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Analysis of Financial Statement Fraud Detection Using the Fraud Triangle Theory (Empirical Study on Construction Companies Listed on the Indonesia Stock Exchange for the Period 2019–2023)

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Abstract

Financial statement fraud has become increasingly prevalent compared to other types of fraud, such as corruption and asset misappropriation, posing significant risks to the credibility of financial reporting and stakeholder decision-making. The urgency of this study arises from the increasing complexity of financial transactions and the vulnerability of the construction sector to manipulation due to its project-based nature, large contract values, and high estimation uncertainty. These conditions create opportunities for fraudulent financial reporting that may not be easily detected, thereby necessitating empirical examination of key risk factors. Therefore, this study aims to examine the effect of financial stability, nature of industry, and change in auditor on fraudulent financial reporting in construction companies listed on the Indonesia Stock Exchange during the period 2019–2023. The data used in this study were obtained from the annual financial statements of construction companies listed on the Indonesia Stock Exchange from 2019 to 2023. The sample consists of 85 observations from 17 companies over a five-year period. The sampling technique employed was non-probability sampling using a purposive sampling method. To analyze the effect of the variables, classical assumption tests and panel data regression analysis using the common effect model were applied. The results show that financial stability, nature of industry, and change in auditor collectively explain fraudulent financial reporting. However, the partial test results indicate that only the nature of industry has a significant effect in detecting fraudulent financial reporting, while financial stability and change in auditor do not have a significant effect on the detection of fraudulent financial reporting.

Keywords: Fraudulent Financial Reporting, Fraud Triangle Theory, Financial Stability, Nature of Industry, Auditor Change, Construction Companies.

1 INTRODUCTION

Financial statements are records containing financial information that describe a company's performance (International Accounting Standards Board, 2018). According to the IASB 2018, financial statements must possess two important characteristics: relevance and faithful representation. Financial information must be complete, neutral, and free from error in order to be considered a faithful representation [1].

Companies listed on the Indonesia Stock Exchange (IDX) are required to publish their financial statements to the public as a form of accountability to users of financial statements. Regulation of the Financial Services Authority (Otoritas Jasa Keuangan/OJK) Number 14/POJK.04/2022 Article 16 paragraph 2 regarding company reporting stipulates that annual financial statements must be audited by a public accountant. By performing high-quality audit procedures, auditors are able to identify potential fraud risks.

The Association of Certified Fraud Examiners [2] states that the main types of fraud committed by management and employees in companies include corruption, asset misappropriation, and financial statement fraud. This classification is known as the Fraud Tree. Among these three types of fraud, financial statement fraud has the most significant impact.

In fact, numerous cases of financial statement fraud have emerged, particularly after the global economic crisis in 2008. It is undeniable that the global economy, including Indonesia's economy, was affected

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by changes occurring in major economies. The global capital market centered on Wall Street in the United States rapidly became the center of financial turmoil and spread to other countries [3]. This situation significantly affected companies, particularly those listed on the Indonesia Stock Exchange, and potentially triggered fraudulent financial reporting practices. For instance, in July 2015, Toshiba Corporation reported profits of 40 billion yen (approximately IDR 4.6 trillion) during the 2012–2014 financial period, despite the fact that the company had not actually generated such profits.

Similar cases have also occurred in Indonesia. In 2010, Bapepam-LK discovered that the deposit fund revenue account of a company at Bank Capital Indonesia had been manipulated through accounting practices. PT Bakrie & Brothers, PT Bakrie Sumatera Plantations, PT Energi Mega Persada, and PT Benakat Petroleum Energy were found to have violated regulations by understating their revenues from 2003 to 2008 by more than US$1.06 billion. Another case occurred in the state-owned enterprise PT Waskita Karya, which was involved in a case involving its managers. The company recorded 14 fictitious projects, resulting in state losses of approximately IDR 202 billion during the 2009–2015 period. According to an investigative audit conducted by the Audit Board of Indonesia (BPK), the loss was higher than the previously estimated IDR 186 billion and was calculated based on PT Waskita Karya's payments to subcontractor companies.

The Association of Certified Fraud Examiners [2] also explains that individuals who commit financial statement fraud are highly likely to engage in other types of fraud as well. Many business actors manipulate financial reporting to present a favorable illustration of the company's financial condition in order to attract profits or investments.

According to the *Report to the Nations* [2], asset misappropriation accounts for 89% of fraud cases, but it tends to cause the lowest median loss, amounting to USD 120,000 per case**.** Meanwhile, 48% of cases involve corruption, resulting in an average loss of USD 200,000 per case**.** In contrast, financial statement fraud schemes—where perpetrators intentionally cause misstatements or omissions in an organization's financial reports—are the least frequent, representing only 5% of all fraud cases, yet they result in the highest median loss of USD 766,000 per case**.**

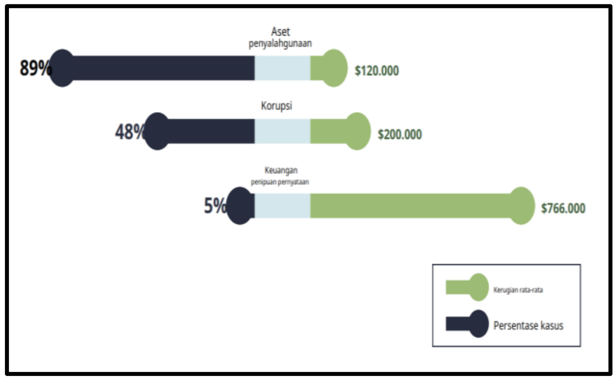

Figure 1. *Median Loss & Percent of Cases Fraud*

Based on the survey results, the industry with the highest incidence of financial statement fraud in 2024 was the construction sector, accounting for 10% of the total cases. The construction sector refers to business entities that operate in providing services related to planning, design, project supervision, and construction management.

