://doi.org/10.15294/jda.v13i2.28602>
25. Kusumawati, E., Yuliantoro, I. P., & Putri, E. (2021). Pentagon fraud analysis in detecting fraudulent financial reporting. *Reaksi: Jurnal Riset Akuntansi Dan Keuangan Indonesia*, 6(1), 74–89. <https://doi.org/10.23917/reaksi.v6i1.14646>
26. Murti, M. W. (2022). *Garuda Indonesia procurement fraud costs rp 8 trillion in state losses*. Tempo.Co.
27. Nanda, S. tri, Salmiah, N., & Mulyana, D. (2019). Fraudulent financial reporting: A pentagon fraud analysis. *Jurnal Ilmiah Ekonomi Dan Bisnis*, 16(2), 134–146. <https://doi.org/10.31849/jieb.v16i2.2678>
28. Nikmah, & Arjoen, M. R. (2023). Financial Statement Fraud, Audit Committee And Audit Quality: Insight Into Fraud Diamond Theory. *International Journal of Social Service and Research*, 03(03), 605–620. [file:///D:/ARTICLE 03/Ras/FSF/Financial Statement Fraud, Audit Committee And Audit Quality Insight Into Fraud Diamond Theory.pdf](file:///D:/ARTICLE%2003/Ras/FSF/Financial%20Statement%20Fraud,%20Audit%20Committee%20And%20Audit%20Quality%20Insight%20Into%20Fraud%20Diamond%20Theory.pdf)
29. Nizarudin, A., Nugroho, A. A., & Agustina, D. (2023). Comparative analysis of Crowe's fraud pentagon theory on fraudulent financial reporting. *Jurnal Akuntansi*, 27(1), 19–37. <https://doi.org/10.24912/ja.v27i1.1104>
30. Nurhakim, A. L., & Harto, P. (2023). Kecurangan, BUMN fraud pentagon: Deteksi kecurangan laporan keuangan pada badan usaha milik negara. *E-Jurnal Akuntansi*, 33(2), 311–330. <https://doi.org/10.24843/eja.2023.v33.i02.p03>
31. Olano, G. (2020). *Jiwasraya reveals almost US\$1 billion in losses from failed investments*. Insurance Business.
32. Ozcelik, H. (2020). An analysis of fraudulent financial reporting using the fraud diamond theory perspective: An empirical study on the manufacturing sector companies listed on the Borsa Istanbul. *Contemporary Issues in Audit Management and Forensic Accounting*, 102, 131–153. <https://doi.org/10.1108/S1569-375920200000102012>
33. Pramono Sari, M., Kiswanto, Rahmadani, L. V., Khairunnisa, H., & Pamungkas, I. D. (2020). Detection Fraudulent Financial Reporting and Corporate Governance Mechanisms Using Fraud Diamond Theory of the Property and Construction Sectors in Indonesia. *Humanities & Social Sciences Reviews*, 8(3), 1065–1072. <https://doi.org/10.18510/hssr.2020.83109>
34. Pujiyono, E., & Januarti, I. (2024). Detecting fraudulent financial reporting the construction sector in Indonesia: Fraud triangle. *Jurnal Proaksi*, 11(2), 489–500. <https://doi.org/10.32534/jpk.v11i2.5894>
35. Putri, M. E. A., & Setiyorini, W. (2024). Detecting fraudulent in financial statements using fraud pentagon: Analysis of banking companies in Indonesia and Thailand. *Jurnal Akuntansi Dan Perpajakan*, 10(2), 273–289. <https://doi.org/10.26905/ap.v10i2.15075>



36. Putu, N., Rosalina, D., Narsa, H., Mega, L., Afifa, E., & Ari, O. (2023). Fraud triangle and earnings management based on the modified M-score: A study on manufacturing company in Indonesia. *Heliyon*, 9(2), e13649. <https://doi.org/10.1016/j.heliyon.2023.e13649>
37. Qintharah, Y. N., & Riyanti, C. I. (2023). Analisis pengaruh fraud pentagon terhadap fraudulent financial reporting pada perusahaan subsektor consumer goods. *Akuntansi Dan Teknologi Informasi*, 16(1), 88–105. <https://doi.org/10.24123/jati.v16i1.5274>
