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The Effect Of Financial Distress And Information Technology On Financial Statement Fraud With Corporate Governance As A Moderating Variable

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Abstract

This study investigates the influence of financial distress and information technology on financial statement fraud, examining the moderating role of corporate governance. Analyzing secondary data from audited annual reports of State-Owned Enterprises (BUMN) listed on the Indonesia Stock Exchange (IDX) from 2021 to 2024, the study employs panel data regression via EViews10. The findings indicate that financial distress significantly increases the likelihood of financial statement fraud, and this relationship is attenuated by effective corporate governance. Furthermore, information technology is found to positively influence fraudulent reporting practices; however, corporate governance does not significantly moderate this specific effect. These results underscore corporate governance's crucial role as a strategic safeguard against financial statement manipulation, particularly during periods of heightened financial distress. The study suggests that strengthening governance frameworks can effectively mitigate the escalation of fraudulent financial behavior.

Keywords: Financial Statement Fraud; Financial Distress; Information Technology; Corporate Governance; State-Owned Enterprises (BUMN)

JEL Classification Numbers: M4, M42, M48

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INTRODUCTION

Financial statement fraud is a serious problem in the economy, as seen from cases such as Enron and WorldCom in the United States. In Indonesia, in 2023, PT Indofarma Tbk was involved in a financial statement manipulation scandal by recording fictitious income and hiding financial liabilities. The audit conducted by KAP Hendrawinata Hanny Erwin & Sumargo uncovered material misstatements within PT Indofarma's financial reports, which resulted in a distorted portrayal of the company's actual financial position. This situation largely stems from a breakdown in internal oversight mechanisms, particularly on the part of the Board of Commissioners and Directors, whose failure to exercise effective supervisory functions facilitated the occurrence of such irregularities. In response, there is a pressing need for PT Indofarma to reinforce its internal control framework. The integration of emerging technologies, such as Artificial Intelligence for anomaly detection and blockchain for enhanced data integrity.

Another case is PT Asabri (Persero) in 2021, where there were allegations of corruption in the management of investment funds. The directors involved allegedly manipulated the share price to improve the company's performance, harming PT Asabri's investment and the state by IDR 22.7 trillion. This shows the need to improve the governance of SOEs so that they can contribute better to the state.

Financial reports are very important to describe the state of a company, and managers are encouraged to present reports well, which can risk fraud. Fraud leads to false and misleading information for users. Consequently, it is essential for independent auditors affiliated with Public

Accounting Firms registered in Indonesia to undertake a thorough assessment of the risk of material misstatement within financial statements.

Independent auditors use audit procedures from IAI to evaluate evidence and convey results to interested parties. Auditing standards assert that the chief aim of an audit is to provide reasonable assurance that financial statements are free from material misstatements, including those stemming from fraud. As defined by ACFE, fraud entails the willful exploitation of one's role or authority for personal gain, generally manifesting in three forms: asset misappropriation, fraudulent reporting, and corruption. Among these, financial statement fraud is frequently characterized by deliberate manipulations intended to mislead stakeholders and distort the true economic condition of an entity, thereby compromising the integrity of financial information.

The practice of financial statement manipulation in Indonesia indicates a risk that, if not addressed, could harm companies and stakeholders, as well as reduce corporate integrity globally. In light of this, further academic inquiry is warranted to explore the foundational conditions that may foster financial statement fraud, with financial distress recognized as a salient factor that may significantly elevate the likelihood of such unethical practices.

Financial distress refers to a condition in which a company encounters significant challenges in fulfilling its financial commitments, often signaling underlying instability in its operational or liquidity position. To prevent and detect financial distress, companies need to implement information technology and corporate governance mechanisms properly. Information technology helps in processing data to produce relevant and accurate information. However, poor use of information technology can lead to errors and fraudulent financial statements.

Corporate governance, in its essential function, operates as a comprehensive framework through which the alignment and regulation of stakeholder relationships are orchestrated in order to ensure the systematic advancement of institutional objectives. Beyond its administrative role, it constitutes a crucial safeguard against the emergence of financial adversity, wherein lapses or inefficiencies within the governance structure may give rise to conditions of financial distress that compromise organizational integrity. Against this conceptual backdrop, the present inquiry situates corporate governance not merely as a passive institutional feature, but as a dynamic moderating construct, one that holds the potential to either exacerbate or mitigate the influence exerted by financial distress and technological systems on the likelihood of financial statement fraud.