Industry	Cases	Billing	Cash larceny	Cash on hand	Check and payment tampering	Corruption	Expense reimbursements	Financial statement fraud	Noncash	Payroll	Register disbursements	Skimming
Banking and financial services	305	12%	12%	18%	14%	44%	6%	5%	16%	4%	4%	8%
Manufacturing	175	27%	6%	4%	7%	55%	17%	6%	29%	10%	1%	9%
Government and public administration	170	24%	15%	8%	14%	52%	15%	4%	15%	18%	4%	11%
Health care	117	38%	9%	8%	12%	47%	21%	1%	22%	16%	2%	9%
Energy	78	19%	8%	9%	8%	60%	13%	4%	29%	10%	3%	6%
Retail	78	17%	10%	13%	5%	40%	6%	0%	32%	3%	9%	14%
Construction	73	38%	12%	7%	19%	52%	25%	10%	25%	23%	4%	23%
Education	70	36%	9%	13%	10%	43%	17%	0%	16%	7%	6%	19%

Figure 2. Percentage of Financial Statement Fraud Cases

According to survey results conducted by the Association of Certified Fraud Examiners (ACFE) in 2020, 2022, and 2024, the construction industry consistently ranks as one of the industries with the highest incidence of financial statement fraud. The period from 2020 to 2023 was highly unstable for many industries, including construction, due to the impact of the COVID-19 pandemic. Many construction companies experienced declining revenues, liquidity constraints, and project delays. In an effort to cope with these challenges, companies may resort to unethical practices, such as manipulating financial statements, in order to maintain the appearance of a healthy financial condition.

Fraudulent financial reporting can be influenced by several factors. Cressey [4] introduced the Fraud Triangle Theory, which consists of three elements commonly known as the fraud triangle: pressure**,** opportunity**,** and rationalization**.**

These elements are interrelated; for instance, individuals may not have the opportunity to commit fraud if there is no intention to do so, and fraud is unlikely to occur if both opportunity and intention are absent [4]

According to the Statement on Auditing Standards (SAS) No. 99, the proxy for pressure is financial stability, the proxy for opportunity is the nature of industry, and the proxy for rationalization is change in auditors**.**

Financial stability is one of the categories used to measure pressure in accordance with the fraud diamond theory. SAS No. 99 defines financial stability as a condition that reflects a company's financial situation in a stable state. The assessment of a company's financial stability can be observed through its asset condition. A higher total asset value indicates greater corporate wealth. Several previous studies conducted by Annisya, Lindrianasari, and Asmaranti [5], Herdiana and Sari [6], Aprilia and Furqani [7], as well as Agustina and Apriliana [8], found that financial stability has an effect on the detection of fraudulent financial reporting. In contrast, studies by Abrori et al. [9], Yanti and Riharjo [10], Sunardi and Amin [11], and Manurung and Hardika [12] did not find any significant effect of financial stability on the likelihood of fraudulent financial reporting.

Nature of industry is another category used to measure opportunity in the fraud diamond theory as outlined in SAS No. 99. It refers to the inherent conditions of a company within its industry. Nature of industry provides opportunities for fraudulent financial reporting, particularly in accounts such as receivables and inventories, which require subjective judgment in estimating uncollectible receivables and obsolete inventory. Due to this subjectivity, management may exploit these accounts as tools to manipulate financial statements. Research by Aprilia and Furqani [7] found that nature of industry has a positive effect on the detection of fraudulent financial reporting, indicating that higher changes in receivables ratios are associated with a greater likelihood of financial statement fraud. These findings are consistent with Abrori et al [9]. However, other studies, such as Manurung and Hardika [12], and Annisya, Lindrianasari, and Asmaranti [5], found no significant effect of nature of industry on the detection of fraudulent financial reporting. In fact, Manurung and Hardika [12] concluded that nature of industry cannot be used to detect fraudulent financial reporting.

Change in auditor is a proxy for rationalization in the fraud diamond theory (SAS No. 99). According to the American Institute of Certified Public Accountants (AICPA, 2002), auditor switching is associated with indications of fraud. A company's tendency to change its external auditor may signal potential fraudulent financial reporting. Auditor changes may be intended to obscure previous audit trails, conceal fraud risks, and prevent detection of irregularities. Consequently, newly appointed auditors may not yet fully understand the company's condition [7]. Prior studies by Azizah, Murni, and Utami (2022), as well as Manurung and Hardika [12], found that auditor switching has a significant effect on the likelihood of fraudulent financial reporting. Conversely, studies by Herdiana and Sari [6], Abrori et al. [9], Sunardi and Amin [11], and Apriliana and Agustina [7] found no such effect.

Fraud diamond analysis is a widely used paradigm in accounting and psychology to explain why individuals commit fraud in the workplace. The concept emphasizes that, in combating fraud, it is essential not only to recognize its occurrence but also to understand how and why it happens. Over time, media reports on the arrest of government officials from lower-level employees to high-ranking authorities involved in public fund scandals have raised public concern regarding the government's commitment to addressing this issue.

