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# The role of financial distress and fraudulent financial reporting: A mediation effect testing

Reskino\* and Aditia Darma



**AFFILIATION:**

Department of Accounting, Faculty of Economics and Business, State Islamic University Syarif Hidayatullah, Banten, Indonesia

**\*CORRESPONDENCE:**

reskino@uinjkt.ac.id

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**Abstract**

**Research aims:** This study examines the determinants of fraudulent financial reporting with financial distress as an intervening agent.

**Design/Methodology/Approach:** The banking companies listed on the Indonesia Stock Exchange (IDX) between 2017 and 2020 comprised the study's population. One hundred-four companies comprised the entire sample, which was chosen using purposive sampling. The approach employed in this study was partial least squares (PLS)-SEM.

**Research findings:** The results of this study found that financial targets and audit quality significantly affected financial distress. Financial distress had a significant effect on fraudulent financial reporting. Financial targets and audit quality had no significant effect on fraudulent financial reporting.

Furthermore, audit quality significantly affected fraudulent financial reporting through financial distress. Financial targets did not significantly influence fraudulent financial reporting through financial distress.

**Theoretical contribution/Originality:** This study provides literature on the role of financial conditions and good corporate governance in preventing fraudulent financial reporting in banking companies. This study can be an insight for practitioners and academics in Indonesia and internationally. Apart from that, this study contributes to the literature on the occurrence of fraudulent financial statements mediated by financial distress, which is not widely discussed, specifically in the context of the banking industry in developing countries.

**Practitioner/Policy implication:** The practical implication in this research is the importance for investors and creditors to be more vigilant and pay attention to corporate governance and financial conditions to reduce errors in decisions based on financial reports. In addition, the strength of good corporate governance indicates that the supervision carried out by management will take the information conveyed to stakeholders free from material misstatement so that the implementation of good corporate governance can prevent fraud.

**Research limitation/Implication:** This study exclusively includes companies in the banking sector listed on the Indonesia Stock Exchange (BEI) between 2017 and 2020. Out of 46 companies, only 26 may be used as research objects according to the purposive sampling method.

**Keywords:** Fraudulent Financial Reporting; Financial Distress; Financial Targets; Audit Quality

## **Introduction**

Fraudulent financial reporting (FFR) is a financial problem currently rife in various countries. The rise in fraud in financial reports led to a decline in confidence in the capital market and indirectly resulted in the company's bankruptcy. The demand for good financial performance encourages a particular company to act as if the company's financial statements are in good condition. There are many ways companies maintain their appearance to look attractive and to outwit stakeholders who need these financial reports (Oktaviany & Reskino, 2023). Various attempts have been made to prevent this, such as implementing a complex system of checks and balances, but perpetrators always find loopholes to do so (Nugroho et al., 2018).

Fraud is a threat to every entity because it has serious impacts (Azizah & Reskino, 2023). A survey conducted by ACFE in 2020 in 114 countries against 2,504 cases found that each year, the losses suffered due to fraud were more than 3.6 billion dollars. Then, the average organization lost 5% of its income each year. Fraudulent financial reporting is the most detrimental type of fraud compared to other types. Based on the ACFE Asia Pacific 2020 report, the sectors with the most fraud cases were experienced by finance and banking, i.e., 37 cases with a percentage of 19%. This finding aligns with the ACFE Indonesia report, which reported that the financial and banking industry was the sector that also experienced the most fraud compared to other sectors, namely 41%. This proves that fraud is not only carried out by a group of people but is also carried out by large organizations to gain profit, avoid obligations, or harm other people financially or otherwise (Reskino et al. 2023)

In Indonesia, the fraud case occurred in a financial sector company, PT Asuransi Jiwasraya, which was revealed in 2020. The Supreme Audit Agency considered that there was an irregularity in the reporting of Jiwasraya's net profit in 2017. The reported net profit of IDR 360.3 billion was deemed to have a deficiency in reserves of IDR 7.7 trillion, so if the reserves are correctly recorded, the company should lose money (Irene, 2020) and (Reskino & Bilkis, 2022). Furthermore, several cases occurred in the banking sector, such as Bank BJB Syariah 2018, which disbursed fictitious loans, causing a loss of IDR 548 billion. Then, the case of the Bank Jateng Jakarta branch in 2018 approved three project loans that were not following the regulations, causing a loss of IDR 229 billion. Next, Bank Bukopin 2018 revised its financial statements for the last three years. The revision was made because of a misstatement of credit card receivables caused by certain modifications and misstatements in Sharia financing/receivables. The above description proves that many fraud cases have occurred in banking sector companies in Indonesia. In fact, banking is an essential sector and the main driving force in economic activity. Hence, it is crucial to pay attention so that fraud can be prevented and eliminated through early detection; thus, the financial reports presented can be trusted by stakeholders and the public in making decisions (Kusumawardhani, 2013).

One of the factors that can detect the occurrence of fraudulent financial reporting is financial distress (Handoko et al., 2020; Mardiana, 2015; Utami & Pusparini, 2019). Management may act unethically to improve the company's financial situation if the

business is in poor financial standing. A similar statement was made by Adi et al. (2018) that management will feel pressure to carry out fraudulent financial reporting when a company experiences financial distress. In addition, Utami and Pusparini (2019) revealed that management would take various ways to avoid financial distress, including conducting fraudulent financial reporting. In line with the statement by the Chairman of BPK, Agung Firman Sampurna, the risks of fraud and integrity increase during economic difficulties (Anggraeni, 2021)

According to Reskino and Anshori (2016), financial targets are also one of the factors that can detect fraudulent financial reporting. The company's profit that reaches the specified target will trigger the attention of investors, causing the company's management to react by committing fraud. The company's management will try to manage its profits so that the profit will still reach the target even by presenting not fair financial reports. Setiawati and Baningrum (2018) asserted that financial targets make managers more ambitious. Any means will be taken to get the proper targets, even by committing fraudulent financial reporting. Manurung and Hadian (2013) also expressed that financial targets positively correlate with fraudulent financial reporting.

