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RESEARCH ARTICLE

# Financial distress, earning management, financial statement fraud and audit quality as a moderating variable: listed companies on the Indonesia Stock Exchange [version 1; peer review: awaiting peer review]

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**2**  
Abstract

**Background:** Accounting practices, profit bubbles, information manipulation and deception, and earning management are all examples of fraudulent financial statement cases. Companies create fraudulent financial statements for a variety of reasons, including financial challenges and debt payment delays. Financial fraud is created by five factors: pressure, opportunity, rationalization, capability, and arrogance.

**Methods:** The purpose of this study is to see whether audit quality (AQ) has a moderating effect on the relationship between financial distress (FD) and earning management (EM) to financial statement fraud (FSF) in infrastructure, utility, and transportation companies listed on the Indonesia Stock Exchange during the years 2015 to 2019. The data sources are the [www.idx.go.id](http://www.idx.go.id) and the company's annual reports. Purposive sampling was used to collect data from thirty companies over the course of five years, totaling 150 observations. Moderating regression analysis (MRA) was used in data analysis.

**Result and conclusions:** The hypothesis testing revealed that FD and EM have a significant impact on FSF. AQ is able to moderate the relationship between FD to FSF but unable to moderate the relationship between EM to FSF.

**2**  
Keywords

Financial distress, earning management, audit quality, fraudulent financial statement

**4**  
Open Peer Review

Approval Status *AWAITING PEER REVIEW*

Any reports and responses or comments on the article can be found at the end of the article.

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## Introduction

### Research background

A company's financial report demonstrates how well a company has performed. If the company's financial accounts indicate a growth in earnings from year to year, the company is deemed to be performing well. However, when a company's situation is experiencing a revenue reduction, it presents a problem while generating financial accounts. It is conceivable that a corporation could find itself tempted to modify the report in this situation; to maintain the positive image that the organization has established thus far. PT Garuda Indonesia has engaged in financial statement fraud (FSF) practices. PT Garuda Indonesia is an Indonesia airline and state owned company. In 2018, PT Garuda Indonesia was accused of falsifying financial accounts by classifying outstanding receivables as revenue. PT Garuda Indonesia had a profit of US\$ 239.9 million, or Rp. 3.47 trillion (Rp 14,481 per USD exchange rate). Financial statements showed losses in 2017, while a profit of Rp. 72.69 billion was recorded at the end of 2018. PT Garuda Indonesia, in fact, suffered a loss of IDR 1.6 trillion.<sup>1</sup>

In 2001, PT Kimia Farma, a state owned pharmaceutical company committed fraud in Indonesia; the corporation was suspected of creating a Rp. 132 billion profit markup.<sup>2</sup> The next instance of deception came in 2006 after PT Kereta Api Indonesia, tbk, a state owned train company, generated a profit of Rp. 6.9 billion but should have lost Rp. 63 billion. The final case is PT Waskita Karya, tbk, which occurred in 2009. From 2004 to 2007, the corporation made a miscalculation in recording net profits of roughly Rp. 400 billion.<sup>3</sup> Cases of fraudulent financial statement presentation do not just occur in Indonesia; there have been a number of cases of financial reporting fraud globally, such as the Xerox case in 2000, Enron in 2001, and Worldcom in 2002.<sup>4</sup>

Financial statement fraud refers to the practice of FSF presentation.<sup>5</sup> Fraud is practice that involves the use of deception to acquire unfair or unlawful advantages by one or more individuals. This means that fraud is an act committed by specific people, whether intentionally or unintentionally, to benefit themselves and others. FSF, asset misappropriation, and corruption are three types of fraud.<sup>6</sup>

Fraudulent practices will become increasingly common without appropriate supervision and control. Financial distress (FD) is one of several characteristics or elements that contribute to fraudulent behavior. FD refers to a situation in which a corporation is having financial troubles. According to Fahreza, *et al.*,<sup>3</sup> if a company runs into financial difficulties, it will be more likely to commit FSF and this will affect the investor's behaviour. According to Bell & Carcello,<sup>7</sup> fraud is motivated by financial difficulties or a high level of leverage. Zainudin and Hashim<sup>8</sup> showed that leverage has an effect on identifying FSF. It means that a company is likely to commit FSF, if the company has a high level of leverage. This differs from Janrosli & Yuliadi,<sup>9</sup> who found that leverage has no effect on FSF since even if leverage is large but not accompanied by a severe burden, the corporation can still pay off its debt.