Based on the background described above, this study aims to examine "The Detection of Fraudulent Financial Reporting Using the Fraud Diamond Model (An Empirical Study on Construction Companies Listed on the Indonesia Stock Exchange for the Period 2019–2023)."

2 LITERATURE REVIEW

2.1 Agency Theory

Information asymmetry between management (agent) and shareholders (principal) may provide opportunities for management to manipulate financial statements, which constitutes a form of fraud [12]. Shareholders expect management to present financial statements that reflect the actual condition of the company, while management may attempt to meet such expectations through various means in order to obtain higher salaries and bonuses [8].

Conflicts arise when the personal interests of management are not aligned with the interests of shareholders. Shareholders aim to maximize returns on their investments in the company; however, managers may maximize their own utility at the expense of shareholders. In such situations, shareholder wealth is not maximized [13].

2.2 Stakeholder Theory

According to Hendriksen [14], Stakeholder Theory refers to the view that a company is systematically responsible to all parties involved in its operations. A socially responsible company can be assessed based on the extent to which management decisions consider the interests of stakeholders other than shareholders.

2.3 Fraud Triangle Theory

Fraud theory is an approach used to explain the causes of fraudulent behavior. The reasons individuals commit fraud were first examined by Donald Cressey, a criminologist, in 1953. Cressey [4] introduced the concept known as the Fraud Triangle. His research aimed to identify the factors that motivate individuals to violate trust.

Cressey [4] interviewed approximately 250 individuals who had committed crimes that met two criteria: first, the individuals had accepted positions of trust in good faith; and second, they had subsequently violated that trust.

In an attempt to explain fraud in accounting, Cressey [4] proposed that fraudulent behavior occurs due to three main factors: pressure, opportunity, and rationalization.

2.4 Fraudulent Financial Reporting

According to Public Company Accounting Oversight Board (PCAOB) Auditing Standard Section 316 Paragraph 5, fraudulent financial reporting refers to *intentional misstatements or omissions of amounts or disclosures in financial statements designed to deceive financial statement users*.

Meanwhile, according to ACFE [2] financial statement fraud refers to a scheme in which an employee deliberately causes a material misstatement or omission of information in an organization's financial statements, such as by recording fictitious revenues, understating expenses, or artificially inflating reported assets.

2.5 Financial Stability

Financial stability is one of the categories used to measure pressure in the Fraud Triangle Theory. According to Statement on Auditing Standards (SAS) No. 99, financial stability refers to the financial condition of a company that is stable and not threatened by industry conditions, economic conditions, market changes, technological changes, or operating losses.

Abbas [15] defines financial stability as a condition in which a company maintains a sound financial position in order to preserve a positive image among stakeholders and ensure smooth management operations as well as the flow of investment funds.

The stability of a company's financial condition can be assessed through the condition of its assets. A higher level of total assets indicates greater corporate wealth. When a company's financial stability is threatened, pressure on management may increase, which may lead managers to manipulate financial reports to maintain the appearance of financial stability [16].

Company assets are often used to evaluate financial conditions because they represent the wealth owned by the company. Stable financial conditions can reduce the risk of financial statement fraud. Such stability can be reflected in asset changes that do not differ significantly from previous years. Skousen [16] argue that companies experiencing below-average industry growth may motivate managers to manipulate financial statements to improve the company's perceived prospects.

Previous research by Annisya [5] found that financial stability has a positive effect on fraudulent financial reporting. This implies that the higher the change in total assets, the greater the risk of fraud in financial reporting. Similar findings were reported by Herdiana & Sari [6], Aprilia & Furqani [17], and Agustina & Apriliana [8] which indicate that rapid asset growth positively influences the likelihood of fraud.

However, other studies, such as Abrori [9] found that financial stability does not significantly influence the detection of fraudulent financial reporting. Companies with strong monitoring and supervision from the board of commissioners may prevent fraudulent behavior even when financial instability occurs. These findings are consistent with studies conducted by Yanti & Riharjo [10], Sunardi & Amin [11] and Manurung & Hardika [12]

2.6 Nature of Industry

The nature of industry is a proxy used to measure opportunity within the Fraud Triangle Theory as described in SAS No. 99. Tiffani & Marfuah [18] define the nature of industry as the ideal condition of a company within its industry. Meanwhile, Kayoi & Fuad [19] describe it as positive conditions reflected in financial statement accounts whose balances are determined by management.

The nature of industry may provide opportunities for financial statement fraud. For instance, accounts such as accounts receivable and inventory require subjective judgment when estimating uncollectible receivables or obsolete inventory. Due to the subjectivity involved, management may exploit these accounts as tools to manipulate financial statements.

Previous research by Abrori [9] shows that the nature of industry, measured using the ratio of receivables to sales, influences the detection of fraudulent financial reporting. A continuous increase in receivables may indicate poor cash turnover. Limited cash availability may affect the company's ability to finance operational activities, which may encourage management to manipulate financial reports. This finding is consistent with research by Aprilia & Furqani [17] which found that changes in accounts receivable ratios influence fraudulent financial reporting.

However, Manurung & Hardika [12] found that the average change in receivables does not affect the company's cash flow. If receivables do not significantly disrupt operational cash availability, companies may not be motivated to commit financial statement fraud. In such circumstances, companies are less likely to manipulate receivable accounts.

