

When Oversight Overlaps: Testing the Fraud Hexagon on Financial Statement Fraud in State-Owned Banking

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ABSTRACT

The consistently high rate of fraud in Indonesia's banking industry, despite its vital role in the country's financial stability, is the driving force behind this research. This study aims to examine the effect of pressure, opportunity, rationalization, capability, arrogance, and collusion on financial statement fraud in state-owned banks listed on the Indonesia Stock Exchange. It will achieve this by using the fraud hexagon theory's principles of pressure, opportunity, rationalisation, capacity, hubris, and collusion. The study's total sample included 32 firm-year data points from 4 state-owned banks spanning 2017-2024, and the study employed panel data regression using EViews 13. To measure financial statement fraud, the F-Score approach is used. The independent variables consist of financial stability, ineffective monitoring, change in auditor, change in director, CEO pictures, and collusion, while financial statement fraud is measured using the F-Score model. The empirical findings indicate that collusion has a positive and significant effect on financial statement fraud, whereas pressure, opportunity, rationalization, capability, and arrogance do not have significant effects. These results imply that structural board oversight, rather than personal financial pressure or psychological considerations, are a stronger driver of fraud risk. These findings suggest that structural governance mechanisms are more relevant than individual fraud drivers in explaining financial statement fraud within highly regulated state-owned banking institutions, thereby extending the application of Fraud Hexagon Theory in this institutional context.

Keywords: *pressure; opportunity; rationalization; capability; arrogance; collusion; financial statement fraud*

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INTRODUCTION

Economic development in the modern era has progressed rapidly, marked by the growing number of companies being established, both privately owned and state-owned. Nevertheless, many companies have failed to sustain their growth and even gone bankrupt due to fraudulent practices committed by various parties. Fraud is defined as a deviant and unlawful act in which a person deliberately deceives or provides a misleading picture to certain parties, either inside or outside the organization (Wibowo, 2023). The number of companies that have become targets of or perpetrators of fraud continues to increase, including in Indonesia, as reflected in several cases involving Bank Indonesia, Pertamina, NSC Finance, and others.

Fraud has become a matter of intense concern among business practitioners, as it has destroyed numerous companies due to weak prevention and detection efforts, ultimately eroding public trust (Murtiningrum & Kuntadi, 2023). Since fraud harms a company's credibility and image among its stakeholders in addition to its financial losses, this poses a serious risk to the company's ability to continue operations (Hasanah et al., 2024). In its 2018 Report to the UN, the Association of Certified Fraud Examiners (ACFE) divided corporate fraud into three distinct types: financial statement fraud, asset theft, and corruption. With 36 incidents, Indonesia topped the Asia-Pacific region in the 2020 ACFE study, which documented 2,448 fraud cases from 125 countries. China, Australia, and the Philippines trailed closely behind.

Transparency and accountability serve as the foundation for accountants and corporate managers in producing high-quality financial statements free from fraudulent elements (Afandi et al., 2024). The fraudulent practices in Indonesia remain considerably high. In 2024, the ACFE Indonesia Chapter surveyed members and found that 89% of fraud incidents included theft of assets, 48% involved corruption, and 5% involved financial statement fraud. According to ACFE statistics, the banking and financial services sector has the largest number of fraud cases compared to other sectors, accounting for 22.26% of all fraud cases. Deliberately altering financial statement statistics constitutes the bulk of banking industry fraud (Afandi et al., 2024), which can generally be defined as an intentional act of deviation or manipulation aimed at deceiving other parties to obtain financial benefit, either directly or indirectly.

Although financial statement fraud accounts for the smallest percentage of cases compared to asset misappropriation and corruption, the losses it generates are the most significant. According to ACFE (2024), Asset theft resulted in a median loss of \$120,000, corruption cost an additional \$200,000, and financial statement fraud cost an additional \$766,000. When an individual uses their wits to portray financial statements in a manner that contradicts the standards provided in the Statement of Financial Accounting Standards (PSAK), they have committed financial statement fraud. To do this, one must use disclosure to their advantage by making misleading claims (Nadziliyah & Primasari, 2022). When it comes to ensuring the veracity and correctness of their financial accounts, state-owned enterprises in Indonesia that have their shares listed on the IDX encounter certain obstacles. This is due to the fact that exceeding lofty performance goals and market expectations is the driving force behind financial statement fraud (Sari et al., 2024).

It is thought that the fraud probe may provide a comprehensive examination of the six components of fraud: pressure, opportunity, rationalisation, capability, hubris, and collusion. One sign of the amount of pressure that employees may feel from management or the business itself pressure that might result in false financial statements is the stability of the company's financial condition (Humaira et al., 2024). Low financial stability frequently drives management to embellish financial statements in order to preserve the company's image in the eyes of investors and creditors (Sari & Anjilni, 2025), as such conditions increase the risk that a company will conceal its poor circumstances (Fadhilah & Ritonga, 2025), a finding corroborated by Situngkir & Triyanto (2020) and Nurbaiti & Arthami, (2023). They report that, when it comes to financial stability, stability matters. In this research, poor monitoring was used as a proxy for opportunity, which is defined as the probability for an individual to conduct fraud without being noticed by others. It was shown to impact financial statement fraud in the studies of Hartadi (2022) and Ainiyah & Effendi (2022).

Rationalization refers to the attitude of perpetrators who believe that the fraudulent acts they commit are justified (Firly & Sutoyo, 2025), and in this study is proxied by change in auditor, consistent with the findings of Hartadi (2022) and Hastuti et al. (2023), although Indriani & Rohman (2022) report a contrasting result. Capability refers to an individual's ability to identify opportunities for manipulating financial statements (Firly & Sutoyo, 2025), proxied by change in director, and has been shown to exert an influence in the study of Hastuti et al. (2023). Arrogance is measured through the frequency of CEO pictures appearing in the annual report, reflecting a superiority attitude on the part of the CEO who is unwilling to lose their position, and has been found to be influential in the studies of Haqq & Budiwitjaksono, (2019), Octani et al. (2022), and Isalati et al. (2023), although Fitriyah et al. (2021) report contrary findings. The final element, collusion, is measured through the board of commissioners who concurrently occupy positions, which may trigger an unhealthy concentration of power and reduce the independence of oversight (R. Aprilia et al., 2022; Rachman et al., 2023), as further reinforced by the findings of Kanza et al., (2021), Kusumosari & Solikhah, (2021), and Tamaela et al. (2025).

On the other hand, prior examinations of financial statement fraud conducted by Sahla & Ardianto, (2023) & Andriani et al. (2022) found that indications of fraudulent financial reporting were not influenced by ineffective monitoring, change in auditor, change in director, or the frequency of CEO pictures. These conflicting findings reveal a gap within fraud hexagon theory, indicating that the factors driving financial reporting manipulation remain unclear in the existing literature. Furthermore, research on fraud hexagon within the state-owned banking sector remains very limited, even though state-owned enterprises (SOEs), as instruments of government economic policy, constitute an area particularly vulnerable to fraudulent practices, as evidenced by window dressing practices undertaken by several

SOEs to embellish their performance in the eyes of investors through inconsistencies between recorded revenue growth and net profit growth (Kirana et al., 2023). Financial statement fraud at state-owned banks listed on the Indonesia Stock Exchange from 2017 to 2024 will be examined in this research, which aims to expand on past discussions by examining the influence of the fraud hexagon: pressure, opportunity, rationalisation, capacity, hubris, and collusion.