Earnings management (EM) is profit engineering carried out by managing revenues (cash inflows) and expenses (cash outflows) to ensure that the company's operations generate net operating profit. EM practices lead to fraud.<sup>10</sup> According to Rashidah *et al.*,<sup>10</sup> EM affects FSF. Managers tend to manage earnings because managers have the opportunity to do so. The practice of EM will decrease the financial statements' quality and credibility. However, in general, within recognized accounting rules, EM is permitted. In this scenario, a company does deploy EM; an audit report would contain the proof of any FSF.<sup>11</sup> As a result, audit quality (AQ) becomes a factor in detecting FSF, as well as an impact on financial statement presentation integrity. This study is unique in that it includes AQ as a moderating variable. This study re-examines the association between FD and EM on FSF by adding AQ as a moderating variable, due to the variations in the outcomes of the research stated above. Furthermore, what sets this study apart from previous research is the use of the f-score model to measure FSF. The f-score approach is based on a combination of two criteria, namely accrual quality and financial success. The use of this f-score model in financial statements can forecast the danger of fraudulent practices.<sup>12</sup>

## Literature review

### Agency theory

Jensen and Meckling<sup>13</sup> proposed the agency theory. According to this view, the agent (management) and the principle (shareholders) have different interests. The difference in interest here refers to the fact that the agent must produce a profit in order for the principal to receive his return of capital. Agents/managers with the potential to meet profit targets will have an impact on the quantity of dividends paid to investors.

Managers exhibit opportunistic behavior. Managers put their own interests ahead of those of the others. Managers look for rewards from their work, such as bonuses, for themselves. They disallow manipulating the company's profits to make the manager's performance appear strong in order to earn bonuses in gratitude for the work they do.<sup>14</sup>

Furthermore, if the manager is confronted with a financial crisis or the organization is having financial issues, the manager will use all available resources to resolve the situation.<sup>15</sup> Asymmetry information between the linked parties is created by the agent and principal's differing interests. The advent of asymmetric information creates an opportunity for agents, namely hiding certain knowledge that the principal is unaware of.<sup>16</sup> As a result, the agent has the potential to perpetrate fraud without the principal's knowledge. It takes a third party, especially an auditor, to bridge these gaps. Financial auditing allows auditors to monitor the activities of agents. The auditor can determine whether the company has reported its financial accounts accurately and in compliance with generally accepted accounting principles based on the audit report's findings. If the audit quality is good, the financial statements of the organization can be trusted.<sup>17</sup>

#### Fraudulent financial statements

The Association of Certified Fraud Examiners defines fraud as an intentional or inadvertent act of failing to disclose financial information. Acts of deception or omission by a company in the creation of items and amounts on a financial statement or in the disclosure of financial statements that are intended to deceive financial statement users. Financial statement fraud is when financial statements contain a major misstatement.<sup>18</sup> Users of financial statements have doubts about the accuracy of the financial statements if there is fraud present. Users of these financial statements might make unwise decisions, which would harm the objectives that readers of financial statements are required to meet.<sup>19</sup> This danger of falsifying financial statements increases when a company is having financial difficulty.<sup>20</sup> If not addressed early, this fraudulent activity becomes a significant problem. Companies must be aware of the elements that can contribute to deceptive reporting. To interpret FSF signs, a method is required.

#### Financial distress

FD is a circumstance in which a company's financial situation deteriorates to the point of bankruptcy.<sup>21</sup> The inability to pay short-term loans that are due is an example of one of the many causes of financial troubles in businesses. This inability could be due to two factors: lack of company funds or waiting for assets to be disbursed, in order to pay off the short-term debt. The higher the debt, the greater of the companies risk, because companies assets are insufficient to cover its debts.

#### Earning management

According to Pratama,<sup>22</sup> EM is an earnings presentation strategy in which profits are ordered depending on the interests of managers rather than actual situations. EM is a condition in which management participates in the presentation of financial statements in order to achieve certain objectives, hence reducing the fairness of a financial report.<sup>23</sup> To summarize, EM is the practice of presenting earnings in financial statements that are not in conformity with the true state of the firm's profits, in order for the company to appear to have increasing profits from year to year. EM probabilities are made up of two components: (1) conversion or manipulation, and (2) concealment, or hiding/covering.<sup>1</sup>

#### Audit quality

An audit is a method of gathering data and determining whether financial accounts are presented fairly in conformity with generally accepted accounting rules. The audit is performed by someone that is competent and independent.<sup>24</sup> An auditor may obtain evidence from observation activities and report if the auditee system has been violated.<sup>25</sup> When evaluating a financial statement, AQ is crucial. If the AQ is good, it will generate trustworthy financial reporting.<sup>17</sup> According to Tussiana & Lastanti,<sup>26</sup> if the audit process is carried out in accordance with appropriate norms, the risk of fraud in reporting financial statements is reduced, and the financial statements' credibility is increased.