Similarly, studies by Annisya [5] suggest that increases in receivables do not necessarily affect cash turnover and therefore do not disrupt operational activities. Consequently, the nature of industry may not positively influence financial statement fraud.

2.7 Change in Auditor

Auditor change is considered a proxy for rationalization. According to Minister of Finance Regulation No. 17/PMK.01/2008 Article 3, auditor change refers to the replacement of auditors carried out by companies to ensure the continuity of their operations. Auditor replacement in audit engagements is often considered a strategy used by companies to eliminate traces of fraud detected by previous auditors [9].

Government Regulation No. 20 of 2015, which follows Law No. 5 of 2011 concerning Public Accountants, states in Article 11 paragraph (1) that a public accountant or external auditor may provide audit services for historical financial information of an entity for a maximum of five consecutive fiscal years.

Research by Aprilia & Furqani [17] indicates that auditor change has a positive effect on detecting fraudulent financial reporting. Based on the Fraud Diamond Theory, management may rationalize auditor changes when fraud committed in previous periods has not been uncovered. A higher frequency of auditor changes may therefore indicate attempts by companies to conceal fraudulent activities. These findings are consistent with studies conducted by Azizah [20] and Manurung & Hardika [12].

However, Herdiana & Sari [6] explain that auditor changes may occur simply because companies comply with regulations requiring auditor rotation. This finding is supported by Abrori [9], who concluded that auditor change does not significantly affect financial statement fraud.

In practice, companies may replace auditors if the performance of the previous auditor is considered unsatisfactory. Companies tend to seek higher-quality auditors to ensure better audit results. Studies by Sunardi & Amin [11] and Apriliana & Agustina [17] also indicate that auditor change does not significantly affect the detection of financial statement fraud.

3 RESEARCH METHODS

This study employs a quantitative research approach with an associative design aimed at examining the relationship between two or more variables. The dependent variable in this study is fraudulent financial reporting, which is influenced by the independent variables, namely financial stability, nature of industry, and change in auditor.

The data used in this study were obtained from the annual financial statements of construction companies listed on the Indonesia Stock Exchange during the period 2019–2023. The study utilized 85 observations derived from 17 companies over a five-year research period. The sampling technique used was non-probability sampling with a purposive sampling method.

To analyze the influence of the independent variables on the dependent variable, this study employed classical assumption tests and panel data regression analysis using the Common Effect Model (CEM).

Table 1. Sample Selection Criteria

No.	Description	Total
1	Construction companies listed on the Indonesia Stock Exchange consecutively during the 2019–2023 period	29
2	Construction companies that did not publish audited financial statements on the Indonesia Stock Exchange consecutively during the 2019–2023 period	(8)
3	Companies that used reporting currencies other than Indonesian Rupiah	(0)
4	Companies that did not have complete data required to measure Financial Stability, Nature of Industry, Change in Auditor, and fraudulent financial reporting during the 2019–2023 period	(0)
5	Outlier data	(4)
	Total companies meeting the criteria	17
	Research period (2019–2023)	5 y
	Total research sample observations	85

Descriptive analysis was used to describe and analyze each variable examined in this study, namely financial stability, nature of industry, change in auditor, and fraudulent financial reporting. Furthermore, the verification analysis was conducted using panel data regression with the assistance of EViews 12 software.

Table 2. Operasionalization of Variables

Variable	Measurement
Dependent Variable	
Fraudulent Financial Reporting	*Beneish Ratio Index* *M score* = −4,84 + (0,92×DSRI) + (0,528×GMI)+ (0,404×AQI) + (0,892×SGI) + (0,115×DEPI)+ (0,172×SGAI) + (0,372×LVGI)+(4,679×TATA) [21]
Independent Variables (Fraud Triangle)	
A proxy for pressure is financial stability	Financial stability is proxied by the total asset growth ratio : ACHANGE = $\frac{Total\ Assets_t - Total\ Assets_{t-1}}{Total\ Assets_{t-1}}$ [22]
A proxy for opportunity is Nature of Industry	RECEIVABLE = (Account Receivable$_t$ / Sales$_t$) - (Account Receivable$_{t-1}$ / Sales$_{t-1}$) [22]
A proxy for rationalization is a change in auditors	AUDCHANGE = A value of 1 is assigned to companies that changed auditors, and a value of 0 to companies that did not change auditors during the study period. [22]

4 RESULTS AND DISCUSSION

4.1 Results of Panel Data Regression Model Selection

Several tests can be conducted to determine the most appropriate panel data regression model, namely the Chow Test, Hausman Test, and Lagrange Multiplier Test.

1. Chow Test
   The Chow test is used to determine whether the Common Effect Model or the Fixed Effect Model is more appropriate for estimating panel data. The test was conducted using the EViews software.

Table 3. Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.351438	(16,65)	0.9885
Cross-section Chi-square	7.052348	16	0.9722

Based on the results of the Chow test in Table 3, the probability value of the cross-section chi-square is 0.9722 > 0.05; therefore, H_0 is accepted. Accordingly, the selected model is the Common Effect Model, and the analysis is continued with the Hausman test.

2. Hausman Test
   The Hausman test is used to determine whether the Fixed Effect Model or the Random Effect Model is the most appropriate model for estimating panel data. The test was conducted using the EViews software.