Further, Apriliana and Agustina (2017) tested audit quality in detecting fraudulent financial reporting. Audit quality is seen as improving the quality of financial reports. Auditors at Big Four Accounting Firms are considered to have better expertise, so their clients are likely to apply accounting standards correctly and not commit fraudulent financial reporting. In this regard, the auditor acts as a person who audits the company's financial statements and assesses the company's internal control system to prevent fraudulent financial reporting (Manurung and Hadian, 2013). In addition, Ardiyani and Utaminingsih (2015) state that the larger the size of the accounting firms, the better the quality of the audit produced, minimizing the possibility of fraudulent financial reporting.

The main objective of this study is to measure financial distress in mediating the relationship between financial targets, audit quality, and fraudulent financial reporting. Concerning the reason for using mediating variables, according to Baron and Kenny (1986), a variable is called a mediator if the variable influences the relationship between the predictor variable (independent) and the criterion (dependent). In this study, financial distress as a mediating variable is based on the inconsistency of previous research findings, such as research conducted by Andrew et al. (2022); Mardiana (2015); Utami and Pusparini (2019); and Novita et al. (2022), which found that financial distress had a direct relationship to fraudulent financial statements. This finding is corroborated by Aviantara (2023), who found that financial distress possessed a strong relationship with pressure factors; therefore, exit from a financial crisis is one of the best solutions to mitigate financial statement fraud. On the contrary, a study by Christian (2022), which tested the mediating effect, proved that financial distress did not have a mediating effect when trying to explain how ego and capacity factors influenced corporate fraud. The test results demonstrated that having political connections and high financial achievement targets could reduce the possibility of a business experiencing financial problems. Besides, corporations can experience financial distress due to weak oversight and inconsistent implementation of corporate governance. In the end, urgent circumstances will cause

businesspeople to commit corporate fraud to hide conditions where they are experiencing financial problems.

For that reason, this study examines the indirect effect of financial distress between financial targets and audit quality on fraudulent financial reporting. This research is based on the perspective of banking companies in detecting fraudulent financial reporting. The findings of this study will provide valuable insights for Indonesian banking companies in detecting fraud in financial reporting by maintaining the company's financial health and using the Big Four Accounting Firms in examining financial statements. Part of this research addresses this issue by answering empirically whether financial targets and audit quality affect the detection of fraudulent financial reporting through financial distress. Specifically, this study answers whether financial distress plays a role in mediating the relationship between financial targets, audit quality, and fraudulent financial reporting. The supporting objectives are: (1) to examine the effect of financial targets, audit quality, and financial distress on fraudulent financial reporting; (2) to analyze the causes of banking fraud in Indonesia; and (3) to determine preventive measures that will fight banking fraud in Indonesia. The findings of this paper are also compared with similar studies and existing theories in the fraud and theft literature. Hence, this research is expected to minimize decision-making errors by investors and the public. Furthermore, because there is limited published research examining the effect of financial targets and audit quality on fraudulent financial statements, this research is intended to expand the literature with empirical evidence on the role of financial distress in mediating the relationship between financial targets and audit quality on fraudulent financial statements.

## **Literature Review**

### **Agency Theory**

The agency theory proposed by Jensen and Meckling (1976) explains the relationship between owners as principals and management as agents in business organizations. Agency theory has been used in various disciplines to analyze principal-agent problems or organizational governance mechanisms (Bendickson et al., 2016). From the point of view of agency theory development, previous researchers have examined it (Bendickson et al., 2016; Berle & Means, 1932; Fama & Jensen, 1983; Jensen & Meckling, 1976). Agency theory discusses the problems that arise in companies due to the separation between owners and management and emphasizes reducing these problems (Panda & Leepsa, 2017). In addition to the separation of ownership, it is also seen from the perspective of relationships with several capital suppliers (Mehran, 1995). Eisenhardt (1989) also explains how this theory organizes good relations between principals and various parties who run the company as agents. Eisenhardt (1989) mentions agency theory using three basic assumptions of human nature, namely: (1) self-interest, i.e., humans generally attach importance to themselves; (2) bounded rationality, in which humans have limited thinking power regarding future perceptions; and (3) risk averse, namely humans always avoid risks. These three characteristics cause agency problems between principals and

agents. In addition, Chowdhury (2004) reveals several reasons for agency problems, namely: (1) separation of ownership and control; (2) risk preference; (3) engagement duration; (4) limited income; (5) information asymmetry; and (6) moral hazard.

Additionally, the owner wants the company to make a profit, and management makes financial reports under the actual conditions of the company. However, besides being responsible for increasing profits, management is also interested in getting high salaries and bonuses to maximize their welfare. The difference in interests between management and owners causes the information management conveys to owners in the company's financial statements to be asymmetric. Knowledge asymmetry can take the form of manipulation of financial statements. Since owners and other stakeholders use financial reports as a basis for decision-making, they can be wrong or misguided. According to Supriyono (2018), principals maintain relationships to assign agents to make the best decisions by prioritizing company profits to reduce costs. Gudono (2017) also states that agency theory predicts that if the agent has information superiority over the principal, while the interests between the principal and the agent differ, there will be a principal-agent problem where the agent will take actions that benefit him but harm the principal. Expenses that arise due to management actions become agency costs.

The relationship between agency theory and the financial target variable for fraudulent financial reporting is that the shareholders want the company to achieve the financial targets determined together. In other words, the higher the target set, the higher the shareholders' profits. Consequently, it will pressure the manager, so the manager will likely commit fraudulent acts in presenting financial statements.

### **Fraud Pentagon Theory**

Pentagon fraud is a model developed from previous models, namely triangle fraud by Cressey (1953) and diamond fraud by Wolfe and Hermanson (2004). In this model, five factors make fraud happen: pressure, opportunity, rationalization, capability, and arrogance. Pressure drives someone to commit fraud (Abdullahi & Mansor, 2015). At every business level, pressure can affect individuals for various reasons (Albrecht et al. 2008). Numerous studies have demonstrated that although different people may have diverse motivations, economic pressures are a common cause of fraud. Most financial pressures include greed, living beyond one's means, debt, poor credit, losses in one's finances, and failure to reach one's financial expectations (Skousen et al., 2009). In around 95% of fraud cases, pressure plays a role, claim Albrecht et al. (2008).

