
Faradisa Bachmid (a)* Sumiati (b) Siti Aisjah(c)

(a,b,c) Department of Management, Faculty of Economics and Business, University of Brawijaya Jl. MT. Haryono No.165, Malang, Indonesia

ARTICLE INFO

Article history:
Received 18 June 2021
Received in rev. form 22 July 2021
Accepted 27 July 2021

Keywords:
Financial distress, earnings management, stock returns

JEL Classification:
O15

ABSTRACT

This study aims to examine and analyze the effect of financial distress with the Altman and Springate Models on stock returns either directly or indirectly by involving earnings management as a mediation. This study uses secondary data from Textile and Garment Companies listed on the Indonesia Stock Exchange from 2015-2019, with a sample of 20 companies using sampling so that 100 observations are obtained. The data is obtained from the annual financial statements. The data analysis technique used SEM-PLS with the help of WarpPLS 6.0 software. The results of the study provide empirical evidence that financial distress has a positive effect on earnings management, while financial distress and earnings management has a negative effect on stock returns. Earnings management is able to mediate the effect of financial distress on stock returns.

© 2021 by the authors. Licensee SSBFNET, Istanbul, Turkey. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).

Introduction

In the current era of the industrial revolution 4.0, investment is something that is not foreign to the ears. Investment is one way for someone to meet future needs. All this is done by allocating current funds into various investment products and expecting the value of these investments to increase. Jogiyanto (2013) defines investment as delaying current consumption to be included in productive assets for a specified period of time.

In practice, investments can be made in various products, one of which is stocks. Shares in textile and garment companies tended to decline. Of the 20 textile and garment stocks listed on the Indonesia Stock Exchange (IDX) in the period January 2 to September 30 2019, there were 9 stocks that had negative returns. Some even dropped by more than 50%. Furthermore, many stocks in the textile and garment sector in Indonesia have also closed due to not being able to compete with imported products, because imported products, which are usually from China, are more superior than local products and the prices are very competitive. With the depressed industry conditions, it is natural for market participants to lose confidence in the company’s business prospects and choose to withdraw their funds.

The prospect of the company is very important for investors in making investments, because it has an impact on the stock returns they receive. Stock return is one of the factors that motivate investors to invest and is also a reward for the courage of investors from the funds invested in an investment. To consider the stock returns they receive, investors need quite a lot of information about the details of the company, so they can analyze risk and the rate of return received on the investment made. By looking at the financial statements and stock prices of a company, investors can judge that the company is producing high or low stock returns. Additionally
investors should also look at how much the debt of the company, how the company is able to pay off its debts so that stock returns received by investors / shareholders are not declining.

There are two theories used in this study, such as signaling theory and agency theory. This study uses earnings management as a mediating variable with two different financial distress models. Real earnings management is used to mediate the relationship of financial distress with the Altman and Springate Models on stock returns. Real earnings management was chosen because managers are more likely to carry out earnings management through real activities than accrual activities, and also real earnings management is better able to explain the company's daily operating activities and is more difficult for auditors to detect.

Several previous studies on financial distress on stock returns mediated by earnings management showed different results on each variable which caused a research gap. In addition, this study also provides novelty, namely the use of two models of financial distress in one research construct, and comparing the effect of financial distress on stock returns mediated by earnings management.

Research on Financial Distress on Stock Returns has been widely carried out in Indonesia. This study examines financial distress with the Altman and Springate Models on stock returns mediated by earnings management. The difference between this study and previous research is: First, from several existing financial distress models, the researcher uses two financial distress models, namely the Altman and Springate Models. The reason the researcher uses these two models is because it refers to the journal that the researcher uses, namely that both of these models have a high level of accuracy to find out the company is experiencing financial distress that leads to bankruptcy. The differences between these two models are: the Altman model uses 5 ratios with an accuracy rate of 95% (Supriati, et al. 2019) while the Springate model uses 4 ratios with an accuracy rate of 92.5% (Edi & Tania, 2018).

This study addresses 4 important questions from the two models:

i. Does financial distress with Altman and Springate Models affect earnings management?
ii. Does financial distress with Altman and Springate Models affect stock returns?
iii. Does earnings management affect stock returns (Altman and Springate Models)?
iv. Does financial distress with the Altman and Springate Models affect stock returns mediated by earnings management?