Table 4. Hausman test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.672406	3	0.8797

Based on the results of the Hausman test in Table 4, the probability value of the cross-section is 0.8797 > 0.05; therefore, H_0 is accepted. Accordingly, the selected model is the Random Effect Model, and the analysis is continued with the Lagrange Multiplier test.

3. Lagrange Multiplier Test
   The Lagrange Multiplier test is used to determine whether the Common Effect Model or the Random Effect Model is the most appropriate model for estimating panel data. The test was conducted using the EViews software.

Table 5. Lagrange Multiplier Multiplier Test Results

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	3.829393 (0.0504)	0.735557 (0.3911)	4.564950 (0.0326)
Honda	-1.956884 (0.9748)	-0.857646 (0.8045)	-1.990173 (0.9767)
King-Wu	-1.956884 (0.9748)	-0.857646 (0.8045)	-1.642247 (0.9497)
Standardized Honda	-1.863652 (0.9688)	-0.601461 (0.7262)	-5.792439 (1.0000)
Standardized King-Wu	-1.863652 (0.9688)	-0.601461 (0.7262)	-4.857629 (1.0000)
Gourieroux, et al.*	--	--	0.000000 (1.0000)

Based on the results of the Lagrange Multiplier test in Table 5, the probability value of the cross-section is 0.0504 > 0.05; therefore, H_0 is accepted and H_1 is rejected. Accordingly, the selected model is the Common Effect Model. Based on the results of the Chow test, Hausman test, and Lagrange Multiplier test, the best model used in this study is the Common Effect Model.

4.2 Results of Classical Assumption Tests

Classical assumption tests are conducted to ensure that the regression equation obtained is appropriate and fulfills the criteria of the Best Linear Unbiased Estimator (BLUE). The classical assumption tests carried out in this study include the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test.

4.3 Normality Test

The normality test is conducted to determine whether the data are normally distributed. In this study, the Jarque–Bera (JB) method is used to test the normality of the data.

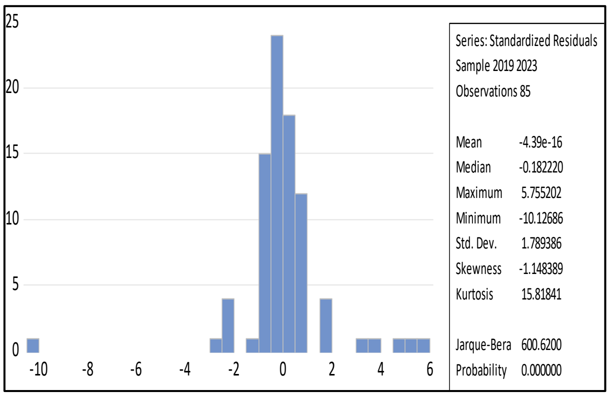

Figure 2. Normality Test

Based on Figure 2, it can be seen that the Jarque–Bera test value is 600.62 > 2 and the probability value is 0.00 < 0.05. Based on the results of the normality test, the data appear to be not normally distributed because the significance level is lower than the alpha value of 0.05. However, based on the Central Limit Theorem, for large sample sizes, particularly when n is greater than 30, the data can be assumed to be normally distributed (Dielman, 1961). In this study, the number of observations is 340; therefore, the data are considered to be normally distributed.

4.4 Multicollinearity Test

A regression model is considered good if there is no correlation among the independent variables. The assessment criterion is that if the value is < 0.80, the data are free from multicollinearity. However, if the value is > 0.80, the data indicate a multicollinearity problem.
The following are the test results obtained using the EViews program, as observed from the R-Squared (R^2) values.

Table 6. Multicollinearity Test Results Using R-Squared Value

R-squared	0.094286	Mean dependent var	-2.177059
Adjusted R-squared	0.060741	S.D. dependent var	1.880219
S.E. of regression	1.822222	Akaike info criterion	4.083905
Sum squared resid	268.9598	Schwarz criterion	4.198854
Log likelihood	-169.5660	Hannan-Quinn criter.	4.130141
F-statistic	2.810722	Durbin-Watson stat	2.214363
Prob(F-statistic)	0.044579		

Based on the table, the test results for the correlation coefficient show an R-Squared value of 0.094, which is below 0.80. Therefore, it can be concluded that multicollinearity does not occur.

4.5 Heteroskedasticity Test

The heteroskedasticity test is used to examine whether there is inequality in the variance of residuals from one observation to another in the regression model. A good regression model should not exhibit heteroskedasticity. The test is conducted using the EViews program, where the probability result is considered significant if the significance value is above the 0.05 (5%) significance level. The basis for decision making is as follows:

H0 = No heteroskedasticity occurs if the probability significance value > 0.05
H1 = Heteroskedasticity occurs if the probability significance value < 0.05

The following are the results of the heteroskedasticity test using the Glejser test:

Table 7. Heteroskedasticity Test Results

Dependent Variable: ABS_RESID
Method: Panel Least Squares
Date: 03/04/26 Time: 20:0
Sample: 2019 2023
Periods included: 5
Cross-sections included: 17
Total panel (balanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.488933	0.364813	4.081356	0.0001
X1	0.221079	0.256164	-0.863038	0.3902
X2	-0.010961	0.290439	-0.037738	0.9700
X3	0.077699	0.571954	0.135848	0.8922
X4	0.296831	0.728184	0.407631	0.6844

Based on the test results of the correlation coefficients shown in the table, the probability values for X1 are 0.3902, X2 are 0.9700, X3 are 0.8922, and X4 are 0.6844. These probability values are greater than 0.05, indicating that H0 is accepted. This means that heteroskedasticity does not occur in the model.