Furthermore, organizational opportunities significantly impact the perpetrator's decision to commit fraud (Abdullahi et al., 2015). The existence of opportunities causes fraud perpetrators to take advantage of these circumstances (Kelly & Hartley, 2010). If the fraud perpetrator has the strength and ability to assess opportunities due to the lack or inefficiency of the company's internal controls, the individual can do so (Abdullahi et al., 2015). Actors only need to believe and feel opportunities exist (Albrecht et al., 2008). Individual elements, like financial demands and personal issues, are uncontrollable by enterprises; as a result, they can only choose how to respond to these aspects through

insufficient or inadequate controls (Rae & Subramaniam, 2008). If there is an inadequate division of labor, weak internal controls, periodic audits, and the like, these conditions will favor perpetrators to commit fraud (Abdullahi & Mansor, 2015). According to AICPA (2002) in Statement of Auditing Standard No. 99, one of the common conditions for fraud is the opportunity of ineffective supervision in the form of low audit quality.

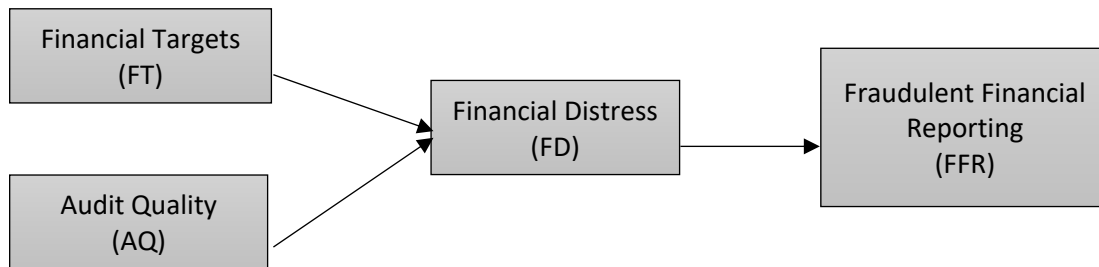
### **Research Gap Related to Fraud Pentagon and Fraudulent Financial Reporting**

Several research results have concluded that fraudulent financial reporting can be analyzed and detected using fraud Pentagon analysis. The fraud pentagon elements of pressure, opportunity, rationalization, capability, and arrogance have been proven to detect fraudulent financial reporting. From the previous research results, pressure is proxied by financial targets, opportunity is proxied by audit quality, rationalization is proxied by change in auditors, capability is proxied by independent commissioners, and arrogance is proxied by political connections, proven to detect fraudulent financial reporting. However, it still shows poor and not consistent results.

However, from the findings of previous studies, other factors also significantly influence fraudulent financial reporting. Mardiana (2015) revealed an influence between financial distress conditions and fraudulent financial reporting. This finding indicates that financial distress could trigger fraudulent financial reporting. The same thing is also proven by research by Utami and Pusparini (2019), which shows that financial distress has a positive effect on fraudulent financial reporting. Fraudulent financial reporting happens when a company experiences financial distress; managers manipulate its financial reports to display good performance. Yen (2013) also found that companies may report their financial reports fraudulently when in financial distress. In addition, the research results by Ghazali et al. (2015) uncovered that financial distress had a negative relationship with fraudulent financial reporting as measured by earnings management, where earnings management will be carried out if the company's financial condition is in good health. From the research results above, the researchers are interested in testing and analyzing the influence of the fraud pentagon element on fraudulent financial reporting in more depth by making the financial distress variable an intervening/mediator.

### **Conceptual Framework of Study**

The conceptual framework describes the relationship between the dependent and independent variables (Figure 1). According to this research, financial targets and audit quality were independent variables. While financial distress was the mediating variable, fraudulent financial statements were the dependent variable. Considering the description above, the conceptual framework of this study can be stated as follows:



**Figure 1** Conceptual Framework

### Hypotheses Development

In this study, the financial target was measured by ROA. According to Kazemian et al. (2017), ROA is a factor that influences financial distress. Low ROA from time to time will cause a company's financial failure. Bhavani and Amponsah (2017) revealed that the risk of financial distress is high when ROA is low. Research by Ilman et al. (2009) showed that ROA affected financial distress. Hapsari (2012) uncovered that profitability proxied by return on assets (ROA) negatively affected financial distress. Research results from Widarjo and Setiawan (2009) found that profitability negatively impacted financial distress.

The ROA ratio measures a company's ability to generate profits based on the use of assets so that the use of ROA measurements will show the efficiency and effectiveness of using assets. The effective use of company assets will reduce the costs incurred so that the company will realize savings and have sufficient funds to run its business. With sufficient funds, it is unlikely that the company will experience financial distress. Studies by Siregar and Fauzi (2014) and Geng et al. (2015) also reported an effect of profitability as measured by ROA on financial distress. Based on the description of several studies above, the hypothesis in this study is:

**H<sub>1</sub>:** *Financial targets have a significant negative effect on financial distress.*

The audit is an element or part that creates and enhances the credibility of financial information and creates better corporate governance (Darmawan & Oktorina, 2017). External audits conducted following high-quality auditing standards can encourage the adoption of accounting standards by reporting entities and help ensure that their financial reports are reliable, transparent, and useful. A good audit can help strengthen strong corporate governance, risk management, and internal control, thereby contributing to financial performance.

The research results by Lu and Ma (2016) showed that good audit quality could reduce the possibility of financial distress. These findings indicate that audit quality in companies has a close relationship with financial conditions, so it is essential for companies to have better audit quality to overcome financial problems. In transportation companies, Revina (2016) found that audit quality is vital in mitigating financial distress. Besides, a good

quality audit will find errors, misstatements, or irregularities in the financial reporting presentation. Chang and Hwang (2020) revealed that a company's audit quality was negatively correlated with the possibility of financial distress. These findings support that companies with better audit quality are more likely to reduce the possibility of financial distress. Based on the description of several studies above, the hypothesis in this study is:

***H<sub>2</sub>: Audit quality has a significant negative effect on financial distress.***

Companies usually set a target profit level that management must obtain. High targets trigger the emergence of fraud caused by pressure to produce that profit level (Reskino & Anshori, 2016). In this case, return on assets (ROA) is a ratio that shows the return on the total assets the company uses. The higher the targeted ROA the company achieves, the higher the possibility of fraudulent financial reporting. Apriliana and Agustina (2017), Ozelik (2020), Akbar (2017), and Manurung and Hadian (2013) found that financial targets had a significant effect on fraudulent financial reporting.