**Literature Review**

**Theoretical Background**

**Signaling Theory**

Signaling theory explains how a company gives signals to users of financial statements. This signal is in the form of information about what management has done to realize the owner's wishes (Brigham & Houston, 2014). Signals can be in the form of promotions or other information stating that the company is better than other companies. Managers provide information through financial statements that they apply conservatism accounting policies that result in higher quality earnings, because this principle prevents companies from exaggerating earnings and helps users of financial statements by presenting profits and assets that are not overstate. Signaling is done by management to reduce information asymmetry. Profit information and dividend announcements can provide signals or information to investors about the company's prospects in the future.

**Agency Theory**

Agency theory is the second theory used in this study. Jensen & Meckling (1976) mention agency theory is a contractual relationship between manager (agent) and company owner (principal). The agent is given the trust and authority to manage the wealth owned by the principal. In addition, the agent is also trusted in making decisions in accordance with the interests of the principal. Agents as managers in the company certainly have more information than shareholders about the condition of the company. This gives rise to information asymmetry between the agent and the principal, which in this case provides an opportunity for managers to behave opportunistically for personal gain. In general, owners and investors want high profits, so managers who are directly responsible must strive to earn high profits. If these conditions are difficult to achieve, managers will take various ways to make the company's financial condition look good by doing moral hazard.

**Stock returns**

Stock return is the result of profits obtained by investors from a stock investment made. Stock return is one of the factors that motivates investors to invest and is also a reward for the courage of investors to bear the risk of their investments (Tandelilin, 2010). Stock returns can be in the form of realized returns that have occurred or expected returns that have not yet occurred but which are expected to occur in the future (Jogiyanto, 2017).

**Financial Distress**

Financial distress is a condition where the company's finances are in an unhealthy state or crisis. This condition begins with liquidity difficulties where the company has difficulty fulfilling its obligations to creditors. In addition, financial distress is the final stage of a liquidity crisis that has the potential to go bankrupt (Drescher, 2014). This encourages managers to take the opportunity to cover
the performance of companies experiencing financial distress by choosing different methods to increase revenue and cover company losses (Habib, et al. 2013). In this study, researchers used the Altman model and the Springate model.

**Earning management**

Earnings management is an act of intervention (intervention) of managers on earnings processing that is motivated by certain goals. Earnings management is defined as a choice made by managers or an actual action that affects earnings performance to achieve certain recording objectives. Scott (2015) divides earnings management practices into four forms:

i. Taking a Bath, this technique occurs at the time of the change of directors. Managers will usually maximize profits on financial statements by recognizing current period profits and minimizing costs.
ii. Income minimization, a technique of lowering income is intended to avoid large taxes and prevent political attention.
iii. Income maximization, this action is taken so that the financial statements look good in the eyes of investors and potential investors, and prevent breaches of contracts.
iv. Income smoothing, this action is taken so that the condition of financial performance, especially profit looks stable and does not fluctuate significantly.

**Real Earnings Management**

Real earnings management is an activity that is often carried out by company management because this activity often escapes the view and attention of regulators by investors. Real earnings management is done through the manipulation of production costs, where the company will have higher production costs than the normal level. Graham et al. (2005) provide supporting evidence that managers prefer real earnings management over accrual earnings management, because real earnings management activities are difficult to distinguish from optimal business decisions and more difficult to detect, even though the costs involved in these activities are economically significant for the company.

Real earnings management is done through the manipulation of production costs, where the company will have higher production costs than the normal level. Real earnings management can be done in three ways, namely: engineering sales, overproduction, and decreasing discretionary expenses. The three ways of real earnings management are usually carried out by companies that have poor performance, by means of real earnings management, the company can achieve profits slightly above zero and with the three methods above, companies suspected of carrying out real earnings management will have abnormal cash flow operations and abnormal production costs that are higher than other companies and have lower abnormal discretionary expenses (Roychowdhury, 2006). In this research, earnings management uses 3 proxies, namely abnormal cash flow, abnormal production cost, and abnormal discretionary expenses.

**Effect of financial distress (Altman and Springate Models) on earnings management**

When company managers experience financial distress, managers usually assume that their bonuses are cut, transferred to loss of reputation. In order to avoid this, managers as much as possible make use of their expertise in earnings management or manipulating financial statements.

Agency theory also explains that the relationship between the agent and the principal. Agency problems occur when managers as agents act arbitrarily on financial statements to make them look good to investors and creditors. Misunderstanding that occurs constantly will lead to information asymmetry. As Ghazali, et al (2015) said, if the company's financial distress, the principal will cut bonuses, transfer of title, even to dismissal. When the company experiences financial distress with the Altman model and the Springate model, the higher the manager's desire to perform earnings management.