In addition, the governance characteristics of state-owned banks differ from those of private companies because they operate under stricter regulatory oversight involving the Financial Services Authority (OJK), Bank Indonesia, the Ministry of State-Owned Enterprises, external auditors, and boards of commissioners. These institutional characteristics may influence the applicability of the Fraud Hexagon Theory in explaining financial statement fraud. Therefore, examining financial statement fraud within the context of state-owned banks is expected to provide additional empirical evidence regarding the relevance of Fraud Hexagon Theory in a highly regulated environment.

Therefore, this research aims to examine financial statement fraud at state-owned banks listed on the Indonesia Stock Exchange during 2017–2024 by investigating the influence of the Fraud Hexagon dimensions, namely pressure, opportunity, rationalization, capability, arrogance, and collusion.

THEORITICAL BASIS AND HYPOTHESIS DEVELOPMENT

Fraud Hexagon Theory

Fraud Hexagon is a conceptual model used to analyze and understand the factors that give rise to fraud within an organization, where fraud itself is defined as any act involving deception that exploits a position of trust to obtain unlawful personal gain, whether through deceit, theft, or other fraudulent conduct directed against an organization or other individuals (ACFE, 2024). Fraud remains a serious challenge across various institutions and companies, with perpetrators ranging from top-level executives to lower-level employees. Fraud Hexagon Theory, introduced by Vousinas (2019), it expands upon earlier theories that propose that six elements opportunity, pressure, rationalisation, capability, arrogance, and collusion tend to encourage individuals or organisations to perpetrate fraud, particularly in the presentation of financial statements. As this theory is thought to provide a thorough explanation of both the internal motives of fraudsters and the structural circumstances and control system vulnerabilities that they take advantage of, it serves as an appropriate analytical framework for this research.

Agency Theory

Agency theory, developed by Jensen & Meckling (1976), It explains how a company's internal control mechanisms come about as a consequence of a principal-agent relationship and the division of labour in managing the company's resources. The idea states that humans exhibit a lack of empathy, irrational thinking, and risk aversion due to their inherent self-bias. This bias makes them more likely to prioritise their own interests over those of others, even if it means harming them. This tendency may drive agents to manipulate financial statements in order to secure personal interests, bonuses, or to avoid sanctions. This underlying conflict of interest further drives agents toward unethical conduct, particularly when they feel threatened by potential sanctions such as dismissal, leading them to conceal material information, manipulate financial data, or engage in other fraudulent acts to preserve their position (Sutisna et al., 2024), ultimately creating pressure for agents to violate professional codes of ethics and act in ways detrimental to the company.

Financial Statement Fraud

The official financial records and information presented in an organized format over a certain time period include statements of financial position, changes in equity, cash flows, notes to the financial statements, and other comparative information. These reports also cover profit or loss and other comprehensive income, changes in equity, and other financial metrics. These statements are meant to help users make economic decisions and show how well management has handled the resources that have been entrusted to them. Financial statement fraud refers to a deliberately planned omission or act that causes the annual financial statements to be presented inconsistently with actual conditions, whether through understating or overstating the figures relative to their true state (AICPA, 2002). Statement on Auditing Standards No. 99 explains that financial statement fraud can be carried out through alterations to accounting records and manipulation of supporting documents, deliberate or negligent misstatements

of financial statement elements, and violations of principles relating to classification, disclosure, presentation, and amounts within the financial statements.

Fraud Hexagon

Fraud hexagon represents the refinement of a series of earlier fraud detection theories, beginning with the fraud triangle proposed by Cressey (1953), which subsequently developed into the fraud diamond by Wolfe & Hermanson (2004), was extended through the addition of the arrogance element into the fraud pentagon by Crowe (2012), and was ultimately refined by Voutsinas (2019) the six-part fraud case highlighted pressure, opportunity, capacity, rationalisation, hubris, and collusion is further strengthened by including the aspect of teamwork. Allegedly, financial statement fraud is impacted by the pressure that arises when a company's performance falls short of industry standards. The failure of SAS is the cause of the gap between management's goals and the company's actual capabilities. 99 (Nadziliyah & Primasari, 2022). Opportunity arises from weak internal controls, such as the subjective assessment of uncollectible receivables (M & Puttri, 2024; Sholikatun & Makaryanawati, 2023). Capability, proxied by change of director, reflects an individual's capacity to exploit their position, intelligence, trust, and competence to commit financial reporting fraud (Firly & Sutoyo, 2025; Larum et al., 2021; Sari & Nugroho, 2020). Rationalization, proxied by change in auditor, refers to perpetrators' justification of their dishonest actions, whereby irregular auditor changes may be exploited to conceal fraud, particularly since incoming auditors have yet to gain a deep understanding of the company's internal weaknesses (Fabiolla et al., 2021; Heri, 2017; Selviana & Wenny, 2021). The annual report's photo quotient of CEOs is an indicator of their haughtiness, which in turn encourages the false assumption that dishonesty may go unpunished because of the CEO's inflated feelings of self-importance (Haqq & Budiwitjaksono, 2019). As a proxy for the number of impartial commissioners serving in several capacities at once, "collusion" is an unlawful arrangement involving at least two people, whether within the company or with outside parties (Achmad et al., 2022; Jaiyanti et al., 2024; Jannah et al., 2021; Voutsinas, 2019).

Hypothesis Development

The Effect of Pressure on financial statement fraud

Company performance represents a highly important aspect for management, where unstable performance conditions may create pressure on management that has the potential to trigger financial statement fraud. The pressure variable in this study is proxied by financial stability, which according to SAS (Statement of Auditing Standard) No. 99 can influence management's behavior, acting as an agent, in committing financial statement fraud, given that well-performing companies generate higher profits, achieve larger investment returns, and attract greater investor interest as principals, such that financial stability is presumed to motivate managers to commit financial statement fraud (Firly & Sutoyo, 2025). Prior studies conducted by Angelita & Hasnawati, (2023) and Sagala & Siagian, (2021) further demonstrate that pressure, proxied by financial stability, exerts a significant influence on financial statement fraud.

H1: Pressure has an effect on financial statement fraud.

The Effect of Opportunity on financial statement fraud

Based on the findings of the AICPA (2002), financial statement fraud can occur when there are gaps or weaknesses in their preparation. This can be caused by ineffective oversight or pressure from management, which gives perpetrators the impression that they can commit financial statement fraud without fear of punishment. In this study, the opportunity variable is represented by ineffective monitoring. This reflects the board of commissioners' (the principal's) weak oversight function over management's activities. The failure of the check and balance mechanism to function properly, particularly due to an inadequate number of independent members, leaves room for management to commit financial statement fraud. Ainiyah & Effendi (2022) and Hartadi (2020) are among the previous research that shows how opportunity, represented by inefficient monitoring, greatly affects financial statement fraud.