38. Santoso, K., & Marlinah, A. (2024). Fraudulent financial reporting and fraud pentagon model. *JAJA: Journal of Applied Finance and Accounting*, 11(2), 71–82. <https://doi.org/10.21512/jafa.v11i2.11935>
39. Santoso, R. A. (2022). Trends in Audit and Good Corporate Governance Research : A Bibliometric Analysis from 1994 to 2022 Based on Scopus Data. *Golden Ratio of Data in Summary*, 2(2), 97–106. <https://doi.org/https://doi.org/10.52970/grdis.v2i2.660>
40. Santoso, R. A., Meutia, Taqi, M., & Januarsi, Y. (2025). External Stimulus and Organizational Culture in Enhancing MSME Performance Through Radical Innovation and Knowledge Sharing. *International Journal of Accounting and Economics Studies*, 12(7), 253–266. <https://doi.org/https://doi.org/10.14419/n9rh5x74>
41. Sari, N. L. A. L. D., Ariyanto, D., & Paramadina, A. A. (2024). Pendeteksian financial statement fraud menggunakan fraud hexagon theory pada perusahaan telekomunikasi. *E-Jurnal Akuntansi*, 34(2), 310–326. <https://doi.org/10.24843/eja.2024.v34.i02.p03>
42. Sari, S. G., & Subkhi, A. A. (2021). Analysis of pentagon fraud model to detect financial statement fraud (Study on the industrial classification finance on the Indonesia Stock Exchange). *Majalah Ilmiah Bijak*, 18(2), 254–262. <https://doi.org/10.31334/bijak.v18i2.1778>
43. Sawaka, I. G. N. H., & Ramantha, I. W. (2020). Fraud pentagon theory in detecting financial perception of financial reporting with good corporate governance as moderator variable. *International Research Journal of Management, IT and Social Sciences*, 7(1), 84–94. <https://doi.org/10.21744/irjmis.v7n1.824>
44. Sawangarrearak, S., & Thanathamath, P. (2021). Detecting and analyzing fraudulent patterns of financial statement for open innovation using discretization and association rule mining. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(2), 1–20. <https://doi.org/10.3390/joitmc7020128>
45. Situngkir, N. C., & Triyanto, D. N. (2020). Detecting Fraudulent Financial Reporting Using Fraud Score Model and Fraud Pentagon Theory : Empirical Study of Companies Listed in the L . Q . 45 Index. *The Indonesian Journal Of Accounting Research*, 23(3), 373–410. <https://doi.org/10.33312/ijar.486>
46. Sudrajat, S., Suryadnyana, N. A., & Supriadi, T. (2023). Fraud hexagon: Detection of fraud of financial report in state-owned enterprises in Indonesia. *Jurnal Tata Kelola Dan Akuntabilitas Keuangan Negara*, 9(1), 87–102. <https://doi.org/10.28986/jtaken.v9i1.1358>
47. Supriadi, I. (2024). The audit revolution: Integrating artificial intelligence in detecting accounting fraud. *Akuntansi Dan Teknologi Informasi*, 17(1), 48–61. <https://doi.org/10.24123/jati.v17i1.6279>
48. Teguh, K. M., & Kristanto, A. B. (2020). Company characteristics and the tendency of fraudulent financial reporting. *Jurnal Akuntansi Bisnis*, 13(2), 130–142. <https://doi.org/10.30813/jab.v13i2.2145>
49. Wijaya, T., & Witjaksono, A. (2023). Unmasking financial deception: unraveling the fraud Hexagon's influence on detecting financial statement fraud in Indonesian public companies. *Journal of Applied Finance and Accounting*, 10(1), 47–56. <https://doi.org/10.21512/jafa.v10i1.9927>
50. Yadiati, W., Rezwiandhari, A., & Ramdany. (2023). Detecting fraudulent financial reporting in state-owned company: Hexagon theory approach. *JAK (Jurnal Akuntansi): Kajian Ilmiah Akuntansi*, 10(1), 128–147. <https://doi.org/10.30656/jak.v10i1.5676>

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