**H1:** financial distress with the Altman model has a positive effect on earnings management.

**H1:** financial distress with the Springate model has a positive effect on earnings management.

**Effect of financial distress (Altman and Springate Models) on stock returns return**

Financial Distress is a condition where a company experiences financial difficulties. Financial distress can affect the company's continuity (Risqi & Sutjahyani, 2019). Companies experiencing financial distress will potentially experience bankruptcy. Altman and Springate can be used as a way to predict the financial condition of the company's financial distress, so that management can prevent early if the company has the potential to go bankrupt.

Signaling theory explains that when a company experiences financial distress, the signal received by investors is bad because it will affect the stock returns received by investors. With this financial distress model, investors can see how far the company's performance and company prospects are in the future. Research conducted by Agarwal (2012), Hackbarth (2015), Feren and Nurainun (2019) shows that financial distress has a significant negative effect on stock returns.
Thus, it can be explained that high financial distress can result in the company having poor profit prospects. In addition, companies with high financial distress have the ability to generate lower profits. This can affect the desire of investors to invest. Investors prefer companies with good financial conditions, because when the company's financial condition is bad, it is usually not responded well by falling stock prices, so that it also affects the stock returns received by investors.

**H2:** Financial distress with the Altman model has a negative effect on stock returns.

**H2:** Financial distress with the Springate model has a negative effect on stock returns.

**Effect of earnings management on stock returns (Altman and Springate Models)**

Agency theory explains that managers or agents are given the responsibility by principals to manage the company, so as to increase the prosperity of shareholders, for this reason managers tend to obtain the maximum profit at the expense of other parties (Puspita, 2017). In obtaining these benefits, managers will use the information they have for the management of the company's financial statements in order to maximize shareholder wealth. Manager intervention in managing financial statements or often known as earnings management is done to make the company's profits high so that it is valued by potential investors or shareholders.

This earnings management practice can cause investors to make inappropriate investment decisions, because the information presented does not describe the actual state and financial position of the company, so that investors cannot properly assess the risk and stock returns of the funds to be invested. The high level of earnings management in the company indicates the high risk that will be accepted by investors, and causes lower stock returns to be obtained by investors.

Research by Istiqomah and Adhariani (2017), Halim & Atmadja (2017) shows that earnings management has a negative effect on stock returns.

**H3:** Earnings management has a negative effect on stock returns (Altman model)

**H3:** Earnings management has a negative effect on stock returns (Springate model)

**The effect of financial distress (Altman and Springate Models) on stock returns is mediated by earnings management**

High financial distress causes the company to have poor profit or profit prospects. This means that high financial distress occurs when the company has poor financial performance. Poor financial performance is usually responded poorly by declining stock prices so that it also affects the stock returns received by investors.

Agency theory explains that agents or managers have different interests. The agent is given the trust to manage the principal's wealth, besides that the agent is also trusted in making decisions in accordance with the interests of the principal. Agents within the company have more information than shareholders about the condition of the company (Indrayanti & Wirakusuma, 2017).

Thus, when a company experiences financial distress, it will further strengthen the motivation of managers to further report by manipulating their earnings. The profit shown is usually always increasing, if the profit increases then the stock return received also increases. In addition, the actions of a manager to carry out earnings management also provide a special attraction for investors, because the company's financial performance will look good. This will have a good impact on stock returns, because there is a lot of interest from investors to invest their money in companies that have good performance (Yusrianti, 2014).

**H4:** Earnings management mediates the effect of financial distress with the Altman model on stock returns

**H4:** Earnings management mediates the effect of financial distress with the Springate model on stock returns

---

**Figure 1:** Conceptual Framework
Research and Methodology

The population in this study are all textile and garment companies listed in Indonesia Stock Exchange in the observation period 2015-2019. The sampling technique used in this study is sampling saturated so there are 20 companies with 100 observations.

Data Types and Data Collection

This research is classified as a quantitative research using secondary data as a source of data that the researcher obtained from the annual financial statements of textile and garment companies listed on the Indonesia Stock Exchange for the period 2015 – 2019, data obtained from the Indonesia Stock Exchange Website (www.idx.co.id) and the Yahoo Finance Website (www.yahoofinance.com).

Variable Operational Definition

Stock returns

Stock return is the rate of return received by investors for their investments (Jogiyanto, 2017). Stock return is measured by capital gain plus yield.

Financial Distress

Financial distress is a condition where a company experiences financial difficulties (Risqi & Sutjahyani, 2019). Financial distress uses 2 measurement models, namely altman and springate. Altman consists of 5 components, namely X1 (working capital/total assets), X2 (retained earnings/total assets) X3 (earnings before interest and tax/total assets), X4 (MVE/book value of total debt), X5 (sales/total assets). Springate consists of 4 components, namely X1 (working capital/total assets), X2 (earnings before interest and tax/total assets), X3 (Earning Before Tax to Current Liabilities), X4 (sales/total assets).