H2: Opportunity has an effect on financial statement fraud

The Effect of Rationalization on financial statement fraud

Rationalization represents one of the factors explaining why perpetrators feel that the fraudulent acts they commit can be justified, where under fraud triangle theory perpetrators often seek justifications to make their actions appear reasonable, with this element remaining a fundamental mental "bridge" that allows a person to violate ethical principles in order to commit fraud as the theory developed into the more comprehensive fraud hexagon theory. The process of rationalization enables individuals to reduce the guilt associated with the fraud they commit, and the rationalization variable in this study is proxied by change in auditor, given that a poor evaluation issued by an auditor toward management may affect audit outcomes and risk, leading management, acting as agent, to replace auditors in order to conceal fraud that has been committed, such that a high level of rationalization is presumed to increase the likelihood of financial statement fraud occurring, whereas a low level of rationalization tends to reduce that likelihood (Indriani & Rohman, 2022). Prior studies conducted by Nurbaiti & Arthami, (2023) and Hartadi (2022) further demonstrate that change in auditor, as a proxy for rationalization, exerts an influence on financial statement fraud.

H3: Rationalization has an effect on financial statement fraud

The Effect of Capability on financial statement fraud

The capacity of the fraudsters, who are working as agents, to deceive the company's controlling party, who is acting as principal, is one aspect of the fraud conspiracy hypothesis (Sagala & Siagian, 2021). In this research, the change in directors represented the greatest variability. The reason for this is that financial statement fraud is more likely to occur when there is a greater frequency of director changes within a firm (Nurbaiti and Arthami, 2023). This is due to the fact that director changes allow for the removal of directors who have previously been aware of such fraud. According to Hastuti et al. (2023), a change in directors is one way to assess capability, which in turn affects financial statement fraud.

H4: Capability has an effect on financial statement fraud

The Effect of Arrogance on financial statement fraud

According to fraudsters theory, narcissism and arrogance are two major personality traits that lead people to commit financial statement fraud. The former reflects a sense of superiority stemming from one's perceived privileged status, while the latter justifies any means necessary to achieve success based on personal will (Firly & Sutoyo, 2025). In this study, the number of CEO pictures in the company's annual report is used as a proxy for arrogance. The reasoning behind this is that when there are more pictures of the CEO, it shows that they are more eager to flaunt their position and status. This, in turn, makes them more likely to engage in inappropriate actions in order to maintain their position (Sagala & Siagian, 2021). Arrogance, as measured by the quantity of photos of CEOs, influences financial statement fraud, according to previous research by Octani et al. (2021) and Isalati et al. (2023).

H5: Arrogance has an effect on financial statement fraud

The Effect of Collusion on financial statement fraud

According to this research, "collusion" is an agreement between two or more people to conduct fraud. This body is represented by the board of commissioners, some of whom have roles in other corporations. The probability of financial statement fraud is influenced by the number of commissioners serving in the same firm. Because people who hold more than one job in an organization are more likely to have access to confidential information and more power over various parts of the company, both of which they might abuse for their own benefit. Thus, as stated by Jaiyanti et al. (2024), the oversight independence of the commissioners is diminished and collusion is triggered when non-partisan board members who are also holding positions concurrently do so. Nurbaiti and Arthami (2023) and Oktaviany and Reskino (2023) found that board members who have more than one job may increase the likelihood of financial statement falsification.

H6: Collusion has an effect on financial statement fraud

Following the development of the hypotheses, Figure 1 presents the conceptual framework adopted in this study:

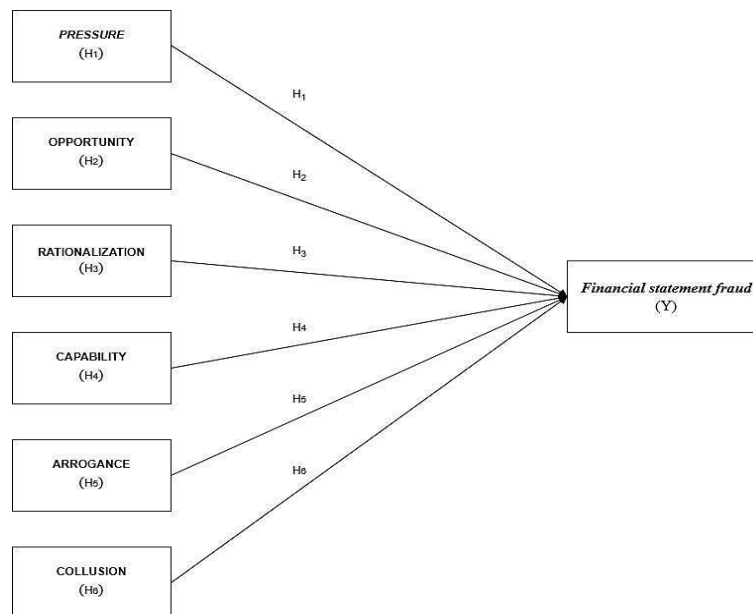


Figure 1. Conceptual Framework

RESEARCH METHODS

This research examines the effects of pressure, opportunity, rationalisation, capacity, hubris, and collaboration on financial statement fraud using a quantitative technique under an associative design. Financial statements and annual reports of state-owned banking institutions were used to compile secondary panel data using documentation procedures. Banks owned by the Indonesian government that were listed on the IDX between 2017 and 2024 make up the population. All individuals in the population who fulfilled the study's requirements were used as samples, a technique known as complete sampling. We can see the results of the sampling process in Table 1:

Table 1. Research Sample

Criteria	Number of Companies
State-owned banking companies listed on the IDX during the 2017–2024 period	4
Companies that consistently published complete financial statements and annual reports during the 2017–2024 period	4
Number of Companies Used as Sample	4
Research Period (years)	8
Number of Observation Data (4 companies × 8 years)	32

The sample selection criteria were applied and a final sample of four state-owned banking institutions was selected, resulting in thirty-two years of observation of the company during the years 2017-2024. The quantity of observations is indicative of the availability of extensive enterprise-level financial data over a period of eight years. Using panel data regression analysis, investigated the hypothesis that there were correlations between the variables in the dataset. In this research, financial statement fraud is used as the dependent variable. This research operationalises financial statement fraud using the F-Score model, following in the footsteps of previous works by authors like Hartadi (2022). Here is a method for calculating the F-Score: add the quality of accruals to financial performance.

$$\text{F-Score} = \text{Accrual Quality} + \text{Financial Performance} \dots\dots\dots (1)$$

Accrual quality is proxied by RSST accrual, which is calculated using the following formula:

$$\text{RSST Accrual} = (\Delta \text{WC} + \Delta \text{NCO} + \Delta \text{FIN}) / \text{ATS} \dots\dots\dots (2)$$

where:

$$\text{WC (Working Capital)} = \text{Current Assets} - \text{Current Liabilities}$$

NCO (Non-Current Operating Accrual) = (Total Assets – Current Assets – Investment) – (Total Liabilities – Current Liabilities – Long-Term Debt)

FIN (Financial Accrual) = Total Investment – Total Liabilities

ATS (Average Total Assets) = (Total Assets_(t) + Total Assets_(t-1)) / 2

Financial performance is calculated using the following formula:

Financial Performance = Change in Receivable + Change in Inventories + Change in Cash Sales + Change in Earnings (3)

where:

Change in Receivable = (Receivable_(t) / Sales_(t)) – (Receivable_(t-1) / Sales_(t-1))

Change in Inventories = (Inventories_(t) / Sales_(t)) – (Inventories_(t-1) / Sales_(t-1))

Change in Cash Sales = (Sales_(t) / Sales_(t-1)) – (Receivable_(t) / Receivable_(t-1))

Change in Earnings = (Earnings_(t) / Total Assets_(t)) – (Earnings_(t-1) / Total Assets_(t-1))

These metrics stand in for the following independent variables: opportunity, pressure, rationalisation, competence, hubris, and collusion. Relative to total assets in the previous year, the change in total assets is a measure of financial stability (ACHANGE), which is used to emphasise pressure, following the approach employed in prior studies by Nadziliyah & Primasari, (2022).