#### Pentagon Fraud Theory (PFT)

PFT was introduced by Crowe Howard in 2011. According to PFT, the practices of FSF have five main aspects, namely pressure, opportunity, rationalization, competency, and arrogance.<sup>27</sup> The PFT is a refinement of a prior idea, specifically Dr. Donald Cressy's fraud triangle theory (1953). Pressure, opportunity, and rationalization are the three indicators of deception in the fraud triangle. There is also Wolfe & Hermason's<sup>28</sup> fraud diamond idea. The ability indicator was added by Wolfe & Hermason<sup>28</sup> to the fraud triangle theory. PFT improved the fraud diamond theory by including an additional indicator; arrogance. A manager with a large ego will display arrogance because they believe they have a high position and play an essential role and are exempt from regulations and internal control systems.<sup>29</sup> Arrogance in this context is defined as an attitude held by someone who believes they can commit fraud without being discovered by others.<sup>4</sup> Crowe<sup>27</sup> devised a pentagon fraud scheme that can be seen in Figure 1.

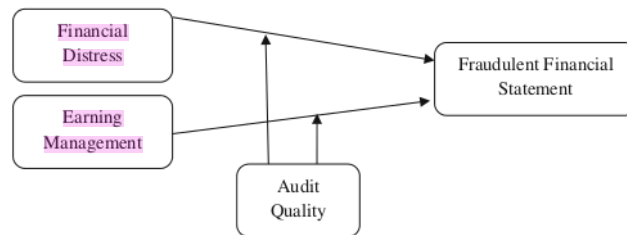
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#### Theoretical framework

FSF is built on five elements, including pressure, opportunity, rationalization capability, and arrogance, according to the fraud pentagon theory. This pressure can be caused by a variety of factors, such as the company's financial difficulties or that the public's perception of the company will be harmed by its insecure state.<sup>15</sup> This pressure can encourage managers to commit fraud in order to restore normalcy to the company's operations.<sup>15</sup> Managing profit, or EM, is one of the acts that



**2** Figure 1. Crowe's Pentagon Fraud Theory. Source: Crowe (2011).<sup>27</sup>



**Figure 2. Theoretical framework.**

**1** management might do. The manager's action is moderated by audit quality. The framework of thought in this study, based on the explanation above, can be seen in Figure 2.

### **1** Hypothesis development

#### **The effect of financial distress on financial statement fraud**

If a company's financial situation has deteriorated, shareholders may be encouraged to replace company executives.<sup>21</sup> As a result, the worth of the company's controlling manager decreases. This encourages executives to manage earnings in such a way that their image remains positive and they retain control of the business.<sup>19</sup> If a company is getting losses or lower profit, the company faces the financial difficulties. This situation can cause the company to be unable to fulfill its obligations. This conditions arise the practice of FSF.

According to the fraud pentagon theory, financial troubles become a factor causing fraud, forcing the firm or management to do everything possible, such as manipulating financial statements to make the company's condition look excellent in order to attract an investor or maintain its existence.<sup>3</sup> Poor financial conditions, according to Bell & Carcello,<sup>7</sup> drive management to simulate these FD problems by producing reports that are better than the original. A hypothesis can be stated based on the preceding description;  $H_1 =$  Financial distress has a significant effect on financial statements fraud.

#### **The effect of earning management of financial statement fraud**

According to agency theory, management operates as an agent in the management of a corporation, with aims in finance, sales, and several other areas. If management fails to meet targets, particularly in terms of profits, management will likely play the profits that have been earned so that it can be seen that the profit has reached the point or is on track.<sup>30</sup> Because it does not provide true financial statements, EM is a form of manipulation. Bisogno & De Luca<sup>31</sup> found a link between EM and FSF in their investigation. The finding of this study found that the higher profit, and the greater the risk of fraud. EM will impair the integrity of financial statements.<sup>30</sup>

The practice of EM on the one hand is an act of manipulation because it does not present real financial statements. In line with research conducted by Bisogno & De Luca<sup>31</sup> found that there is a relationship between EM and FSF. The results of this study indicate that the higher the management performs the distribution of profits, the higher the chance of fraud. Putra & Muid (2007) argued that EM will affect the integrity of financial statements. The second research hypothesis is formulated as:  $H_2 =$  Earning management has a significant effect on financial statements fraud.