Real Earnings Management

Real earnings management is a form of earnings management that is carried out through the company's operational activities (Roychowdhury, 2006). Earnings management is measured by Abnormal Cash Flow Operations, Abnormal Discretionary Expenses, and Abnormal Production Costs.

EMPIRICAL DATA ANALYSIS

This study has the results of hypothesis testing which are shown in the table below:

<table>
<thead>
<tr>
<th>Table 1: Hypothesis Test Results Model 1 (Altman)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Effect between</strong></td>
</tr>
<tr>
<td>Latent variables</td>
</tr>
<tr>
<td>Financial Distress (FD)</td>
</tr>
<tr>
<td>Financial Distress (FD)</td>
</tr>
<tr>
<td>Earning Management (ML)</td>
</tr>
</tbody>
</table>
Based on the table and the output of Warp-PLS, it can be seen the estimation results based on the hypothesis testing above. The variable Financial Distress (FD) has an effect (path coefficient) on Earnings Management (ML) of 0.874 with a p-value of 0.000. Because p-value <0.05, the hypothesis states H1 is accepted, meaning that Financial Distress (FD) has a significant positive effect on Earnings Management (ML).

The Financial Distress (FD) variable has an effect (path coefficient) on Stock Return (RS) of -0.334 with a p-value of 0.000. Because the p-value <0.05, the statistical hypothesis states H2 is accepted, meaning that Financial Distress (FD) has a significant negative effect on Stock Return (RS).

Earnings Management Variable (ML) has an effect (path coefficient) on Stock Return (RS) of -0.629 with a p-value of 0.000. Because the p-value <0.05, the statistical hypothesis states that H3 is accepted, meaning that Earnings Management (ML) has a significant negative effect on Stock Return (RS).

<table>
<thead>
<tr>
<th>The Effect between</th>
<th>H</th>
<th>Path Coefficient</th>
<th>p-value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latent variables</td>
<td>---</td>
<td>------------------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>Financial Distress (FD)</td>
<td>--&gt; Earning Management (ML)</td>
<td>H₁</td>
<td>0.865</td>
<td>0.000</td>
</tr>
<tr>
<td>Financial Distress (FD)</td>
<td>--&gt; Stock Return (RS)</td>
<td>H₂</td>
<td>-0.173</td>
<td>0.037</td>
</tr>
<tr>
<td>Earning Management (ML)</td>
<td>--&gt; Stock Return (RS)</td>
<td>H₃</td>
<td>-0.787</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Based on the table and output of Warp-PLS above, it can be seen the estimation results and hypothesis testing. The Financial Distress (FD) variable has an effect (path coefficient) on Earnings Management (ML) of 0.865 with a p-value of 0.000. Because the p-value <0.05, the statistical hypothesis states H1 is accepted, meaning that Financial Distress (FD) has a significant positive effect on Earnings Management (ML).

Financial Distress (FD) variable has an effect (path coefficient) on Stock Return (RS) of -0.173 with a p-value of 0.037. Because the p-value <0.05, the statistical hypothesis states H2 is accepted, meaning that Financial Distress (FD) has a significant negative effect on Stock Return (RS).

Earnings Management Variable (ML) has an effect (path coefficient) on Stock Return (RS) of -0.787 with a p-value of 0.000. Because the p-value <0.05, the statistical hypothesis states that H3 is accepted, meaning that Earnings Management (ML) has a significant negative effect on Stock Return (RS).
Moderation Variable Test

Table 3: Testing of Mediation Variables Model 1 (Altman)

<table>
<thead>
<tr>
<th>No</th>
<th>Relationship between variables</th>
<th>Indirect Effect</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Explanatory Variables</td>
<td>Mediation Variable</td>
<td>Response Variable</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Financial Distress (FD)</td>
<td>Earning Management (ML)</td>
<td>Stock Return (RS)</td>
<td>-0.550</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that the latent variable has an indirect effect on the intended latent variable. The indirect effect of Financial Distress (FD) on Stock Return (RS) through Earnings Management (ML) is -0.550 with a p-value of 0.000. Due to the p-value = 0.000 <0.05, it is statistically significant. It can be concluded that the Income Management (ML) is able to act as a mediation between the effect of Financial Distress (FD) on the Stock Return (RS).