This study addresses the critical issue of financial statement fraud, a phenomenon that not only harms investors but also threatens the stability of capital markets. In Indonesia, the risk of fraud in state-owned enterprises (SOEs) has significant macroeconomic implications given the strategic role of SOEs in the national economy. This phenomenon becomes even more relevant in the post-COVID-19 pandemic context (2021-2024), where many entities face economic pressures and accelerated adoption of information technology.

Expanding on the investigation by Ariyanto (2021) concerning the impact of financial distress on earnings management through classification shifting and the moderating role of corporate governance, this study focuses on firms within the property, real estate, and construction sectors listed on the Indonesia Stock Exchange from 2015 to 2019. The results indicate a significant correlation between financial distress and earnings management activities, further underscored by the audit committee's role in amplifying this relationship. Earnings management and the audit committee serve as key indicators representing the dependent and moderating variables, respectively. These results suggest that adverse financial conditions may incentivize management to engage in fraudulent practices, highlighting that corporate governance in Indonesia often functions merely as compliance with minimal legal standards, thereby proving insufficient to effectively deter financial statement fraud. This result consistent with the pressure element in the Fraud Triangle theory (Cressey, 1953)

This study draws on the foundation laid by Ariyanto (2021), with a notable distinction in its focus on state-owned enterprises spanning the years 2021 to 2024. Furthermore, it differentiates itself by employing a fraud score approach to measure financial statement fraud, offering a nuanced method not utilized in the earlier research.

LITERATURE REVIEW

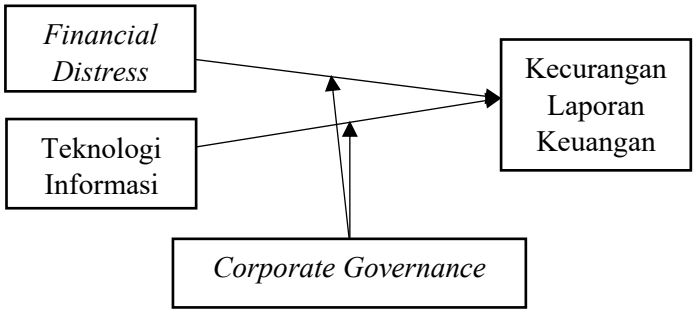
Agency Theory

The definition of agency theory proposed by Jensen and Meckeling (1976) is a contract between an agent and a principal that is made so that the contractual relationship can run smoothly. According to Jensen and Meckeling (1976), an agency relationship is a contract between one or more stakeholders or principals who hire an agent to perform services by giving the agent the authority to make decisions. In agency theory, there is authority regarding the separation of ownership between the agent and the principal. Therefore, this separation of ownership causes conflicts of interest between the agent and the principal.

The problem of conflicting interests between agents and principals must be resolved immediately so that the interests of the principals can be fulfilled, whereby the agents must contribute significantly to achieve these objectives. This asymmetry of information allows for the deliberate falsification of financial reports by agents acting as the company's financial report preparers. The existence of adverse company conditions or financial distress and the ineffective use of information technology in companies can trigger fraud by agents. This conflict should be prevented by principals through control and monitoring of agents so that deviations in company operations can be reduced.

The implementation of good corporate governance within a company can prevent the company from experiencing financial distress and can control the effective use of information technology within the company. There are four corporate governance mechanisms: managerial ownership, institutional ownership, independent boards of commissioners, and audit committees. Corporate governance mechanisms can control actions that trigger fraud. The higher the corporate governance mechanism, the greater the oversight of company operations.

The independent variables in this study are financial distress and information technology. The dependent variable in this study is financial statement fraud. The researcher also uses a moderating variable, namely corporate governance. The theoretical framework in this study can be illustrated by the following model:



Picture 1. Conceptual Framework

METHODS

The study conducted by the researcher is quantitative. According to Hermawan (2019), quantitative methods use objective data, and statistical analysis. For this research, a population and sample are needed. The population is the entire group to be analyzed, while the sample is part of the population (Sekaran & Bougie, 2018). The study utilizes panel data regression techniques to analyze the effects of financial distress and information technology on the incidence of financial statement fraud, complemented by Moderated Regression Analysis (MRA) to evaluate the role of moderating variables within the model.