Furthermore, the research results of Setiawati and Baningrum (2018) found that financial targets significantly affected fraudulent financial reporting. Management with too high financial targets will be more ambitious, so all means will be used to achieve these targets. Reskino and Anshori's (2016) research, which proxied financial targets with ROA, uncovered that companies that carried out fraudulent financial reporting had low ROA; the small profit earned indicates an unhealthy financial condition of the company, making management face pressure and work hard to fix it. The pressure felt will make management manipulate the company's financial reports and accounting policies and make these manipulations undetectable by the auditor.

Meanwhile, according to Tessa and Harto (2016) and Skousen et al. (2009) financial targets measured by ROA did not significantly predict fraudulent financial reporting. The results of Apriliana and Agustina (2017) showed that high-profit targets could not indicate fraudulent financial reporting. This result is because most of the research objects were large companies and had experienced increased operational quality. This result was revealed in several company annual reports that went through a modern system. Based on the description of some studies above, the hypothesis in this study is:

***H<sub>3</sub>: Financial targets have a significant positive effect on fraudulent financial reporting.***

Audit quality is seen as improving the quality of the company's financial statements. According to Darmawan and Oktoria (2017), large accounting firms will try to present better audit quality than smaller ones. DeAngelo (1981) also states that the audit quality of public accountants can be seen from the size of the public accounting firm that performs the audit. Big Four Accounting Firms are believed to carry out higher quality audits than non-Big Four ones. Large public accounting firms are also considered more independent, making it possible to restrain management's opportunistic behavior. Francis (2011) further asserted that the larger the firm, the smaller the possibility of fraud



occurring because a large firm is deemed to have higher experience and expertise in the client's industry.

Additionally, the research results by Apriliana and Agustina (2017) found that audit quality influenced fraudulent financial reporting, as measured by Big Four and non-Big Four Accounting Firms. The research results of Ozcelik (2020), Lin and Hwang (2010), and Utami and Pusparini (2019) also found that audit quality influenced fraudulent financial reporting. Besides, Chen et al. (2011) revealed that audit quality is one of many corporate governance potentials and monitoring mechanisms companies can choose to limit fraudulent financial reporting as measured by earnings management. According to research by Indarto and Ghozali (2016), audit quality did not affect the occurrence of fraudulent financial reporting. A study by Setiawati and Baningrum (2018) reported that audit quality did not affect the occurrence of fraudulent financial reporting. Based on the description of several studies above, the hypothesis in this study is:

***H<sub>4</sub>: Audit quality has a significant negative effect on fraudulent financial reporting.***

According to Yen (2013), companies engage in fraudulent financial reporting because they are in financial distress. In line with Tsai and Chang (2010), financial distress can motivate companies to take unethical actions to improve the company's financial position. The research results by Utami and Pusparini (2019) concluded that financial distress positively affected fraudulent financial reporting. When a company experiences financial distress, managers manipulate its financial statements to signal good performance even though its condition is in trouble. Mardiana (2015) also found that financial distress hurts fraudulent financial reporting.

Meanwhile, Ghazali et al. (2015) showed that company managers will carry out fraudulent financial reporting when the company's financial condition is not financially distressed. Otherwise, they will not perform fraudulent financial reporting if the company is distressed. Based on the description of several studies above, the hypothesis in this study is:

***H<sub>5</sub>: Financial distress has a significant effect on fraudulent financial reporting.***

Christian's (2020) research exposed an intervening effect of the financial distress variable in an indirect relationship to the pressure variable, proxied by financial targets on fraudulent financial reporting. The research results by Nugroho et al. (2018) also found that profitability, as measured by ROA, affected fraudulent financial reporting through financial distress. However, Thamlim and Reskino's (2023) research uncovered that financial targets did not affect fraudulent financial reporting. Based on the description of several studies above, the hypothesis in this study is:

***H<sub>6</sub>: Financial targets significantly affect fraudulent financial reporting through financial distress.***

The research results by Yolanda et al. (2019) disclosed that financial distress could not mediate an indirect relationship between audit quality and fraudulent financial reporting as measured by earnings management. Furthermore, Christian's (2020) research found that after passing the Sobel test, audit quality did not affect fraudulent financial reporting after being mediated by financial distress.

*H<sub>7</sub>: Audit quality significantly affects fraudulent financial reporting through financial distress.*

## Research Method

This quantitative research examined the relationship between the independent variables of financial targets and audit quality with the dependent variable, namely fraudulent financial reporting, and the intervening variable, i.e., financial distress. The population in this study was banking sector companies listed on the Indonesia Stock Exchange (IDX) for the 2017-2020 period.

Banking sector companies were chosen in this study because they had the highest number of fraud cases reported in the Association of Certified Fraud Examiners (ACFE, 2020) research. A survey conducted by ACFE in 2020 revealed that companies worldwide experienced an average loss of 5% each year due to fraud (ACFE, 2020). Based on ACFE 2020 research, fraudulent financial statements occurred in less than 10% of cases but caused the highest losses, with an average of \$ 954,000.

### Measurement of Variable

This study used a quantitative approach. The dependent variable in this study was fraudulent financial reporting. This study employed the fraud score model Dechow et al. (2011) developed to measure fraudulent financial reporting. The F-score model was specifically designed, so users could get scores directly without using an index in their calculations. In the fraud score model, there are two variable components: accrual quality proxied by RSSTaccruals and financial performance proxied by changes in receivables, changes in inventories, percentages of soft assets, changes in cash sales, changes in return on assets, and issuance. If financial reports have an F-value greater than one, they should be suspected of containing fraud. The variable changes in cash sales have a significant negative relationship, and other variables have a positive and significant relationship with fraudulent financial statements (Dechow et al., 2011). Calculating the fraud score model to predict fraudulent financial reporting is as follows:

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

Accrual quality was calculated using the accrual RSST (Richardson et al., 2005). Richardson et al. (2005) define all non-cash and non-equity changes in a company's balance sheet as accruals and distinguish the reliability characteristics of working capital (WC), non-current

operating (NCO), and financial accruals (FIN), as well as components of assets and liabilities in accrual type. The calculation model is as follows:

$$\text{RSST Accrual} = \frac{(\Delta\text{WC} + \Delta\text{NCO} + \Delta\text{FIN})}{\text{Average Total Asset}} \dots (2)$$

Working capital (WC) was measured using current assets minus current liabilities. Non/current/operating/accrual (NCO) was gauged using total assets – total liabilities. Financial accrual (FIN) was determined using total investment minus total liabilities. Average total assets (ATS) were calculated using beginning total assets plus end total assets.