4.6 Autocorrelation Test

To detect whether autocorrelation exists or not, the Durbin-Watson (DW) test is used. The following are the results of the Durbin-Watson (DW) test:

Table 8. Durbin-Watson (DW) Test Results

Dependent Variable: Y
Method: Panel Least Squares
Date: 03/04/26 Time: 20:19
Sample: 2019 2023
Periods included: 5
Cross-sections included: 17
Total panel (balanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.773735	1.124111	-0.688308	0.4932
X2	1.806621	0.749004	2.412031	0.0181
X3	-0.456213	0.411200	-1.109467	0.2705
C	-2.028756	0.252349	-8.039484	0.0000

R-squared	0.094286	Mean dependent var	-2.177059
Adjusted R-squared	0.060741	S.D. dependent var	1.880219
S.E. of regression	1.822222	Akaike info criterion	4.083905
Sum squared resid	268.9598	Schwarz criterion	4.198854
Log likelihood	-169.5660	Hannan-Quinn criter.	4.130141
F-statistic	2.810722	Durbin-Watson stat	2.214363
Prob(F-statistic)	0.044579		

Based on the data in the table, the results are as follows:

- Durbin-Watson value = 2.214
- Number of samples = 85
- Error level = 5% (0.05)
- Durbin-Watson table value (DL) = 1.5505 and (DU) = 1.7470
- 4 – DL = 2.4495
- 4 – DU = 2.2530

Positive autocorrelation	Inconclusive	No autocorrelation	Inconclusive	Negative autocorrelation

0 DL DU 4-DU 4-DL 4

1,5505 1,7470 2,2530 2,4495

2,214

Figure 3. Durbin–Watson Test

Based on Figure 3, the Durbin–Watson calculation is in the position DU < DW < 4 – DU. Therefore, in this model there is no positive or negative autocorrelation**.**

4.7 Partial Test Results (t-test)

The t-test is used to examine the probability and influence of independent variables on the dependent variable, with a significance level of 0.05. The t-test hypotheses are formulated as follows:

1. Financial Stability
   H0 : b1 = 0 Financial Stability has no effect on Financial Statement Fraud.
   H1 : b1 > 0 Financial Stability has a positive effect on Financial Statement Fraud.

2. Nature of Industry
   H0 : b2 = 0 Nature of Industry has no effect on Financial Statement Fraud.
   H2 : b2 > 0 Nature of Industry has a positive effect on Financial Statement Fraud.

3. Change in Auditor
   H0 : b3 = 0 Change in Auditor has no effect on Financial Statement Fraud.
   H3 : b3 > 0 Change in Auditor has a positive effect on Financial Statement Fraud

Table 9. Partial Test Results (t-test)

Dependent Variable: Y
Method: Panel Least Squares
Date: 03/04/26 Time: 20:19
Sample: 2019 2023
Periods included: 5
Cross-sections included: 17
Total panel (balanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.773735	1.124111	-0.688308	0.4932
X2	1.806621	0.749004	2.412031	0.0181
X3	-0.456213	0.411200	-1.109467	0.2705
C	-2.028756	0.252349	-8.039484	0.0000

R-squared	0.094286	Mean dependent var	-2.177059
Adjusted R-squared	0.060741	S.D. dependent var	1.880219
S.E. of regression	1.822222	Akaike info criterion	4.083905
Sum squared resid	268.9598	Schwarz criterion	4.198854
Log likelihood	-169.5660	Hannan-Quinn criter.	4.130141
F-statistic	2.810722	Durbin-Watson stat	2.214363
Prob(F-statistic)	0.044579		

The effect of independent variables on the dependent variable partially is as follows:

1. The results of the t-test for the Financial Stability (X1) variable show that the t-count value is -0.6883, which is smaller than the t-table value of 1.662 (-0.6883 < 1.662). The probability value is 0.4932, which is greater than the significance level of 0.05 (0.4932 > 0.05), with a coefficient value of -0.7737. Therefore, H0 is accepted and H1 is rejected.
2. The results of the t-test for the Nature of Industry (X2) variable show that the t-count value is 2.412, which is greater than the t-table value of 1.662 (2.412 > 1.662). The probability value is 0.0181, which is smaller than the significance level of 0.05 (0.0181 < 0.05), with a coefficient value of 1.806. Therefore, H0 is rejected and H2 is accepted.
3. The results of the t-test for the Change in Auditor (X3) variable show that the t-count value is -0.109, which is smaller than the t-table value of 1.662 (-0.109 < 1.662). The probability value is 0.2705, which is greater than the significance level of 0.05

(0.2705 > 0.05), with a coefficient value of -0.456. Therefore, H0 is accepted and H3 is rejected.

4.8 Statistik F Results (F test)

The F-test is conducted to determine whether the independent variables simultaneously influence the dependent variable. The hypothesis for the F-test is formulated as follows:
H0: There is no simultaneous effect of Financial Stability, Nature of Industry, and Change in Auditor on Financial Statement Fraud.