The population of this study comprises secondary data drawn from SOEs listed on the Indonesia Stock Exchange between 2021 and 2024. Employing a purposive sampling strategy, a carefully selected subset of these entities serves as the basis for analysis. The research relies on

secondary sources, namely the audited annual reports of the SOEs, accessed through official corporate websites and the Indonesia Stock Exchange's designated portal. Data collection is carried out using systematic documentation methods.

Dependent variable of this research is fraudulent financial statement. Researchers use the F-Score model to test the detection of fraudulent financial reporting (FFR). In research conducted by Skousen and Twedt (2009), the F-Score model can be formulated as follows:

$$F\text{-}Score = Accrual\ Quality + Financial\ Performance$$

Independent variable of this research is financial distress. Researchers use the debt to equity ratio (DER) proxy, namely the proportion of debt in a company's capital to measure financial distress variables. And another independent variable is information technology. Measurement in this study uses dummy variables with a value of 1 for companies that have an information technology personnel division and a value of 0 for companies that do not have an information technology personnel division.

Author also used moderating variable to weaken or strengthen the independent variable to dependent variable use corporate governance. This study operationalizes Corporate Governance by employing CFA to extract factor loadings from historical datasets, which serve as weights applied to individual measurement indicators from the mechanism measured.

1. Institutional Ownership

According to Muharam (2012), institutional ownership is the shares owned by institutions out of all outstanding shares. It is formulated as follows:

$$\text{Institusional Ownership} = \frac{Institutional\ Ownership}{Outstanding\ Shares}\ x\ 100\%$$

2. Managerial Ownership

According to Setiawan (2017), it is the proportion of shares owned by management out of the total number of shares in the company, so it can be formulated as follows:

$$\text{Manajerial Ownership} = \frac{Managerial\ Ownership}{Outstanding\ Shares}\ x\ 100\%$$

3. Independent Board of Commissioners

Independent commissioners are members of the board of commissioners who are not affiliated with management and are free from relationships that could influence their ability to act independently (KNKG, 2006). The independent board of commissioners is formulated as follows:

$$\text{Independen Board of Commissioners} = \frac{Independent\ Commissioners}{Board\ of\ Commissioners}\ x\ 100\%$$

4. Board of Directors

The board of directors is measured by the number of board members in the company.

5. Audit Committee

According to KNKG (2006), the audit committee is a committee selected by the board of commissioners to assist in supervising and controlling the company internally. The audit committee is measured by the frequency of audit committee meetings in one period.

The weighted metrics, encompassing institutional ownership, managerial ownership, the independent board of commissioners, the board of directors, and the audit committee, are meticulously combined to yield an all-encompassing measure of Corporate Governance.

Equations

Hypothesis testing in this study employs panel data regression, a method that assesses relationships between variables across samples observed over multiple time periods. By integrating cross-sectional and time-series data, panel regression enhances the robustness and precision of the

analysis compared to utilizing either data type alone. Additionally, MRA is applied to evaluate whether the moderating variable influences the strength or direction of the relationship between independent and dependent variables (Ghozali, 2013). Here, Corporate Governance serves as the moderating factor. Thus, the panel data moderation regression equation in this study is formulated as follows:

$$Y = \alpha + \beta 1X1 + \beta 1X2 + \beta 2X1 * Z + \beta 2X2 * Z + e$$

Description:
Y = Financial statement fraud variable
X1 = Financial distress variable
X2 = Information technology variable
Z = CG variable (moderating variable)

Results and Discussion

The test results obtained from the annual financial statements of BUMN listed on the IDX during the 2021-2024 period and the sample has met the predetermined criteria. The results of the analysis can be seen in table 1.

Table 1 Descriptive Statistical Data Analysis

	Y	X1	X2	M
Mean	6.98E+10	1.970313	1.502188	2.002187
Median	-120231.0	1.910000	1.470000	1.975000
Maximum	1.52E+12	5.100000	1.920000	2.730000
Minimum	-8.94E+11	0.480000	1.200000	1.510000
Std. Dev.	4.30E+11	1.119048	0.215223	0.318380
Skewness	1.243514	1.327190	0.347271	0.399696
Kurtosis	7.088784	4.262772	1.940676	2.446279
Jarque-Bera	30.53795	11.52043	2.139408	1.260847
Probability	0.000000	0.003150	0.343110	0.532366
Sum	2.23E+12	63.05000	48.07000	64.07000
Sum Sq. Dev.	5.72E+24	38.82030	1.435947	3.142347
Observations	32	32	32	32

Source : Output Eviews 10, 2025

Based on table 1, the descriptive statistical results are explained as follows:
1. From the results of the F-Score grouping, the average company that is indicated to have committed financial statement fraud is very much with a mean of 6.98 of the total number of companies.
2. The average value of 1.97 > 1 states that the level of debt in a company is greater than its equity so that the less likely the company can pay its short-term debt which causes the company to experience financial distress.
3. The average value of 1.502 > states that the average company already has an information technology division.
4. The standard deviation value of 3 indicates that there is a variation in good corporate governance data which is quite heterogeneous between one company and another. The positive average value

indicates that overall the corporate governance of the company that is used as the object of research is good.