### The effect moderating of audit quality towards financial distress on financial statements fraud

According to Bell & Carcello,<sup>7</sup> financial difficulties can drive management to enhance or distort financial statistics to make them appear more appealing to users. Fraud protects businesses that are suffering financial difficulties. The audit report is critical in determining if the financial statements were prepared in compliance with generally accepted accounting principles. Financial statements that have been audited will have more credibility and will reduce fraudulent activity.<sup>25</sup> The third hypothesis in this investigation is based on this explanation  $H_3 =$  Audit quality moderates financial distress on financial statements fraud.

### The effect moderating of audit quality towards earning management on financial statement fraud

Because financial statements are not presented in accordance with the company's circumstances, EM behavior is a form of manipulation.<sup>14</sup> As a result, the company's financial statements cannot be relied upon. Managers typically perform this EM action in order to meet defined targets and earn bonuses.<sup>10</sup>

The audit process is required to ensure that a company's financial statements have been prepared in line with the current situation and widely recognized accounting rules. According to DeAngelo,<sup>17</sup> a good AQ makes the financial statements given credible. Hardiningsih<sup>32</sup> demonstrates that the higher the AQ, the more trustworthy the financial statements are. The fourth hypothesis is  $H_4 =$  Audit quality moderates earning management to financial statements.

## Research methods

### Population and sample

The study's subjects are companies in the infrastructure, utilities, and transportation sectors that have been listed on the Indonesia Stock Exchange during five years observation. The purposive sampling approach was used to select samples. The sample was chosen based on several criteria. The 30 companies were chosen based on criteria for a period of five years; 2015 – 2019.

### Variable and measurement

#### Financial statement fraud

The f-score model is used to determine whether a financial statement is fraudulent. There are two components in the f-score model's calculation: accrual quality and financial performance,<sup>33</sup> hence the equation is as follows:

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

Accrual quality is proxied by RSST Accrual,<sup>34</sup> which was developed by Richardson, Sloan, Soliman, and Tuna and has the following formula:

$$\text{RSST Accrual} = \frac{\Delta \text{WC} + \text{NCO} + \Delta \text{FIN}}{\text{Average Total Assets}} + \frac{\text{WC} + \text{NCO} + \Delta \text{FIN}}{\text{Average Total Assets}}$$

Where as: WC (Working Capital) = (Current Assets – Current Liability), NCO (Non Current Operating Accrual) = (Total Assets – Current Assets – investment and Advances) - (Total Liabilities – Current Liabilities – Long Term Debt), FIN (Financial Accrual) = Total Investment – Total Liabilities and ATS (Average Total Assets) = (Beginning Total Assets + End Total Assets)/2.

Changes in receivables, inventory, cash sales, and profits before interest and tax (EBIT) are all used to measure financial success.<sup>33</sup> If a corporation has more than one fraud score model, it is assumed that it will commit fraud.

#### Financial distress

Leverage is a proxy for financial distress. Leverage is a ratio that depicts a company's ability to meet its obligations. The company's high degree of leverage is thought to have the potential to violate borrowing processes, as well as limit the company's capacity to obtain more capital by borrowing money from creditors.<sup>8</sup> By comparing total debt to total assets, Brazel, *et al.*,<sup>35</sup> shows that leverage is a proxy for FD.

**Earning management**

EM is classified as a form of fraud. According to Kumiawansyah,<sup>36</sup> EM practices satisfy the elements of conversion (manipulation) and concealment, meaning hiding/covering up even when it is not directly beneficial to oneself, but financial statements must be provided factually. The discretionary accruals (DACC) value or the Jones Modified Model's discretionary accruals<sup>37</sup> are used to calculate EM. The following formula is used to calculate DACC:

$$DACC_{it} = \frac{TA_{it}}{A_{it-1}} - \frac{TA_{it}}{A_{it-1}} - NDACC_{it}$$

**Audit quality**

<sup>2</sup> AQ is a moderating variable that influences the link between financial distress and EM on FSF. The moderating variable will influence the relationship between the independent variable on the dependent variable. It might strengthen or weaken its relationship.<sup>38</sup> Brazel, *et al.*,<sup>35</sup> divided public accounting firm's (PAF) into two categories: big four and non-big four. According to Brazel *et al.*,<sup>35</sup> good AQ results prevent fraudulent behavior. The auditor's reputation determines the quality of the audit. If the company has been audited by the PAF big four, it is given 1; otherwise, it is given 0.