Table 10. Simultaneous Test Results (F test)

Dependent Variable: Y
Method: Panel Least Squares
Date: 03/04/26 Time: 20:19
Sample: 2019 2023
Periods included: 5
Cross-sections included: 17
Total panel (balanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.773735	1.124111	-0.688308	0.4932
X2	1.806621	0.749004	2.412031	0.0181
X3	-0.456213	0.411200	-1.109467	0.2705
C	-2.028756	0.252349	-8.039484	0.0000

R-squared	0.094286	Mean dependent var	-2.177059
Adjusted R-squared	0.060741	S.D. dependent var	1.880219
S.E. of regression	1.822222	Akaike info criterion	4.083905
Sum squared resid	268.9598	Schwarz criterion	4.198854
Log likelihood	-169.5660	Hannan-Quinn criter.	4.130141
F-statistic	2.810722	Durbin-Watson stat	2.214363
Prob(F-statistic)	0.044579		

Based on Table 10, the F-statistic value is 2.810 and the F-table value is 2.32. The F-statistic is greater than the F-table (2.810 > 2.32), and the probability value is 0.0445, which is smaller than the significance level of 0.05 (0.0445 < 0.05). Therefore, H0 is rejected. This indicates that Financial Stability, Nature of Industry, and Change in Auditor simultaneously have a significant effect on Financial Statement Fraud.

4.9 Coefficient of Determination Test (R²)

The value of the coefficient of determination ranges between 0 and 1. Based on the classification of correlation coefficients, a value of 0.00–0.20 indicates a very low correlation, 0.21–0.40 indicates a low correlation, 0.41–0.60 indicates a moderate correlation, 0.61–0.80 indicates a high correlation, and > 0.80 indicates a very high correlation.

Table 11. Results of Determination Analysis

Dependent Variable: Y
Method: Panel Least Squares
Date: 03/04/26 Time: 20:19
Sample: 2019 2023
Periods included: 5
Cross-sections included: 17
Total panel (balanced) observations: 85

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1	-0.773735	1.124111	-0.688308	0.4932
X2	1.806621	0.749004	2.412031	0.0181
X3	-0.456213	0.411200	-1.109467	0.2705
C	-2.028756	0.252349	-8.039484	0.0000

R-squared	0.094286	Mean dependent var	-2.177059
Adjusted R-squared	0.060741	S.D. dependent var	1.880219
S.E. of regression	1.822222	Akaike info criterion	4.083905
Sum squared resid	268.9598	Schwarz criterion	4.198854
Log likelihood	-169.5660	Hannan-Quinn criter.	4.130141
F-statistic	2.810722	Durbin-Watson stat	2.214363
Prob(F-statistic)	0.044579		

The R-square value is 0.094 or 9.4%, indicating that the influence of Financial Stability, Nature of Industry, and Change in Auditor on financial statement fraud has a very low correlation, while the remaining 90.6% is influenced by other factors not examined in this study.

Based on previous studies, other factors that may influence financial statement fraud include financial target and audit opinion[5], effective monitoring [6], ineffective monitoring [17], and the frequent number of CEO's pictures [17].

4.10 Descriptive Analysis

Table 11. Descriptive Statistics

	X1	X2	X3	Y
Mean	-0.01	0.02	0.29	-2.30
Maximum	0.22	0.19	1	-0.90
Minimum	0.13	-0.09	0	-3.05

Based on Table 11, the descriptive statistics indicate that there are four variables examined in this study, namely financial stability, nature of industry, change in auditor, and financial statement fraud, with a total sample of 85 derived from 17 companies over a five-year period and a total of 340 observational data points.

4.11 Verification Analysis

Verification analysis is used to determine the magnitude of the influence between independent variables and the dependent variable, both simultaneously and partially. This analysis was conducted to answer research questions number two to five using panel data regression analysis through the EViews 12 program.

1. Based on the research results, the magnitude of the simultaneous influence of the independent variables on the dependent variable can be seen from the F-statistic value of 2.810 and the F-table value of 2.32. Thus, it can be concluded that the F-statistic is greater than the F-table (2.810 > 2.32). The probability value of F is 0.044, which is smaller than the significance level of 0.05 (0.044 < 0.05); therefore, H0 is rejected. This indicates that simultaneously the variables financial stability, nature of industry, and change in auditor influence financial statement fraud. This finding also confirms that there is a significant relationship between the independent and dependent variables in this model.

2. Based on the research results, the partial influence of the independent variables on the dependent

variable can be seen from the t-test results for the Financial Stability (X1) variable. The t-statistic value is -0.6883, which is smaller than the t-table value of 1.662 (-0.6883 < 1.662). The probability value is 0.4932, which is greater than the significance level of 0.05 (0.4932 > 0.05), and the coefficient value is -0.7737. Therefore, H0 is accepted and H1 is rejected. This indicates that financial stability does not have a significant effect on financial statement fraud. The results of this study are consistent with the findings of Abrori [9], which conclude that the financial stability variable does not influence the detection of fraudulent financial reporting. Companies with effective supervision and monitoring by the board of commissioners over management's actions in carrying out their business responsibilities may prevent financial statement fraud even when the company experiences financial instability. These findings are also consistent with previous studies conducted by Yanti and Riharjo [10], Sunardi and Amin [11], Manurung and Hardika [12]. In the fraud triangle theory, financial stability is associated with the pressure element, where companies experiencing financial difficulties or instability may feel pressured to commit fraud in an attempt to improve their condition. However, although higher total assets may indicate greater wealth and better financial stability, the results of this study indicate that higher total assets do not affect financial statement fraud (SAS No. 99). Even with rapid asset growth, not all companies with good financial stability will engage in fraudulent activities. Some companies may have strong internal control systems or stricter supervision that reduces the likelihood of fraud.