ACHANGE = (Total Asset_(t) – Total Asset_(t-1)) / Total Asset_(t-1) (4)

These metrics stand in for the following independent variables: opportunity, pressure, rationalisation, competence, hubris, and collusion. Relative to total assets in the previous year, the change in total assets is a measure of financial stability (ACHANGE), which is used to emphasise pressure, following the approach employed in prior studies by M & Putri, (2024).

BDOUT = Number of Independent Commissioners / Total Number of Commissioners (5)

Rationalization is measured using a dummy scale based on *change in auditor* (AUD), following the approach employed in prior studies by Indriani & Rohman (2022). A score of 1 is assigned to firms that changed their external auditor during the observation period, while a score of 0 is given to those that did not (6)

Capability is measured using a dummy scale based on *change in director* (DCHANGE), following the approach employed in prior studies by Sagala & Siagian (2021). A score of 1 is assigned to firms that changed members of their board of directors during the observation period, while a score of 0 is given to those that did not (7)

Arrogance is operationalized through the *frequent number of CEO's pictures* (CEO), measured by counting the total number of CEO photographs displayed in the company's annual report, following the approach employed in prior studies by Sagala & Siagian (2021)..... (8)

Collusion is operationalized through *the board of commissioners who concurrently occupy positions*, measured by counting the number of commissioners who simultaneously hold positions in other companies, following the approach employed in prior studies by Achmad et al. (2022) (9)

The data were analyzed using EViews 13. Since this study uses panel data consisting of cross-sectional (state-owned banks) and time-series (2017–2024) observations, panel data regression was employed to examine the effect of the independent variables on financial statement fraud. The analysis was conducted through several stages, including descriptive statistics, classical assumption tests, model selection tests (Chow Test and Lagrange Multiplier Test), panel data regression analysis, coefficient of determination (Adjusted R²), F-test, and t-test.

To identify the most appropriate panel data regression model, model selection was performed using the Chow Test and the Lagrange Multiplier (LM) Test.

RESULT AND DISCUSSION

This research makes use of secondary data collected between 2017-2024 from the financial accounts of state-owned banks that were listed on the IDX in Indonesia. Since this study uses panel data consisting of cross-sectional (state-owned banks) and time-series (2017–2024) observations, panel data regression was employed as the main analytical technique. This approach accommodates both cross-sectional and time-series dimensions of the data, thereby providing more efficient and consistent parameter estimates for panel datasets. The study focuses on the banking industry since, as of 2024, out

of the 105 financial and banking sector businesses listed on the IDX, 55 are from this sector. The IDX (www.idx.co.id) were consulted for the data. The latest set of data comes from 32 firm-year observations, obtained by following four state-owned banks for eight years as mentioned previously.

Table 2. Descriptive Statistical Analysis Test

	Y	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆
Mean	0.194475	0.086973	0.601250	0.125000	0.187500	5.875000	2.718750
Median	0.121950	0.080571	0.610000	0.000000	0.000000	5.000000	3.000000
Maximum	0.870400	0.180578	0.760000	1.000000	1.000000	15.00000	9.000000
Minimum	0.009000	0.014037	0.310000	0.000000	0.000000	1.000000	0.000000
Std. Deviation	0.202735	0.043734	0.096445	0.336011	0.396558	2.991925	2.217735
Skewness	1.744031	0.355916	-0.525772	2.267787	1.601282	0.827385	0.992631
Kurtosis	6.058514	2.348562	3.901828	6.142857	3.564103	3.935281	3.548838
Jarque-Bera	28.69478	1.241434	2.558716	40.59864	14.09950	4.817351	5.656650
Probability	0.000001	0.537559	0.278216	0.000000	0.000868	0.089934	0.059112
Sum	6.223200	2.783151	19.24000	4.000000	6.000000	188.0000	87.00000
Sum Sq. Dev.	1.274152	0.059292	0.288350	3.500000	4.875000	277.5000	152.4688
Observations	32	32	32	32	32	32	32

Source: Research Data, 2026

Financial statement fraud descriptive data derived from the F-Score model are shown in Table 2. Throughout the sample, the findings demonstrate that the indicator levels of fraud range, with a low of 0.009000 and a high of 0.870400. At 0.194475, the mean is the value. With an average of 0.086973 and a respectably small standard deviation of 0.043734, the financial stability variable showed that the sample of banks had a very equal distribution of asset growth. On average, independent members comprise more than half of the board of commissioners, as shown by the ineffective oversight percentage of 0.6013. Average values of 0.1250 for the change in auditor and 0.1875 for the change in director variables, both assessed using dummy scales, indicate that most state-owned banks in the sample did not see frequent changes in either auditors or directors throughout the observation period. At the same time, there is a wide range of values for commissioner positions (which measures the number of concurrent positions held by independent commissioners) from 2.7188 (ranging from 0 to 9), which indicates a lot of variation in the degree of concurrent positions across firms, and a mean of 5.8750 for the number of CEO's hired.

Chow Test

Following the descriptive statistical analysis, model selection tests were conducted to determine the most appropriate panel data regression model. The first stage involved the Chow Test, which compares the Common Effect Model (CEM) and the Fixed Effect Model (FEM). The results are presented in Table 3.

Table 3. Chow Test

Redundant Fixed Effects Test			
Equation: FEM			
Test cross-section fixed effects			
Test cross-Effects Test	Statistic	d.f	Prob
Cross-section F	0.540027	(3,22)	0.6599
Cross-section Chi-square	2.273755	3	0.5176

Cross-section fixed effects test equation:

Dependent Variable: Y

Method: Panel Least Squares

Date: 07/30/26 Time: 09:17

Sample: 2017 2024

Periods included: 8

Cross-sections included: 4

Total panel (balanced) observations: 32

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.220710	0.206989	1.066287	0.2965
X1	-0.890125	0.698649	-1.274066	0.2144
X2	-0.033982	0.301491	-0.112713	0.9112
X3	-0.016223	0.091149	-0.177987	0.8602
X4	-0.013402	0.076980	-0.174097	0.8632
X5	-0.013614	0.010250	-1.328195	0.1961
X6	0.057429	0.013718	4.186389	0.0003
R-squared	0.497958	Mean dependent var		0.194475
Adjusted R-squared	0.377468	S.D. dependent var		0.202735
S.E. of regression	0.159960	Akaike info criterion		-0.637150
Sum squared resid	0.639678	Schwarz criterion		-0.316520
Log likelihood	17.19439	Hannan-Quinn criter.		-0.530870
F-statistic	4.132773	Durbin-Watson stat		2.065688
Prob(F-statistic)	0.005113			

Source: Research Data, 2026

The Chow Test results show that the probability value of the Cross-section F is 0.6599 and the probability value of the Cross-section Chi-square is 0.5176. Both probability values exceed the significance level of 0.05, indicating the panel data regression model. Consequently, the analysis proceeds to the Lagrange Multiplier (LM) Test to determine whether the Common Effect Model (CEM) or the Random effect Model (REM) is more suitable.