**Technical analysis**

**Regression model testing**

The data analysis method, namely multiple regression analysis, was utilized to examine the association between the independent and dependent variables. The following are the equations applied in this study:

$$F - Score = \alpha + \beta_1 LEV + \beta_2 DACC + \beta_3 AQ + \epsilon$$

Where as:  $\alpha$  = constant,  $\beta$  = coefficient regression, F-Score = Fraudulent financial statement, LEV = Total debt/Total asset, DACC = Earning Management, AQ = Audit Quality and  $\epsilon$  = error.

Following the multiple regression analysis, a moderating regression analysis was conducted. This analysis was done to investigate if the moderating variable in this study had any effect on the link between the independent and dependent variables, either weakening or strengthening it. If the test findings demonstrate a significant effect, the moderating hypothesis is adopted.<sup>39</sup> The moderating regression equation is as follows:

$$F - Score = \alpha + \beta_1 LEV + \beta_2 DACC + \beta_3 AQ + \beta_4 LEV * AQ + \beta_5 DACC * AQ + \epsilon$$

Where as  $\alpha$  = constant,  $\beta$  = coefficient regression, F-Score = Fraudulent Financial Statement, LEV = Total Debt/Total Asset, DACC = earning management, AQ = Audit Quality, LEV\*AQ = Interaction between leverage and audit quality, DACC\*AQ = Interaction between earning management and audit quality and  $\epsilon$  = error.

The stages to determine the moderation nature of AQ quality, according to Solimun, *et al.*,<sup>40</sup> are shown in Table 1.

**Hypothesis testing**

**Coefficient determination (R Square)**

The coefficient of determination (R2) is used to determine how much the independent variable influences the dependent variable. If R2 equals 0, the independent variable has no effect on the dependent variable. Meanwhile, if the R2 value is 1, the independent variable has a 100% influence on the dependent variable.<sup>41</sup>

**Table 1. Criteria of moderating variable.**

| No | Type of moderating     | Coeffisien                                    |
|----|------------------------|---|
| 1  | Pure Moderating        | $b_2$ no significant and $b_3$ significant    |
| 2  | Quasi Moderating       | $b_2$ significant and $b_3$ significant       |
| 3  | Homologiser Moderating | $b_2$ no significant and $b_3$ no significant |
| 4  | Predictor Moderating   | $b_2$ significant and $b_3$ no significant    |



## 2 Partially test

The influence of each independent variable on the dependent variable must be tested using hypothesis testing (t-test). Several assumptions are used to determine whether the hypothesis is accepted or rejected, including (a) the level of significance = 0.05, (b) degrees of freedom ( $df = n - k$ ), and (c) the t table results. After applying these assumptions, the following conditions can be used to derive conclusions: (a) significance = 5%, the hypothesis is accepted; (b) significance = 5%, the hypothesis is rejected.

### Results and discussion

#### Regression model test

The influence of the independent variables on the dependent variable was tested using a multiple regression model analysis. Table 2 shows the results of the multiple regression model tests.

Based on the above table, multiple regressions equal is as following:

$$F - \text{Score} = 0.258 + 0.791\text{LEV} + 0.830\text{DACC} - 0.168\text{AQ} + \varepsilon$$

1. The constant is 0.258, indicating that the FSF is 0.193 if FD and EM are both zero. FSF does not occur in the research sample since the F-score is less than 1.
2. The FD coefficient is 0.791, which means that if the level of FD rises by one, the level of FSF rises by one as well.
3. EM's coefficient is 0.830. This means that if the management uses EM, the possibility of FSF will increase by 0.830.
4. AQ has a coefficient of -0.168. This means that if the AQ produced is satisfactory, the possibility of FSF will be reduced by -0.168.

Regression model analysis in the form of moderated regression is a regression equation that contains elements of interaction (multiplication of two or more independent variables). The results of the moderation regression model test can be seen in Table 3.