Moreover, the financial performance of a financial report is considered capable of predicting the occurrence of fraudulent financial statements (Skousen et al., 2009) Financial performance was proxied by changes in accounts receivable, changes in inventory accounts, changes in cash sales accounts, and changes in EBIT, as follows:

$$\text{Financial performance} = \text{Change in receivables} + \text{change in inventories} + \text{change in Cash sales} + \text{change in earnings} \dots (3)$$

Change in receivables is the increase divided by the average total assets. Inventory divided by average total assets measures changes in inventories. Change in cash sales was measured by sales divided by sales (t) – receivables (t). Change in earnings was then determined by earnings (t) divided by ATS (t) minus earnings (t – 1) divided by ATS (t – 1).

If a company has an F-score value of more than one, it has the potential to commit fraudulent financial reporting. On the other hand, if the F-score is less than one, the company has no potential to commit fraudulent financial reporting.

### **Financial Target**

This study measured financial targets by return on assets (ROA). Measuring financial targets with ROA refers to research (Manurung & Hadian, 2013; Reskino and Anshori, 2016; Setiawati and Baningrum, 2018; . The following formula can calculate ROA:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Asset}} \dots (4)$$

### **Audit Quality**

The audit quality measurement used in this study refers to previous studies, including Aprilia (2017), Tessa and Harto (2016), and Utami and Pusparini (2019), by using a dummy variable. Code 1 was given to companies that used extensive Big Four Accounting Firms' services, and code 0 was provided to non-Big Four Accounting Firms' services.

### **Financial Distress**

The measurement model used to calculate the risk of financial distress in this study was a modified Altman Z-Score model. This model was used for service sector companies, so according to (Jan & Marimuthu, 2016), this model is suitable because the banking sector is included in the service company category. According to Altman (2000), the modified Z-score equation model to calculate potential bankruptcy is as follows:

$$Z = 6.56 (X1) + 3.26 (X2) + 6.72 (X3) + 1.05 (X4) \dots (5)$$

Where Z is Bankruptcy index, X1 is working capital total asset, X2 is retained earning divided by total asset, X3 is earnings before interest and taxes divided by total asset, and X4 is equity's book value divided by debt.

As stated by Altman (2000), if the Z-score's estimated value is more than 2.90, the company is in the safe zone; if the estimated value of the Z-score is below 1.21, the company will be placed in the bankruptcy zone. The corporation is considered in the "grey zone," which is theoretically safe but requires high monitoring if the anticipated Z-score is 1.21 to Z 2.9. The estimation results are multiplied by -1 to reverse the Z-score.

### **Data Analysis Method**

Data processing in this study employed the Partial Least Square (PLS) method. PLS is an alternative method of analysis with Structural Equation Modeling (SEM) based on variance. The purpose of PLS is to help researchers confirm theories and explain whether there is a relationship between latent variables (Hair et al., 2022). The advantages of this method are that it does not require assumptions and can be estimated with a relatively small number of samples, i.e., 30 to 100. As in this study, the number of samples was 46. In addition, SmartPLS is designed to estimate structural equations based on variance. PLS is a powerful analytical method because it is not based on many assumptions. For example, the data must be normally distributed; the sample must not be large. Besides confirming the theory, PLS can be used to explain whether there is a relationship between latent variables (Busru et al., 2022).

Furthermore, Ghozali (2008) states that the PLS method can describe latent variables (not directly measurable) and is measured using indicators. This research used Partial Least Square because a latent variable can be measured based on indicators, so the writers could analyze it with clear and detailed calculations. A non-parametric approach examines the statistical significance of various PLS-SEM outcomes, such as outer loadings, path coefficients, and R2 values compatible with PLS bootstrapping. Due to its reliance on a non-parametric bootstrap approach, this test is a distribution-free test that can be used even when the data are not normally distributed (Davison and Hinkley, 1997; Efron and Tibshirani, 1986). Structural model analysis in PLS has three stages: an outer model analysis, an internal model analysis, and hypothesis testing (Hussein, 2015).

## Results and Discussion

### General Description of the Research Object

The population of this study was banking companies listed on the Indonesia Stock Exchange in 2017-2020. Out of 46 sample banking sector companies that met the criteria, there were 26 companies. Thus, the sample data used was 104 companies, in which the results of 26 companies were multiplied over four years.

### Statistical and Descriptive Test Results

The F-score of the dependent variable of fraudulent financial reporting (FFR) had an average value of -0.029, a standard deviation of 0.091, a minimum value of -0.226, a maximum value of 0.164, and a range of -0.029 to 0.164. Additionally, according to the Altman Z-Score, financial distress ranged from -2.684 to 1.085, with an average of -0.816 and a standard deviation of 0.708. The target financial variable thus had a minimum value of -0.23, a maximum value of 3.13, an average value of 1.178, and a standard deviation value of 0.795, as determined by the ROA indicator. Finally, a dummy variable was used to measure the audit quality variable. Companies that used Big Four Accounting Firm's services had a percentage of 69.23%. In contrast, companies that used Big Four Accounting Firm's services had a percentage of 30.77%.

### Outer Model Results

#### Convergent Validity Test

Convergent validity is an indicator measured based on the correlation between item/component and construct scores. If the correlation between individual measurements and the structure to be measured is  $> 0.7$ , it is considered high (Ghozali & Latan, 2015). Based on the data processing results utilizing the smartPLS software, the seven indicators had a weights factor value greater than 0.7. The contribution between constructs with indicators or outer model values has met convergent validity.