3. Based on the research results, the partial influence of the independent variables on the dependent variable can be seen from the t-test results for the Nature of Industry (X2) variable. The t-statistic value is 2.412, which is greater than the t-table value of 1.662 (2.412 > 1.662). The probability value is 0.0181, which is smaller than 0.05 (0.0181 < 0.05), and the coefficient value is 1.806. Therefore, H0 is rejected and H2 is accepted. This indicates that partially, nature of industry has a positive effect on financial statement fraud. In the Fraud Triangle Theory as stated in SAS No. 99, nature of industry is a proxy for opportunity and is related to the company's internal control mechanisms. It refers to specific characteristics of an industry that may influence the opportunity for fraud to occur in financial statements. The findings of Aprilia and Furqani [17] rilshow that nature of industry has a positive effect on the detection of fraudulent financial reporting, meaning that the higher the ratio of changes in receivables in a company, the greater the potential for financial statement fraud. These findings are consistent with the study by Abrori [9], which shows that nature of industry, measured by the ratio of receivables to sales, influences the detection of fraudulent financial reporting. Companies with continuously increasing receivables may indicate that the company's cash flow turnover is not in good condition. Limited cash availability can affect the financing of operational activities and may encourage management to manipulate financial statements.

4. Based on the research results, the partial influence of the independent variables on the dependent variable can be seen from the t-test results for the Change in Auditor (X3) variable. The t-statistic value is -0.109, which is smaller than the t-table value of 1.662 (-0.109 < 1.662). The probability value is 0.2705, which is greater than 0.05 (0.2705 > 0.05), and the coefficient value is -0.456. Therefore, H0 is accepted and H3 is rejected. This indicates that partially, change in auditor does not affect financial statement fraud and has a negative relationship. This finding suggests that auditor rotation does not influence financial statement fraud, which may be caused by several factors. In the context of fraud triangle theory, change in auditor is used as a proxy for rationalization. Auditor rotation alone is not sufficient to prevent or detect fraud if the company's internal controls are weak and there are no substantial changes in corporate policies or culture. Therefore, although auditor rotation may serve as a form of rationalization, it may not be effective in reducing financial statement fraud if other factors are not addressed. The results of this study are consistent with the findings of Herdiana and Sari [6], which explain that companies may change auditors in order to comply with regulations. Law No. 5 of 2022 concerning Public Accountants states in Article 11 paragraph (1) that a public accountant or external auditor is limited to a maximum of five consecutive financial years in providing audit services for historical financial information of an entity. Similarly, the results of Abrori [9] indicate that change in auditor does not influence financial statement fraud. Companies do not change auditors to eliminate traces of fraud committed by previous auditors. Instead, companies usually change auditors when the performance of the previous auditor is considered unsatisfactory. Companies tend to seek auditors with higher quality to ensure that the audit results are also of higher quality.

These findings are also consistent with studies conducted by Sunardi and Amin [11] and Apriliana and Agustina [7], which found that change in auditor does not affect the detection of fraudulent financial reporting.

5 CONCLUSION

Based on the research results described in the previous chapter, the findings regarding the influence of financial stability, nature of industry, and change in auditor on financial statement fraud in construction companies listed on the Indonesia Stock Exchange during the 2019–2023 period can be summarized as follows:

1. The variables financial stability, nature of industry, and change in auditor simultaneously influence financial statement fraud. The conditions of financial stability, nature of industry, change in auditor, and financial statement fraud in construction companies listed on the Indonesia Stock Exchange during the 2019–2023 period are as follows:
   a. The results of data processing show that, on average, financial stability indicates that the companies' financial stability conditions are very low.
   b. The results of data processing show that, on average, nature of industry indicates that the construction industry has a very low potential for financial statement fraud, although opportunities still exist.
   c. The results of data processing show that, on average, change in auditor indicates that several companies experienced auditor changes during the period.
2. Financial stability in construction companies listed on the Indonesia Stock Exchange during the 2019–2023 period is concluded to have no effect on financial statement fraud.
3. Nature of industry in construction companies listed on the Indonesia Stock Exchange during the 2019–2023 period is concluded to have a positive effect on financial statement fraud.
4. Change in auditor in construction companies listed on the Indonesia Stock Exchange during the 2019–2023 period is concluded to have no effect on financial statement fraud.

6 RECOMMENDATIONS

The results of this study indicate that the variables under investigation exhibit a very low correlation. Therefore, future researchers may wish to add or refine the measurement of the variables studied. It is possible that the variables tested in this study are not sufficiently representative or do not fully measure aspects relevant to financial statement fraud. Future researchers may include additional variables more closely related to fraud, such as internal control, corporate governance, external pressure, leadership style, or performance incentives.

Furthermore, subsequent studies are expected to broaden the scope and extend the observation period, not only focusing on construction companies listed on the Indonesia Stock Exchange but also encompassing other industry sectors and longer time horizons. The application of more advanced and diverse analytical techniques, along with the inclusion of moderating or mediating variables, is also recommended to provide a more nuanced and in-depth understanding of the determinants of financial statement fraud.

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