Moderating regression model can be described by the following equation:

$$F - \text{Score} = 0.159 + 0.909\text{LEV} + 1.403\text{DACC} - 0.213\text{AQ} - 0.542\text{LEV} * \text{AQ} - 2.026\text{DACC} * \text{AQ} + \varepsilon$$

1. The constant is 0.159, indicating that if FD and EM are both zero, the FSF will be 0.159. FSF does not occur in the research sample since the F-score is less than 1.
2. The FD coefficient is 0.909, meaning that when the level of FD raises, the level of FSF rises by 0.909.

**Table 2. Multiple regression test result.**

| Model |            | coefficients <sup>a</sup>   |                           | t     | Sig.  |      |
|-------|------------|-----------------------------|---------------------------|-------|-------|------|
|       |            | Unstandardized coefficients | Standardized coefficients |       |       |      |
| B     | Std. Error | Beta                        |                           |       |       |      |
| 1     | (Constant) | .258                        | .133                      |       | 1.944 | .054 |
|       | LEV        | .791                        | .105                      | .543  | 7.542 | .000 |
|       | DACC       | .830                        | .524                      | .116  | 1.583 | .115 |
|       | AQ         | -.168                       | .176                      | -.068 | -.959 | .339 |

Source: Data Processing, 2021.

<sup>a</sup>Dependent Variable: Fraudulent Financial Statement.

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**Table 3. Moderating regression test result.**

| Coefficients <sup>a</sup> |            |                             |            |                           |        |      |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model                     |            | Unstandardized coefficients |            | Standardized coefficients | t      | Sig. |
|                           |            | B                           | Std. Error | Beta                      |        |      |
| 1                         | (Constant) | .159                        | .137       |                           | 1.157  | .249 |
|                           | LEV        | .909                        | .115       | .624                      | 7.873  | .000 |
|                           | DACC       | 1.403                       | .598       | .196                      | 2.347  | .020 |
|                           | AQ         | -.213                       | .265       | .086                      | .802   | .424 |
|                           | LEV*QA     | -.542                       | .264       | -.231                     | -2.053 | .042 |
|                           | DACC*QA    | -2.026                      | 1.194      | -.138                     | -1.697 | .092 |

Source: Data Processing, 2021.

<sup>a</sup>Dependent Variable: Fraudulent Financial Statement.

3. EM's coefficient is 1.403. This suggests that if the manager executes EM, the likelihood of FSF increases by 1,403 percent.
4. AQ's coefficient is -0.213. This suggests that as the quality improves the likelihood of FSF decreases by -0.213.
5. The moderating regression coefficient of FD and AQ is -0.542, indicating that increasing the level of FD followed by increasing the level of AQ reduces FSF.
6. The moderating regression coefficient of EM and AQ is -2,026. This means that increasing EM followed by increasing AQ reduces FSF.

#### Hypothesis testing

##### Partially test

The results of partially test of every variable are described in Table 4.

The findings of the t-test hypothesis can be accepted if the significance level is less than 0.05, as shown in the table above, and can be interpreted as follows:

1. The effect of FD on FSF is 0.000000001 less than 0.05. H1 is accepted. This demonstrates that FD has a large and positive impact on FSF.
2. The effect of EM on FSF is 0.020 less than 0.05. H2 is acceptable. This indicates that EM has a positive and significant impact on FSF.

**Table 4. Partially test result.**

| Coefficients <sup>a</sup> |            |           |        |              |        |      |
|---------------------------|------------|-----------|--------|--------------|--------|------|
| Model                     |            | Predicted | Actual | Coefficients | t      | Sig. |
|                           |            | Sign      | Sign   |              |        |      |
| 1                         | (Constant) |           |        | .159         | 1.157  | .249 |
|                           | LEV        | +         | +      | .909         | 7.873  | .000 |
|                           | DACC       | +         | +      | 1.403        | 2.347  | .020 |
|                           | AQ         | -         | -      | -.213        | .802   | .424 |
|                           | LEV*QA     | -         | -      | -.542        | -2.053 | .042 |
|                           | DACC*QA    | -         | -      | -2.026       | -1.697 | .092 |
| Adjusted R-Square         |            |           |        |              | -290   |      |

Source: Processing Data, 2021.

**2**  
**Table 5. Coefficient determination result.**

| Model summary <sup>b</sup> |                   |          |                   |                            |
|----------------------------|-------------------|----------|-------------------|----------------------------|
| Model                      | R                 | R Square | Adjusted R Square | Std. Error of the estimate |
| 1                          | .560 <sup>a</sup> | .314     | .290              | 1.01286                    |

Sources: Data Processing, 2021.