#### Discriminant Validity Test

According to Ghozali and Latan (2015) if the construct correlation with the measurement items has a more excellent value than the other construct measures, the construct has a better discriminant validity value than the other blocks.

From Table 1, it can be concluded that all latent variables already had good discriminant validity. It can be seen from the loading factor value on each variable indicator, which was more significant than the loading factor value of other variables.

**Table 1** Results of Cross Loading

Indicator	FT	AQ	FD	FFR
ROA	1.000	0.169	-0.219	0.181
AQUALITY	0.169	1.000	-0.345	0.090
Z-SCORE	-0.219	-0.345	1.000	-0.362
F-SCORE	0.181	0.090	-0.362	1.000

Note: FT: Financial Target; AQ: Audit Quality; FD: Financial Distress; FFR: Financial Fraudulent Reporting

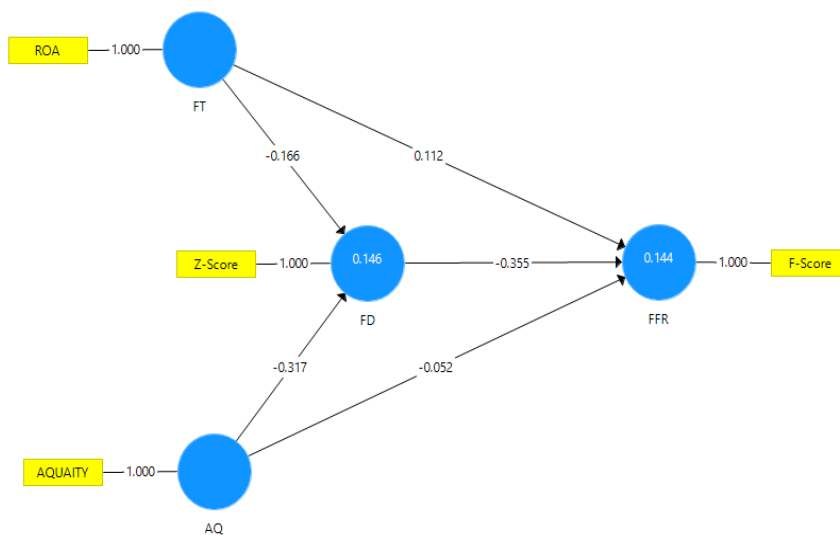
**Normality Test Results**

According to Ghozali and Latan (2015) the normality test determines whether a regression model has a normal or abnormal distribution. This study used statistical skewness and kurtosis tests by obtaining skewness results for financial targets worth 0.438 and audit quality worth -0.848, while Kurtosis was worth -0.577 for financial targets and -1.311 for audit quality.

Based on the skewness and kurtosis statistics above, the skewness and kurtosis ratio values for the financial target and audit quality variables were between -1.96 to +1.96, so it can be concluded that the data were normally distributed.

**Inner Model Test Results**

**R-Square Results**



**Figure 2** PLS Algorithm Results

Ghozali and Latan (2015) said that an R-Square value of 0.75 is categorized as a robust model, an R-Square value of 0.50 is categorized as a moderate model, and an R-square value of 0.25 is categorized as a weak model. In this research, the R-square value of the financial distress variable was 0.146. These results indicate that the financial target and audit quality variables could explain the financial distress variable by 14.6%. In

comparison, the remaining 85.4% were explained by other variables not tested in this study. In addition, the R-Square value for the financial distress variable was included in the weak category. Internal and external factors within the company could cause financial distress.

Next, the R-Square value for the FFR variable was 14.4%. These results denote that the financial target, audit quality, and financial distress variables simultaneously could explain the fraudulent financial reporting variable by 14.4%. In comparison, the remaining 84.6% were explained by other variables not tested in this study. The R-Square value of the FFR variable was included in the weak category because many factors, both internal and external to the company, could cause fraudulent financial reporting.

**F-Square and Q-Square Results**

According to Sarstedt et al. (2017) the effect size value of 0.02 is in the small category, 0.15 is in the medium category, and 0.35 is in the large category.

**Table 2** F-Square and Q-Square Results Summary

Variable	F-Square		Q-Square
	FD	FFR	
FT	0.031	0.014	
AQ	0.114	0.003	
FD		0.126	0.136
FFR			0.121

Note: FT: Financial Target; AQ: Audit Quality; FD: Financial Distress; FFR: Financial Fraudulent Reporting

Based on Table 2, there was no significant effect size with F-Square criteria > 0.35 and moderate F-Square with criteria between 0.15 to 0.35. Furthermore, the effects of FT on FD, FT on FFR, AQ on FD, AQ on FFR, and FD on FFR were in the weak category because the F-Square values were in the range of 0.02 to 0.15.

Moreover, according to Ghozali and Latan (2015), the predictive relevance value of 0.02 is in the weak category, 0.15 is moderate, and 0.35 is strong. The table above reveals the Q-Square value for the financial distress variable of 0.136. These results denote that the financial distress variable had a relevant predictive value in the weak to moderate category. Furthermore, the Q-Square value for the variable FFR was obtained at 0.121. These results indicate that the FFR variable had a relevant predictive value in the weak to moderate category. Based on the description above, it can be concluded that in this study, the independent variables had predictive relevance to the dependent variable.

**Hypothesis Test Results**

The t-statistic value is used as a reference for the results of the proposed hypothesis. A comparison of t-statistic values with t-tables is determined at the limit of 1.98. This value

is obtained from calculating the df value of 102 (total sample minus two: 104-2) and  $\alpha$  of 0.05 (two-tailed). The limit for determining whether to support or unsupported the hypothesis is  $\pm 1.98$ . Thus, the hypothesis will be rejected if the resulting t-statistical value is from -1.98 to 1.98; in other words, it accepts zero ( $H_0$ ).

Table 3 shows direct and indirect testing. First, direct testing is discussed. The findings of this study statistically explained that the effect of FT on FD was -0.166 with a significance of 0.045 ( $2.011 > 1.98$ ). Furthermore, the effect of AQ on FD was -0.317, with a significance of 0.000 ( $3.681 > 1.98$ ). Then, the effect of FT on FFR was 0.112 and significant 0.229 ( $1.205 < 1.98$ ). Furthermore, the effect of AQ on FFR was -0.052, with a significance of 0.615 ( $0.504 < 1.98$ ). Finally, the effect of FD on FFR was -0.355, with a significance of 0.000 ( $3.572 > 1.98$ ). Second, indirect testing showed that the effect of FT on FFR through FD was 0.059 with a significance of 0.100 ( $1.649 > 1.98$ ). Then, the effect of AQ on FFR through FD was 0.113 with a significance of 0.015 ( $2.439 > 1.98$ ).