Chow Test (Likelihood Test Ratio)

Chow test results are carried out to select the right model. The processing results for the Chow test can be seen in the following table:

Table 2 Chow Test *(Likelihood Test Ratio)*

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.312339	(7,19)	0.0177
Cross-section Chi-square	25.525065	7	0.0006

Source: Output Eviews 10, 2025

The findings from the Chow Test reveal a cross-sectional chi-square p-value of 0.0006, notably beneath the conventional significance level of 0.05. This statistical evidence lends robust support to the proposed hypothesis, thereby affirming the Fixed Effect Model as the fitting and proper specification for the dataset under scrutiny.

Hausman Test

The next test is the Hausman Test. The processing results are shown in the following table:

Table 3 Hausman Test

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	22.191098	5	0.0005

Source: Output Eviews 10, 2025

With a cross-sectional random p-value of 0.0005, falling well below the 0.05 threshold, the hypothesis model gains acceptance, leading to the conclusion that the Fixed Effect Model stands as the most suitable analytical choice.

Simultaneous Significance Test (F Test)

Table 4 Simultaneous Test (F)

R-squared	0.439270	Mean dependent var	6.98E+10
Adjusted R-squared	0.172256	S.D. dependent var	4.30E+11
S.E. of regression	3.91E+11	Akaike info criterion	56.48704
Sum squared resid	3.21E+24	Schwarz criterion	56.99088
Log likelihood	-892.7926	Hannan-Quinn criter.	56.65405
F-statistic	1.645120	Durbin-Watson stat	1.604469
Prob(F-statistic)	0.016521		

Source: Output Eviews 10, 2025

Table 5 Simultaneous Test (F) Moderation

R-squared	0.615510	Mean dependent var	6.98E+10
Adjusted R-squared	0.372673	S.D. dependent var	4.30E+11
S.E. of regression	3.40E+11	Akaike info criterion	56.23472
Sum squared resid	2.20E+24	Schwarz criterion	56.83017
Log likelihood	-886.7555	Hannan-Quinn criter.	56.43209
F-statistic	2.534671	Durbin-Watson stat	2.162700
Prob(F-statistic)	0.034001		

Source : Output Eviews 10, 2025

The F-test results present an F-statistic of 1.645, accompanied by a p-value of 0.0165, which lies beneath the conventional significance level of 0.05. Consequently, the null hypothesis (H_0) is rejected in favor of the alternative, affirming the proposed model's validity and evidencing a meaningful influence of the independent variable upon the dependent variable. Moreover, the moderation F-test yields an F-statistic of 2.534 with a p-value of 0.0340, similarly below the 0.05 threshold, thereby reinforcing the rejection of H_0 and lending support to the hypothesized model. Collectively, these results signify that the moderating variable exerts a substantial effect on the dynamic between the independent and dependent variables, modulating the strength or direction of this relationship.

The findings of the causality test show that there is no Granger causality amongst GDP growth and exports in the two directions for the MENA countries, whereas for the SA countries, a unidirectional causality from economic growth to exports is found.

This study has some limitations. The study results cannot be generalized, because different developing countries, and/or country groups, have different economic features. Furthermore, the model was specified to test the links between only two variables. So, introducing more growth factors may present different results.

Partial Test (t Test)

Drawing upon the data presented in Table 6 below, a more detailed elucidation of the influence exerted by each independent variable upon the dependent variable may be discerned, as outlined herewith.

Table 6 Partial Test (t Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.03E+13	1.42E+13	1.430950	0.1672
X1	-7.78E+11	3.23E+11	-2.405716	0.0254
X2	-2.59E+13	1.86E+13	-1.394873	0.1776
M	1.01E+13	7.11E+12	1.423664	0.1692

Source : Output Eviews 10, 2025

1. The t test between financial distress and corporate financial statement fraud.

From the test results, the estimated coefficient is -5.47 with a statistical t value of -3.178, the p-value of 0.0049 is smaller than 0.05, so H0 is rejected, so it can be concluded that it is proven that financial distress has a negative effect on fraudulent financial statements.