<sup>a</sup>Predictors: (Constant), X2Z, Financial Distress, AQ, X1Z, EM.

<sup>b</sup>Dependent Variabel: FSF.

- AQ has a significance of 0.042, which is less than 0.05. H3 is rejected. On FSF, AQ has a negative influence or weakens FD. Pure moderation is how AQ is classified. Because AQ interacts with the FD and cannot be an independent variable, it is clearly a strictly moderating variable.
- AQ is 0.092 more than 0.05. H4 is rejected. When AQ is used to moderate the effects of EM on FSF, it becomes a moderating homoligiser variable or a possible moderator with no substantial link to FSF and no interaction with EM.

### Coefficient of determination

The result of coefficient determination can be seen in Table 5.

**1**  
 The adjusted square in the table above shows that the coefficient of determination is 0.290 or 29 percent. This suggests that FD and EM can predict FSF in 29% of cases, whereas the remaining 71% is impacted by other factors.

### Analysis and discuss

#### The effect of financial distress on financial statement fraud

The test results found that FSF has a positive and significant influence on FSF. H1 is accepted. FD's significance is 0.000 less than the 0.05 significance level. This means that the higher the company's FD level, the higher the FSF level. The positive impact of FD on FSF demonstrates that a company in financial distress will be under pressure to remedy the situation. According to the PFT, financial statement fraud is caused by five reasons, one of which is pressure. The opening of the possibility to take action supports a person who is under pressure to take whatever action to return the situation to its original state. The same is true for businesses. When a firm is facing financial difficulties and there is a chance to conduct fraud, the company is more likely to do so.

The findings of this study correlate with Zainudin & Hashim,<sup>8</sup> who indicated that the higher the level of FSF, if a company has characteristics such as a high degree of leverage or financial distress with an unbalanced capital structure. Similar findings were found by Utami & Pusparini,<sup>15</sup> specifically that FD had a positive effect on FSF. In contrast, Janrosel & Yuliadi<sup>9</sup> found that financial difficulties have no impact on FSF in the banking industry. This suggests that infrastructure, utility, and transportation sectors have higher debt levels than the banking industry, putting them under a lot of strain and making them vulnerable to fraud.

#### The effect of earning management on financial statement fraud

The second hypothesis test revealed that EM has a positive effect on FSF. H2 is acceptable. The effect of EM on FSF is 0.020 less significant than 0.05. According to the findings of this research, EM increases the act of FSF. This is because EM is the practice of showing earnings that do not reflect the true state of the company, where profit is increased or decreased depending on market conditions. The agent and the principal have opposing interests, according to agency theory. Their interests are the agent's main concern. They run the business to maximize profits. The greater corporate image—in this example, managers—is a result of the bigger profit. In addition, the management wants a sizable bonus for the job well done. Meanwhile, shareholders expect a company to pay the dividend and the shareholder welfare to increase. This competition of interest causes information asymmetry, which provides chances for FSF, including the adoption of EM techniques.<sup>30</sup>

The findings of this study support Rashidah, *et al.*,<sup>10</sup> who suggested that companies with fraud indicators take EM steps. This is because management is under pressure to meet the company's goals in order for the principal to receive a return on their investment. This differs from Kurniawan *et al.*,<sup>14</sup> who looked into FSF in the industrial industry. The disparities in the study's findings suggest that each company's EM practice is unique. Manufacturing organizations have minimal EM

practices because they rarely face losses, but the infrastructure, utility, and transportation sectors frequently experience losses and select EM strategies to better their financial situation. The discrepancies in the studies are attributable to the different goals of adopting EM techniques.

#### **The moderation effect of audit quality towards financial distress on financial statement fraud**

The third hypothesis was tested, and the results show that audit quality diminishes the link between financial difficulty and financial statement fraud. This demonstrates that H3 is acceptable.

The significant value is 0.042 lower than the 0.05 threshold. It means that AQ has an impact on relationship between FD to FSF. This means that if the company has a good AQ, fraudulent actions induced by FD will be reduced. The findings of this study are consistent with agency theory, which states that a third party is required to bridge the gap between the agent's and principal's interests. An auditor is the third party in question. Auditors can oversee a firm's operations, particularly if it is suffering financial difficulties; the auditor will be responsible for determining whether the company can overcome these challenges without engaging in fraudulent tactics. As a result, financial difficulties can be resolved.