**Table 3** Path Coefficients and Specific Indirect Effect (Mean, STDEV, T-Value)

Variable	Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (StDev)	T-Statistic ( O/StDev)	P-Value
FT → FD (-)	H <sub>1</sub>	-0.166	-0.173	0.082	2.011	0.045
AQ → FD (-)	H <sub>2</sub>	-0.317	-0.320	0.086	3.681	0.000
FT → FFR (+)	H <sub>3</sub>	0.112	0.104	0.093	1.205	0.229
AQ → FFR (-)	H <sub>4</sub>	-0.052	-0.063	0.102	0.504	0.615
FD → FFR	H <sub>5</sub>	-0.355	-0.366	0.099	3.572	0.000
FT → FD → FFR	H <sub>6</sub>	0.059	0.063	0.036	1.649	0.100
AQ → FD → FFR	H <sub>7</sub>	0.113	0.118	0.046	2.439	0.015

Note: FT: Financial Target; AQ: Audit Quality; FD: Financial Distress; FFR: Financial Fraudulent Reporting

## Discussion

Hypothesis 1 testing explained that the financial target measured by ROA in banking companies listed on the IDX 2017-2020 negatively influenced the company's financial distress. The high ROA targeted to be achieved by the company made management try hard to increase company profits so that with increased profits, the company would have more funds to be used. With so many company funds, it would certainly make the company far from financial distress. In addition, companies generally try to increase efficiency and effectiveness in the use of assets. Hence, with the efficient use of these assets, the costs incurred by the company would be reduced. This action would result in savings so that the company's funds would increase. Consequently, the possibility of a company experiencing financial distress could be avoided. From the description above, it can be concluded that the higher the financial target value, the less likely the company will experience financial distress. Still, the results of this research verify the research of Hapsari (2012); Lee and Lee (2018); Widarjo and Setiawan (2009), and Ilman et al. (2009), all of which revealed that ROA significantly affected financial distress. In short, the



possibility of a company experiencing financial difficulties decreases along with the ROA achieved by the company.

The hypothesis 2 testing results suggested that audit quality, as determined by the accounting firm size that audited the company's financial statements, negatively influenced the company's financial distress. The auditor must examine and provide an opinion on the company's financial statements. In addition, the auditor provides input and suggestions on the company's internal control through management letters. Auditors from the Big Four Accounting Firms are considered to have better expertise than auditors from non-Big Four Accounting Firms. Therefore, audits from Big Four Accounting Firms are deemed better quality than non-Big Four Accounting Firms. This study's results align with research conducted by (Chang and Hwang, 2020; Lu and Ma, 2016; Santosa et al., 2020), which found that audit quality significantly affected financial distress.

Hypothesis 3 testing resulted in financial targets that could not explain fraudulent financial reporting because most banking companies listed on the Indonesia Stock Exchange, which were the objects of this study, were large companies with good operational quality. This result was revealed in several company annual reports that went through a modern system, implementing a suitable HR recruitment mechanism and conducting employee competency training and development. In addition, there were purchase and stock options by management and employees, thereby increasing the sense of ownership and being part of maintaining the company's survival.

Therefore, whatever targets are given to management will not make management commit fraudulent financial reporting. This finding also confirms the agency theory, where there is a principal-agent relationship between management and business owners. In this situation, management aspires and seeks to obtain substantial incentives to achieve the goals set by the principles. However, if the company's financial goals are simple, management, acting as an agent, can quickly achieve these goals to obtain incentives without increasing fictitious revenues by using dishonest financial reporting techniques. The study results support prior studies (Indarto & Ghozali, 2016; Puspitha & Yasa, 2018; Thamlim & Reskino, 2023), which stated that financial targets did not affect fraudulent financial reporting. However, this study's results differ from the research results of Reskino and Anshori (2016), which found that companies that carried out fraudulent financial reporting tended to have low ROA due to the low profit that could be generated.

Hypothesis 4 testing results proved that audit quality, measured by external auditors who audited companies, did not affect fraudulent financial reporting. These results indicate that the role of external auditors, both Big Four and non-Big Four Accounting Firms, had the same role in carrying out audits of financial statements, assessing material misstatements, and determining whether there was a presentation of financial statements that were not under applicable accounting standards. In addition, the perception that all Big Four Accounting Firms will produce high-quality audits may not be appropriate because not all Big Four Accounting Firms can deal with various types of fraudulent financial reporting practices. Apart from that, company management may

intend to show good financial performance in the eyes of investors to increase the company's value. As a result, whether it is audited by the Big Four or non-Big Four Accounting Firms does not matter.

The findings of this study corroborate those of Setiawati and Baningrum (2018), who investigated manufacturing firms and discovered that audit quality had no bearing on fraudulent financial reporting. The findings also agree with studies by Tessa and Harto (2016) that looked at financial and banking institutions and found no relationship between audit quality and the likelihood of fraudulent financial reporting. The findings of this study also confirm Indarto and Ghozali (2016), claiming that whether a company was audited by one of the Big Four or non-Big Four Accounting Firms had no discernible impact on fraudulent financial reporting. Nevertheless, this research does not support the research by Apriliana and Agustina (2017) and Ozcelik (2020), which found that audit quality, as measured by the quality of external auditors, affected fraudulent financial reporting.

Referring to the Fraud Pentagon Theory, competent auditors sometimes work with companies not to disclose all fraudulent financial reporting. In other words, the competence of external auditors from the Big Four Accounting Firms is sometimes used as an excuse that not all Big Four Accounting Firms can disclose high levels of fraud that lead to fraud, and the findings of this investigation support this idea.