Lagrange Multiplier Test

Based on the Chow Test result, the Common Effect Model (CEM) was selected over the Fixed Effect Model (FEM). To confirm the most appropriate panel data regression model, the analysis was continued using the Lagrange Multiplier (LM) Test. The LM Test is employed to determine whether the Common Effect Model (CEM) or the Random Effect Model (REM) is more suitable for estimating the panel data regression model. The result of the LM Test are presented in Table 4.

Table 4. Lm Test			
Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.783578 (0.3760)	0.148927 (0.6996)	0.932505 (0.3342)
Honda	-0.885199 (0.8120)	-0.385910 (0.6502)	-0.898810 (0.8156)
King-Wu	-0.885199 (0.8120)	-0.385910 (0.6502)	-0.951983 (0.8294)
Standardized Honda	-0.558687 (0.7118)	0.042877 (0.4829)	-3.801534 (0.9999)
Standardized King-Wu	-0.558687 (0.7118)	0.042877 (0.4829)	-3.704079 (0.9999)
Gourieroux, et al.	--	--	0.000000 (1.0000)

Source: Research Data, 2026

The result of the Lagrange Multiplier (LM) Test indicate that the Breusch -Pagan probability value is 0.3760, which is greater than 0.05. Therefore, the Common Effect Model (CEM) is considered more appropriate than the Random Effect Model (REM).

Table 5. Common Effect Model (CEM) Test

	X1	X2	X3	X4	X5	X6
X1	1.000000	-0.105116	0.191827	-0.151975	0.023838	-0.217334
X2	-0.105116	1.000000	-0.024885	0.111755	0.068752	0.006221
X3	0.191827	-0.024885	1.000000	-0.181568	-0.240655	-0.167744
X4	-0.151975	0.111755	-0.181568	1.000000	0.210709	-0.084821
X5	0.023838	0.068752	-0.240655	0.210709	1.000000	0.150102
X6	-0.217334	0.006221	-0.167744	-0.084821	0.150102	1.000000

Source: Research Data, 2026

The regression result presented in Table 5 indicate that the estimated coefficients vary across the independent variables. Among the six dimensions of the Fraud Hexagon, only colusion has a statistically significant effect on financial statement graud, while pressure, opportunity, rationalization, capability, and arrogance do not show significant effect at the 5% significance level. These finding serve as the basis for the hypothesis testing discussed in the following section.

Based on the regression results, the estimated panel data regression equation can be formulated as follows.

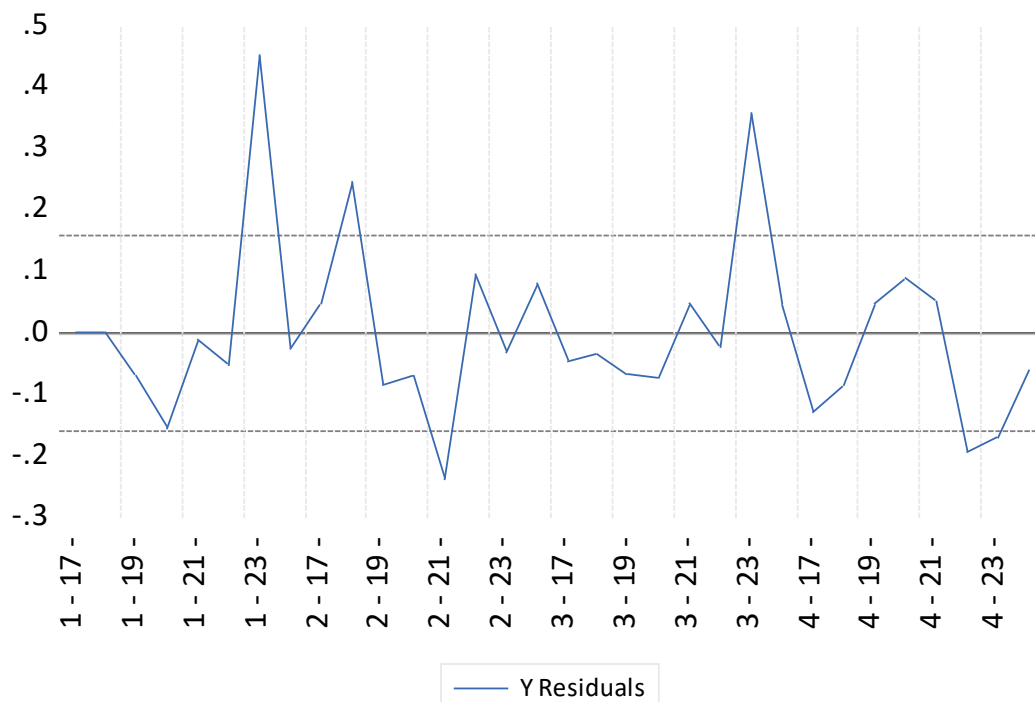


Figure 2. Panel Data Regression Equation

Persamaan regresi data panel

Estimation Equation:

$$Y = C(1) + C(2)*X1 + C(3)*X2 + C(4)*X3 + C(5)*X4 + C(6)*X5 + C(7)*X6$$

Substituted Coefficients:

$$Y = 0.220709943109 - 0.890125057934*X1 - 0.0339820168706*X2 - 0.01622340933*X3 - 0.0134020856237*X4 - 0.0136135176832*X5 + 0.0574286819335*X6$$

The coefficient of determination(R²) indicates the proportion of variation in financial statement fraud that can explained by the independent variables included in the reggression model.

Table 6. R-squared

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.220710	0.206989	1.066287	0.2965
X1	-0.890125	0.698649	-1.274066	0.2144
X2	-0.033982	0.301491	-0.112713	0.9112
X3	-0.016223	0.091149	-0.177987	0.8602
X4	-0.013402	0.076980	-0.174097	0.8632
X5	-0.013614	0.010250	-1.328195	0.1961
X6	0.057429	0.013718	4.186389	0.0003
R-squared	0.497958	Mean dependent var		0.194475
Adjusted R-squared	0.377468	S.D. dependent var		0.202735
S.E. of regression	0.159960	Akaike info criterion		-0.637150
Sum squared resid	0.639678	Schwarz criterion		-0.316520
Log likelihood	17.19439	Hannan-Quinn criter.		-0.530870
F-statistic	4.132773	Durbin-Watson stat		2.065688
Prob(F-statistic)	0.005113			

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 07/30/26 Time: 10:03
 Sample: 2017 2024
 Periods included: 8
 Cross-sections included: 4
 Total panel (balanced) observations: 32

To examine the effect of each independent variable on financial statement fraud, a partial significance test (t-test) was conducted. The results of the t-test are presented in Table 7.