This study is supported by Himawan,<sup>2</sup> who states that companies used the high quality of PAF to produce high-quality financial reports and provide financial statements in conformity with generally accepted accounting principles. This PAF has an international reputation and experience. As a result, auditors can predict whether the company is having FD issues or engaging in fraudulent behavior. FSF can be reduced by using the services of the PAF big four. According to the findings of Achmad,<sup>42</sup> AQ has no effect on FSF in all companies listed on the Indonesia Stock Exchange. The differences in this study's findings are related to differences in the research object. The risk levels of financial difficulties for every industry are very different, not specific to one industry. In the infrastructure, utilities, and transportation sectors, AQ can moderate the influence of AQ on FSF. Variation of research results is described by Achmad,<sup>42</sup> stating that the extent of financial difficulty varies greatly across enterprises. The difference in results is caused by the different industry objects. In the industry that has a high probability of FSF, AQ can moderate the relationship between FD and FSF.

#### **The moderation effect of audit quality towards earning management on financial statement fraud**

The fourth hypothesis was tested, and the results revealed that AQ reduces the link between EM and FSF. As a result, H4 was rejected. AQ modulating EM has a significance of 0.092, which is larger than 0.05. According to the findings of this investigation, AQ was unable to moderate EM on FSF. Because there are many various forms of EM practices, and organizations can utilize different EM practices from year to year for their company, the ability to identify EM is minimal if a large PAF size is not accompanied with high auditor skill. This finding is supported by Luhglatno,<sup>43</sup> who states that companies audited by the PAF big four have not been able to reduce EM practices. When a firm decides to go public, it uses EM to ensure that its financial performance is attractive to potential investors. As a result, auditors have a tough time detecting EM. This EM practice continues to be misunderstood. On the one hand, EM activity is permissible, but on the other hand, this action can also be highly problematic if the company does not produce financial statements that fully reflect the company's current condition.<sup>36</sup>

This is consistent with agency theory, which maintains that the principal and agent are distinct. According to this hypothesis, if management has its own interests as well as the principal's, the resulting discrepancies might lead to information asymmetry. The company's overall goal is to keep a positive image, and potential investors are interested in investing. In general, investors consider the company's ability to generate profits per year to be positive. Earnings in financial accounts are frequently falsified in the practice of EM. If a company's profit is good, then its performance in the eyes of investors is also good, and investors will opt to invest in it, resulting in the company generating more profits as a consequence of EM practices. In contrast to Rashidah, *et al.*,<sup>10</sup> who found that, a significant number of small and medium businesses engage in FSF through EM actions. The difference between Rashidah's study and our study, are due to the different research samples. The sample in this study is infrastructure, utility, and transportation corporations that used EM practices while adhering to generally accepted accounting principles. The focus of the study by Rashidah, *et al.*,<sup>10</sup> was small to medium Malaysian firms, where EM practices in Malaysian companies change every year depending on the company's conditions, and each company will utilize various methods.

#### **Conclusion**

FSF in infrastructure, utilities, and transportation businesses listed on the Indonesia Stock Exchange between 2015 and 2019 may have occurred as a result of FD and EM practices, according to our findings. Because EM practices are still difficult to identify by auditors and EM practices still have pros and cons in their use in accounting, AQ can only regulate FD to FSF, but not EM to FSF.

The adjusted square for this study is 0.290, or 29 percent, indicating that FD and EM are relatively low in explaining their effect on FSF, and the subject of this study only focuses on infrastructure, utility, and transportation businesses that listed on the Indonesia Stock Exchange between 2015 and 2019. The research sample comprised only thirty companies, with a total of 150 observations, which is considered a small sample.

Based on the findings and limitations, it is suggested that additional variables that may play a role in the occurrence of FSF be investigated, as well as the utilization of a larger research sample to broaden research on financial statement fraud practices.

### Data availability

#### Underlying data

Figshare: Fraudulent of Financial Statement: The Effect of Financial Distress, Earning Management and Audit Quality as Moderating Variable, <https://doi.org/10.6084/m9.figshare.20113889.v1>.<sup>44</sup>

This project contains the following underlying data:

- Data of Earning Management.xlsx
- Data of Fraudulent Financial Stement.xlsx
- Data of Leverage.xlsx
- Data of Quality Audit.xlsx
- Result Test.docx
- Samples Data.xlsx

Data are available under the terms of the [Creative Commons Attribution 4.0 International license \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).

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