2. The t test between information technology and corporate financial statement fraud.

The test results obtained an estimated coefficient of -3.72 with a statistical t value of -2.111 obtained a p-value of 0.0482 smaller than 0.05, so it can be concluded that it is proven that information technology has a negative effect on fraudulent financial statements.

3. The t test to test Corporate Governance moderates the effect of financial distress on corporate financial statement fraud.

The test results are indicated by the estimated coefficient value of 3.28 with a statistical t-value of 2.74 obtained a p-value of 0.0129 smaller than 0.05. This means that H0 is rejected so it can be concluded that corporate governance strengthens the negative effect of financial distress on financial statement fraud.

4. The t test to test Corporate Governance moderates the effect of information technology on corporate financial statement fraud.

The test results are shown with an estimated coefficient value of -2.48 with a statistical t-value of -0.05, obtained a p-value of 0.9580 greater than 0.05. This means that H0 is accepted so it can be concluded that corporate governance does not weaken the negative effect of information technology on financial statement fraud.

The Effect of Financial Distress on Financial Statement Fraud

The test outcomes indicate that financial distress exerts an inverse relationship with fraudulent financial reporting. Specifically, a lower coefficient value signifies that companies facing greater financial distress are more prone to engaging in financial statement fraud. Conversely, firms experiencing minimal financial distress tend to exhibit a reduced propensity for such deceptive practices.

According to Cashmere (2015) financial distress is a condition of financial difficulty or the company's inability to pay maturing short-term debt caused by several factors. Financial distress also describes the pressure being experienced by the company and motivates management to commit fraudulent financial statements so that the company's performance is in good condition (Ansar, 2014). So that financial distress needs to be considered in detecting fraudulent financial statements.

The results of this study are in line with previous research, namely research (Ariyanto, 2021), (Nugroho et al., 2018), and (Noviandiarini, 2016) that financial distress has a negative effect on financial statement fraud.

The Effect of Information Technology on Financial Statement Fraud

The results demonstrate a negative relationship between information technology presence and fraudulent financial reporting. This suggests that companies lacking a dedicated information technology division exhibit a higher propensity for indications of financial statement fraud.

The results of this study are in line with research conducted by (E. Bastian, 2023) that information technology affects the tendency of accounting fraud. This shows that information technology can pose a risk of data loss or data theft.

The Effect of Financial Distress on Financial Statement Fraud Moderated by Corporate Governance

The empirical evidence reveals that Corporate Governance intensifies the adverse influence of financial distress on the occurrence of financial statement fraud. This finding diverges from the study's original proposition, which anticipated that Corporate Governance would serve to attenuate the detrimental relationship between financial distress and fraudulent reporting.

Corporate governance is a corporate order that describes the relationship between the parties in the company in determining company goals that will influence decision making by agents (Monk and Minow, 2001). Corporate governance plays a role in controlling and directing the course of the company in order to achieve a balance of interests between stakeholders. Proper implementation of corporate governance can improve financial performance and avoid companies experiencing poor financial conditions (financial distress). Based on research conducted by Ariyanto (2021) that the implementation of Corporate Governance strengthens the negative influence.

The effect of information technology on Financial Statement Fraud moderated by Corporate Governance

The results of the t-test indicate that Corporate Governance does not mitigate the negative impact of information technology on financial statement fraud. This outcome contradicts the hypothesis proposed by Ahnan (2020), which suggested that Corporate Governance would diminish the effect of information technology on fraudulent financial reporting.

Conclusion

From the prior analysis, it is evident that financial distress negatively impacts the prevalence of financial statement fraud. This outcome reflects the inability of corporate governance frameworks to sufficiently strengthen monitoring and control functions, resulting in an ineffective barrier against fraudulent practices. Hence, a deficient application of corporate governance is associated with an escalation in the company's financial distress.

Information technology also has a negative effect on fraudulent financial statements. This is the lack of control over the use of information technology by management so that fraudulent financial statements can occur. Information technology can pose a risk of data loss or data theft. But the implementation of good corporate governance does not necessarily increase the risk of fraudulent financial statements.

This is because the risk of data loss or data theft can be caused by hackers so that these events are out of the control of management control.

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