Table 7. Uji t

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.220710	0.206989	1.066287	0.2965
X1	-0.890125	0.698649	-1.274066	0.2144
X2	-0.033982	0.301491	-0.112713	0.9112
X3	-0.016223	0.091149	-0.177987	0.8602
X4	-0.013402	0.076980	-0.174097	0.8632
X5	-0.013614	0.010250	-1.328195	0.1961
X6	0.057429	0.013718	4.186389	0.0003

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 07/30/26 Time: 10:03
 Sample: 2017 2024
 Periods included: 8
 Cross-sections included: 4
 Total panel (balanced) observations: 32

Furthermore, the F-test was performed to examine whether the independent variables jointly have a significant effect on financial statement fraud. The results are presented in Table 8.

Table 8. Uji F

F-statistic	4.132773
Prob(F-statistic)	0.005113

As shown in Table 8, the F-test produced an F-statistic of 4.132773 with a probability value (Prob. F-statistic) of 0.005113, which is below the 5% significance level. These results indicate that the regression model is statistically significant, implying that pressure, opportunity, rationalization, capability, arrogance, and collusion jointly influence financial statement fraud. Therefore, the proposed regression model is considered appropriate for explaining financial statement fraud in state-owned banks listed on the Indonesia Stock Exchange during the 2017–2024 observation period.

Furthermore, the coefficient of determination (R^2) was examined to assess the explanatory power of the regression model. The Adjusted R^2 value indicates the proportion of variation in financial statement fraud explained by the independent variables included in the model. The results are presented in Table 9. Table 9 shows that the adjusted R-squared value is 0.377, indicating that approximately 37.7% of the variation in financial statement fraud is explained by financial stability, ineffective monitoring, change in auditor, change in director, CEO pictures, and collusion. The remaining 62.3% is explained by other variables outside the scope of this study.

Table 9. Uji koefisien determinasi (R^2)

R-squared	0.497958
Adjusted R-squared	0.377468

Discussion

The Effect of Pressure on financial statement fraud

Financial stability, defined as the change in total assets compared to the preceding year, was used as a measure of pressure, and the likelihood value of 0.064 was found to be higher than the 0.05 significance level. This proves that financial statement fraud is unaffected by pressure. The fact that the financial stability variable has a low standard deviation (0.04382) and is indicative of very consistent underlying asset growth within the sample of state-owned banks explains the outrage. The Ministry of SOEs, the Financial Services Authority (OJK), and Bank Indonesia closely monitor state-owned banks, which means that management cannot simply manipulate asset growth figures to project financial stability. Instead, they are subject to strict prudential regulations and routine reporting obligations. In other words, fluctuations in asset growth within this sector tend to reflect macroeconomic conditions and regulatory capital requirements rather than discretionary managerial behavior aimed at constructing a misleading impression of stability. Investor and regulatory scrutiny directed at state-owned banks may also constrain management's willingness to manipulate financial statements, given the heightened reputational and legal consequences should such practices be detected.

This is further reinforced by the descriptive data, which show that the *financial stability* values across the four sampled state-owned banks ranged narrowly between 0.01 and 0.18, with none of the banks exhibiting extreme asset contraction or sudden, unsustainable asset expansion throughout the 2017–2024 period. Even during periods of broader economic disruption, such as the COVID-19 pandemic, asset growth among the sampled banks remained within a relatively moderate range, suggesting that capital buffers, government backing, and conservative lending practices typical of state-owned institutions helped cushion the banks from the kind of severe financial distress commonly associated with heightened fraud incentives in prior fraud hexagon literature. This pattern stands in contrast to studies conducted on privately owned or non-financial firms, where greater volatility in asset growth is more frequently observed and more readily linked to managerial pressure to misrepresent financial performance. The relatively narrow dispersion of *financial stability* values in this study therefore not only limits the statistical power available to detect a significant effect, but also substantively reflects the distinctive risk profile of state-owned banks, whose financial trajectories are shaped as much by policy mandates and capital adequacy regulations as by competitive market pressures.

From a theoretical standpoint, fraud hexagon theory posits that pressure arising from unstable financial performance constitutes one of the primary drivers prompting management to engage in financial statement fraud, as such instability is presumed to threaten investor confidence and managerial position. Yet, the empirical evidence suggests that this mechanism has not been fully manifested within the state-owned banking sector, where asset growth and financial stability are more strongly shaped by structural and regulatory factors than by individual managerial discretion. Likewise, under SAS No. 99, financial stability is expected to function as a determinant of management's incentive to misstate financial figures; however, its explanatory power appears to weaken considerably in heavily regulated industries such as state-owned banking, where external oversight mechanisms substitute for the internal pressures typically associated with this proxy. Because there isn't much of a difference in the financial stability of the four banks that were part of the sample, there isn't enough statistical power to find a meaningful association; this might be due to measurement and contextual limitations in the research. Therefore, the results imply that in a highly monitored and regulated financial system, the theoretical processes put forth by fraudsters could not materialise to their full potential. This result agrees with what Budiman et al. (2025) found; they also found that financial stability has little impact on banking-related financial statement fraud.

The Effect of Opportunity on financial statement fraud

An opportunity value of 0.214 was obtained, which is higher than the 0.05 significance level, as determined by ineffective monitoring (the ratio of independent commissioners to the total number of commissioners on the board). Financial statement fraud is not significantly affected by opportunity. One possible explanation is that state-owned banks often meet or surpass the minimum independence standards set by OJK legislation. This is supported by the relatively high average percentage of independent commissioners (60.13%) seen within the sample. While it is true that independent commissioners in state-owned enterprises are appointed based on competence and independence in theory, in practice, political and administrative factors often play a larger role in the appointment process than substantive effectiveness of oversight. Put simply, independent commissioners may just be there in name, but their skills and will to question management choices might be lacking, making the proxy ineffective in capturing real electoral effectiveness.

This is further reinforced by the descriptive data, which show that the proportion of independent commissioners across the four sampled state-owned banks ranged from 0.31 to 0.76, with the majority of firm-year observations clustering above the 30% threshold mandated by OJK regulations for listed companies. This relatively consistent compliance pattern across banks and years suggests that the composition of the board of commissioners is shaped more by adherence to a uniform regulatory baseline than by genuine variation in monitoring intensity or governance quality among the sampled institutions. Even in years where a bank's proportion of independent commissioners reached its highest levels, no corresponding decline in fraud indication, as measured by the F-Score, was consistently observed, suggesting that numerical board independence alone does not necessarily translate into a tangible reduction in fraudulent reporting behavior. This pattern lends support to the argument that, within a sector already subject to extensive external regulatory layers, the marginal explanatory power of board composition as a standalone proxy for opportunity is likely to be limited, as compliance-driven board structures may obscure rather than reveal genuine differences in oversight effectiveness across firms.