Hypothesis 5 testing results indicated a significant adverse effect between financial distress and fraudulent financial reporting. In other words, company managers will commit fraudulent financial reporting when the company is not in financial distress and will do the opposite if the company is in financial distress. The main reason why companies experiencing financial distress are not involved in fraudulent financial reporting is that it will worsen the company's condition. A company experiencing financial difficulties, of course, will not attract investors to invest their capital. Therefore, management will try to build a better corporate image by not committing fraudulent financial reporting and improving corporate governance to avoid indications of fraud. Hence, it can be concluded that management does not feel the benefits of fraudulent financial reporting when the company is experiencing financial distress.

The Fraud Pentagon Theory postulates that pressure causes fraud, and the findings of this investigation support this idea. Under financial pressure, management may avoid certain situations to maintain the company's reputation. Creating fraudulent financial reporting is one technique for doing so.

The findings of this study are consistent with those of Ghozali and Latan (2015), who investigated the relationship between financial difficulty and fraudulent financial reporting and discovered a substantial relationship. This study's findings also align with Riadiani et al.'s (2015) investigation into the impact of GCG on earnings management with financial distress as an intervening variable. They discovered that financial distress significantly impacted earnings management, serving as a stand-in for fraudulent financial reporting. The findings of this research also corroborate those of (Damayanti & Kawedar,

2018), Mardiana (2015), and Utami and Pusparini (2019), who discovered that financial difficulty significantly influenced fraudulent financial reporting.

Hypothesis 6 testing results confirmed no intervening financial distress effect in an indirect relationship between financial target variables and fraudulent financial reporting. Thus, after being mediated by financial distress, financial targets without direct effect did not affect fraudulent financial reporting. In this regard, the targets owned by company managers made them more ambitious to achieve them because there was an option to buy shares management and employees to increase the sense of ownership and become a part of maintaining the company's survival. This sense of belonging will not make management commit fraudulent financial reporting.

Since the corporation's management wants to boost its output and reputation, no matter what goal is set for management, it will not lead to financial reporting fraud. Because the banking industry was not in financial trouble between 2017 and 2020, the manager's greater aim would not force him or her to distort the financial reports. After all, the early stages of financially distressed enterprises typically tended to reduce banking capacity. Banking data from 2017 to 2020 showed no financial distress in the banking sector. It was reported that the banking system was in good health at the time. The results of this study do not support the results of research (Christian, 2020), which found that there was an intervening effect of the financial distress variable in an indirect relationship to the pressure variable, proxied by financial targets on fraudulent financial reporting.

Hypothesis 7 testing results verified that financial distress could mediate the relationship between audit quality and fraudulent financial reporting. When financial distress occurred in the banking industry, audit quality significantly positively affected fraudulent financial reporting. Using Big Four Accounting Firms would increase the tendency of banking management to commit fraudulent financial reporting. This result can be explained because the Big Four Accounting Firms cannot fully detect fraudulent financial reporting in the banking industry. Audits conducted by Big Four Accounting Firms do not always guarantee higher audit quality. This case is proven by well-known accounting fraud cases, such as ENRON, British Telecom, and Ligand Pharmacy, Inc., which involved Big Four Accounting Firms as their external auditors.

Suppose management wants to alter financial reports to engage in fraud for private gain. In that case, strong audit quality and other forms of oversight cannot stop management from engaging in this activity. The findings of this study contradict those of (Yolanda et al., 2019) who discovered that economic hardship could not moderate the indirect association between audit quality and fraudulent financial reporting as determined by management.

## **Conclusion**

Fraudulent financial reporting has become a serious problem worldwide in developed and developing countries. This study examined the audit quality of fraudulent financial

reporting and its relationship with financial targets. Financial targets and audit quality significantly affected financial distress; it may be said that after using financial distress mediation. Then, financial distress had a significant effect on fraudulent financial reporting. Meanwhile, financial targets and audit quality did not affect fraudulent financial reporting; audit quality significantly affected fraudulent financial reporting after being mediated by financial distress.

After being mediated by financial distress, the financial target variable did not affect fraudulent financial reporting. It was also concluded that LQ45 companies using Big Four Accounting Firms would increase management's tendency to commit fraudulent financial reporting. Financial targets and audit quality failed to detect fraudulent financial reporting. It was also concluded that LQ45 companies using Big Four Accounting Firms would increase management's tendency to commit fraudulent financial reporting.

This study's limitations may lead to inaccuracies and bias in the research results. The limitation of the first research is that it only used secondary data contained in the company's annual financial reports, which were collected and processed. Second, the companies sampled in this study were only banking sector companies listed on the IDX. Third, this study only employed the financial target and audit quality variables, as the variable tested as a factor affecting financial distress and fraudulent financial reporting. This study's limitations may lead to inaccuracies and bias in the research results.

Based on the limitations above, it is recommended for further research to use a model with the Fraud Heptagon developed by Reskino, (2022) in his dissertation, explaining that cultural and religious factors can cause fraud. For further suggestions, the authors can also use primary data or combine primary and secondary data in studying the factors influencing financial distress and fraudulent financial reporting. In addition, future research can use a more comprehensive sample by including all sectors of companies listed on the IDX or using non-banking sectors, such as manufacturing, mining, real estate, and others. Another suggestion is to produce a more holistic model with research modifications using internal control moderation of the relationship between financial distress and fraudulent financial reporting with the premise of internal control, which will strengthen the relationship between financial distress to fraudulent financial reporting. Other factors that can be tested as factors affecting financial distress and fraudulent financial reporting include leverage, financial stability, nature of the industry, audit opinion, change of directors, and others.

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### About the Authors

**Reskino (R.)** is a lecturer at the Accounting Study Program, Faculty of Economics and Business, State Islamic University, Syarif Hidayatullah Jakarta. Reskino can be contacted via email: [reskino@uinjkt.ac.id](mailto:reskino@uinjkt.ac.id)

**Aditia Darma (A.D.)** is an Audit Associate at KPMG Indonesia. Aditia can be contacted via email [additia25@gmail.com](mailto:additia25@gmail.com)

### Author Contributions

Conceptualisation, R.; Methodology, R. and A.D.; Investigation, A.D.; Analysis, R. and A.D.; Original draft preparation, R. and A.D.; Review and editing, R.; Visualization, A.D.; Supervision, R.; Funding acquisition, R.

### Conflicts of Interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.



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