From a theoretical standpoint, fraud hexagon theory posits that opportunity arises when internal control and oversight mechanisms fail to function effectively, thereby creating a window for management to commit fraud without detection. Yet, the empirical evidence suggests that this mechanism has not been clearly demonstrated within the state-owned banking sector, where oversight is reinforced not only by the board of commissioners but also by multiple layers of external supervision, including the OJK, the Audit Board (BPK), and the Ministry of SOEs. This overlapping oversight structure may diminish the marginal contribution of board composition alone in explaining variation in fraud indication. This weak effect may also be attributed to measurement constraints, as the AICPA's (2002) conceptualization of opportunity encompasses a broader range of internal control weaknesses than can be captured solely through the proportion of independent commissioners. The result imply that

the opportunities proposed by fraudsters theory would not materialise when other regulatory entities, instead of just the board of commissioners, are responsible for oversight. Septiningrum et al. (2022) reached a similar conclusion, wherein Aprilia & Furqani, (2021) found the opposite that ineffective monitoring significantly reduced financial statement fraud.

The Effect of Rationalization on financial statement fraud

The probability value of 0.704, which was assessed by the change in auditors, was higher than the 0.05 significance level, indicating rationalisation. This proves that financial statement fraud is unaffected by rationalisation. Since most state-owned banks kept their external audit engagements consistent throughout the observation period (mean value = 0.1250), this finding makes sense given the low frequency of auditor changes seen in the sample. Auditor rotation in state-owned banks is largely governed by regulatory provisions concerning mandatory audit tenure limits and is typically determined through the General Meeting of Shareholders (GMS) in accordance with OJK and Ministry of SOE regulations, rather than arising from unilateral managerial discretion. As such, auditor changes in this context more plausibly reflect compliance with statutory rotation requirements than an attempt to conceal prior fraudulent practices.

This is further reinforced by the descriptive data, which show that auditor changes occurred in only 4 out of the 32 firm-year observations across the sample, and that these changes were largely concentrated around periods coinciding with the expiration of the maximum permitted audit engagement period under OJK regulations rather than occurring irregularly or in immediate proximity to years exhibiting elevated F-Score values. None of the sampled banks exhibited a pattern of frequent or consecutive auditor changes, which would have been more consistent with a deliberate strategy to obscure financial irregularities from a newly appointed auditor unfamiliar with the firm's internal practices. This near-uniform timing of auditor rotation across the sample further suggests that the variable primarily captures compliance with mandatory tenure regulations rather than a behavioral response to underlying fraud risk, thereby limiting its capacity to function as a meaningful proxy for rationalization within a regulatory environment where auditor continuity is the institutional norm rather than the exception.

From a theoretical standpoint, fraud hexagon theory posits that rationalization functions as a psychological mechanism enabling perpetrators to justify fraudulent conduct, with auditor change serving as an indirect proxy capturing management's attempt to mitigate the risk of detection. Yet, the empirical evidence suggests that this mechanism has not been clearly demonstrated within the state-owned banking sector, where auditor selection and rotation are embedded within a formal regulatory cycle rather than functioning as a discretionary instrument available to management. This regulatory embeddedness may substantially weaken the signaling value typically attributed to auditor change as an indicator of concealment behavior. This weak effect may also be attributed to measurement constraints, as a binary dummy proxy may be insufficiently sensitive to distinguish between routine, regulation-driven rotations and strategically motivated auditor changes. Accordingly, the findings suggest that the theoretical mechanisms advanced by fraud hexagon theory regarding rationalization may not fully manifest in an industry where auditor rotation is institutionally mandated rather than voluntarily determined. The results are in line with those of Indriani & Rohman (2022), who also found that switching auditors had no major impact on the prevalence of fraud in financial statements.

The Effect of Capability on financial statement fraud

Capability, measured through change in director, yielded a probability value of 0.700, exceeding the 0.05 significance threshold. This indicates that capability does not exert a significant influence on financial statement fraud. The result can be explained by the relatively low frequency of director change observed within the sample, with a mean value of only 0.1875, suggesting a degree of leadership stability across the sampled state-owned banks during the observation period. Director appointments and replacements in state-owned banks are predominantly determined through the GMS based on the state's prerogative as majority shareholder, and are frequently driven by considerations of organizational regeneration, strategic alignment with government policy, or the conclusion of a director's term of office, rather than by an intention to conceal fraudulent practices committed by a predecessor.

This is further reinforced by the descriptive data, which show that director changes occurred in only 6 out of the 32 firm-year observations across the sample, with no discernible pattern linking the timing of these changes to years exhibiting elevated F-Score values. Several of the observed director changes coincided with broader cabinet reshuffles or shifts in government administration, periods during which the composition of state-owned enterprise leadership is commonly revised as part of routine political transition rather than as a response to internally detected irregularities. None of the sampled banks exhibited successive or closely spaced director changes that would be more characteristic of an attempt to replace a director implicated in concealed misconduct. This timing pattern further suggests that director turnover within the sample predominantly reflects the state's broader governance and personnel policies as majority shareholder, rather than a deliberate mechanism through which capability-driven fraud risk materializes, thereby constraining the variable's effectiveness as a proxy for capability in this particular institutional context.

From a theoretical standpoint, fraud hexagon theory posits that capability reflects an individual's capacity, derived from their position, intelligence, and authority, to identify and exploit opportunities for committing fraud, with director change serving as a proxy for the potential replacement of directors implicated in prior misconduct. Yet, the empirical evidence suggests that this mechanism has not been clearly demonstrated within the state-owned banking sector, where the politically embedded nature of director appointments may render change in director a weak indicator of fraudulent intent, as such changes more often reflect governmental policy decisions than internal organizational dynamics tied to fraud detection. This weak effect may also be attributed to measurement constraints, as a binary proxy is unable to differentiate between routine succession planning and replacements prompted by governance concerns. Accordingly, the findings suggest that the theoretical mechanisms advanced by fraud hexagon theory regarding capability may not fully manifest in a context where executive turnover is substantially shaped by state ownership structures rather than purely managerial considerations. This outcome is consistent with the findings of Sahla & Ardianto. (2023) and Andriani et al. (2022), who similarly reported that change in director does not exert a significant influence on financial statement fraud.

The Effect of Arrogance on financial statement fraud

The annual report's presentation of CEO photos as a measure of arrogance produced a probability value of 0.190, which is higher than the 0.05 significance level. It may be concluded that hubris does not play a major role in financial statement fraud. The annual report disclosing practices within state-owned banking sector explains the results. Rather than serving as an expression of individual narcissism or superiority, the inclusion of CEO photographs is typically standardised as part of routine corporate communication and transparency requirements directed towards shareholders, particularly the government as majority owner. Given that annual report formats across state-owned banks tend to follow relatively uniform governance and disclosure templates, the visual prominence of the CEO may carry less interpretive weight as an indicator of personal arrogance than in privately held or founder-led firms.

This is further reinforced by the descriptive data, which show that the number of CEO's pictures across the sample ranged from 1 to 15, with a relatively wide standard deviation of 2.99192, yet without any corresponding pattern linking higher photograph frequencies to elevated F-Score values across the observed firm-years. Banks that consistently displayed a larger number of CEO photographs in their annual reports did not exhibit systematically higher fraud indication than those with more modest visual representation, suggesting that the variation observed is more plausibly attributable to differences in annual report design, page length, and corporate communication style across institutions and over time than to underlying differences in CEO narcissism or entitlement. This absence of a discernible relationship between photograph frequency and fraud indication further supports the interpretation that, within a sector where annual report content is shaped by standardized governance disclosure expectations, the number of CEO's pictures functions more as a stylistic or institutional artifact than as a substantive behavioral signal of individual arrogance.

According to fraudsters theory, CEOs' inflated sense of self-importance can lead them to believe that dishonesty can go unpunished. The prevalence of photos of CEOs can be seen as a reflection of this underlying psychological trait. Yet, the empirical evidence suggests that this mechanism has not been clearly demonstrated within the state-owned banking sector, where leadership positions are subject to government appointment, term limits, and collective accountability structures that constrain the kind of unchecked individual authority typically associated with arrogance-driven fraud. This weak signaling effect may also be attributed to measurement and contextual constraints inherent in the study, as photograph frequency may be more reflective of standardized corporate communication practices than of genuine narcissistic tendencies. Accordingly, the findings suggest that the theoretical mechanisms advanced by fraud hexagon theory regarding arrogance may not fully manifest when leadership visibility is institutionally regulated rather than driven by individual discretion. In a similar vein, Fitriyah & Novita, (2021) found no significant relationship between the quantity of CEO photographs and financial statement fraud, therefore our results are in line with theirs.

The Effect of Collusion on financial statement fraud

Collusion, measured through the board of commissioners who concurrently occupy positions, yielded a probability value below 0.001, with a positive regression coefficient ($\text{Beta} = 0.656$; $t = 4.799$), exceeding the 0.05 significance threshold inversely and thereby indicating a positive and statistically significant influence on financial statement fraud. This finding can be explained by the considerable variation observed in the extent of concurrent positions held by commissioners within the sample, ranging from 0 to 9 with a mean of 2.7188, suggesting that overlapping board memberships are a relatively common practice among state-owned banks. Commissioners who simultaneously hold positions across multiple companies, including other state-owned enterprises, may face divided attention, competing loyalties, and diminished capacity to exercise rigorous, independent oversight of any single institution, thereby weakening the effectiveness of the monitoring function they are formally entrusted to perform.

This is further reinforced by the descriptive data, which show that firm-years with a higher number of concurrent commissioner positions tended to coincide with notably higher F-Score values relative to firm-years exhibiting little to no overlapping board memberships, lending observational support to the statistically significant relationship identified in the regression results. Banks with commissioners holding positions in three or more other entities simultaneously displayed comparatively elevated fraud indication scores across multiple years of the observation period, whereas firm-years characterized by minimal or no concurrent positions tended to cluster toward lower F-Score values. This pattern is consistent with the theoretical expectation that overlapping directorates dilute the attention and independence commissioners are able to devote to any single institution, and it lends empirical credibility to the interpretation that concurrent positions function not merely as a structural characteristic but as an active contributor to weakened oversight and elevated fraud risk within the state-owned banking sample. From a theoretical standpoint, fraud hexagon theory posits that collusion arises when cooperative arrangements between parties, whether formal or informal, are exploited to circumvent internal controls and conceal fraudulent practices, with concurrent commissioner positions reflecting a structural condition conducive to such arrangements. The empirical evidence in this study reinforces this theoretical proposition, indicating that extensive overlapping directorships among commissioners may facilitate informal networks of mutual accommodation that compromise the independence and rigor of board oversight, thereby increasing the risk of moral hazard and elevating the potential for financial statement fraud within state-owned banks. This finding is particularly salient given the close interconnections among state-owned enterprises, where shared commissioners may be more inclined to overlook irregularities identified in affiliated institutions due to reciprocal interests or hierarchical pressures originating from common ownership by the state. Accordingly, the findings suggest that the theoretical mechanisms advanced by fraud hexagon theory regarding collusion are clearly manifested within the state-owned banking sector, where concurrent board positions create structural conditions conducive to compromised independence. Kusumosari & Solikhah (2021), and Tamaela et al. (2025) everything indicates that the number of Commissioners in the board of Commissioners holding concurrent office has a significant effect on the prevalence of financial statement fraud; Our findings are consistent with their findings.

CONCLUSION

This research looks at the financial statement fraud in state-owned banking institutions listed on the Indonesia Stock Exchange from 2017 to 2024 and how factors including pressure, opportunity, rationalisation, competence, hubris, and collusion played a role. Based on the findings, collusion is the only Fraud Hexagon dimension that has a significant effect on financial statement fraud, whereas pressure, opportunity, rationalization, capability, and arrogance do not exhibit significant effects. According to these results, structural conditions caused by overlapping board positions among commissioners are more strongly linked to financial statement fraud in Indonesia's state-owned banking sector than individual psychological or financial-pressure mechanisms. From a theoretical perspective, the findings indicate that fraud hexagon theory has limited explanatory power for five of its six elements within this particular industry context. Although the theory assumes that financial instability, weak monitoring, auditor and director turnover, and CEO narcissism each reflect distinct pathways toward fraudulent reporting, the empirical evidence shows that these mechanisms are substantially constrained by the heavily regulated and state-controlled nature of the banking sector, in which oversight is reinforced by multiple external bodies and key managerial transitions are largely institutionally determined rather than discretionary.

The significant effect of collusion, by contrast, demonstrates that fraud hexagon theory retains strong explanatory relevance when fraud risk arises from interpersonal and structural arrangements rather than from individual motivation alone, particularly within a sector characterized by extensive interlocking directorates among state-owned entities. This result implies that conventional, individual-level proxies of fraud hexagon theory may require contextual adaptation when applied to highly regulated, state-owned environments, while structural governance indicators such as concurrent board positions warrant greater theoretical and empirical attention in future fraud research conducted within similar institutional settings.

The insignificance of five out of six hypothesized relationships further implies that conventional fraud hexagon proxies, originally developed primarily within private-sector contexts, may not fully capture the fraud risk landscape of state-owned enterprises, where governance mechanisms, leadership turnover, and auditor rotation are substantially shaped by regulatory mandates rather than managerial discretion. This study also acknowledges several contextual considerations. The relatively small number of state-owned banks listed on the IDX results in a limited sample size of 32 firm-year observations, which may constrain the statistical power available to detect significant relationships for variables exhibiting low variability within the sample. In addition, the measurement of several variables relies on dummy and proxy approaches that, while comparable across firms, may not fully capture the underlying complexity of the constructs they represent, particularly for psychological elements such as rationalization and arrogance. Future research is encouraged to extend the observation period, incorporate a broader range of state-owned or government-linked companies across other sectors, and employ more nuanced or triangulated measurement approaches to enhance the robustness and generalizability of findings regarding the fraud hexagon framework and its applicability to state-controlled institutional settings.

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