Table 4: Testing Mediation Variables Model 2 (Springate)

<table>
<thead>
<tr>
<th>No</th>
<th>Relationship between variables</th>
<th>Indirect Effect</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Explanatory Variables</td>
<td>Mediation Variable</td>
<td>Response Variable</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Financial Distress (FD)</td>
<td>Earning Management (ML)</td>
<td>Stock Return (RS)</td>
<td>-0.681</td>
</tr>
</tbody>
</table>

Based on the table above, it can be seen that the latent variable has an indirect effect on the intended latent variable. The indirect effect of Financial Distress (FD) on Stock Return (RS) through Earnings Management (ML) is -0.681 with a p-value of 0.000. Due to the p-value = 0.000 <0.05, it is statistically significant. It can be concluded that the Income Management (ML) is able to act as a mediation between the effect of Financial Distress (FD) on the Stock Return (RS).

Overall SEM-PLS Model Analysis (OVERALL MODEL)

This section aims to provide a more complete (holistic) picture of the results of the empirical synthesis in the formation of a structural model so that the results of the analysis are more comprehensive. Based on the results of the analysis that have been discussed previously, this section will describe a Structural Equation Model (SEM) which was analyzed using the Partial Least Square (PLS) method which was discussed holistically (whole), both direct and indirect effects, as well as a discussion of the dominant test. exogenous versus endogenous constructs.

Figure 4: Path Diagram SEM-PLS OverAll Model 1 (Altman)
In general, the SEM-PLS Path Diagram image above can be concluded that all direct effects on the two models are significant. All of these “significant” results were obtained from the number of representative samples representing the population parameters (starting from the upper class to the lower class). Because the results of the research on this sample are stated to be “significant”, the results of this sample research can be generalized (inferred/generalized) to the population or generalized to other regions that have similar parameter characteristics.

Based on the two SEM-PLS Path Diagram models above, it can be seen that in Model 1 (Altman) the direct effect of Financial Distress (FD) on Stock Return (RS) has a higher path coefficient, which is -0.334 than when mediated by Earnings Management (ML) variables, namely -0.550. While in Model 2 (Springate) the effect is higher if it is through an intermediary (mediation) route, namely -0.681 > -0.173.

Findings

Effect of financial distress (Altman and Springate Models) on earnings management

The first hypothesis of the 2 models reveals that financial distress (Altman and Springate Models) has a positive effect on earnings management. The results of this test indicate that financial distress has a significant positive effect on earnings management. This means that when the company experiences high financial distress, the manager's desire to carry out earnings management is also higher.

The results of this study are also supported by agency theory which explains the relationship between agents and principals. In addition, agency theory also explains that when company managers experience financial difficulties, managers usually assume that their bonuses are cut, transferred to loss of reputation (Ghazali, et al. 2015). In order to avoid this, managers as much as possible make use of their expertise in earnings management or financial reporting. The results of the study are in line with research conducted by Ranjbar & Amanollahi (2018), Nyoman, et al. (2017) Chairunesia (2018), Nazalia & Triyanto (2018), Handayani & Hariyani (2019), show that financial distress has a significant positive effect on earnings management.

Effect of financial distress (Altman and Springate Models) on stock returns return

The second hypothesis of the 2 models reveals that financial distress (Altman and Springate Models) has a negative effect on stock returns. The results of this test indicate that financial distress has a significant negative effect on stock returns. This means that when the company experiences financial distress, the company's ability to generate profits is also lower so that the stock returns received are also low.

The results of this study are also supported by signaling theory which explains that when a company experiences financial distress, the signal received by investors is bad. Investors prefer companies with good financial conditions, because when the company's financial condition is bad, it is usually not responded well by declining stock prices, thus affecting the stock returns received by investors. The results of this study are in line with research conducted by Agarwal (2012), Hackbarth (2015), Feren and Bangun (2019) which shows that financial distress has a significant negative effect on stock returns.

Effect of earnings management on stock returns (Altman and Springate Models)

The third hypothesis of the 2 models reveals that earnings management has a negative effect on stock returns. The results of this test indicate that earnings management has a significant negative effect on stock returns. This means that when managers perform
earnings management by increasing profits from the company, this earnings management can cause investors to make inappropriate investment decisions, because the information presented does not describe the actual state and financial position of the company. Investors cannot properly assess the risk and return of shares on the funds to be invested. The high level of earnings management in the company indicates the high risk that will be accepted by investors, and causes lower stock returns to be obtained by investors.

The results of this study are also supported by agency theory which explains that managers or agents are given responsibility by principals to manage the company, so as to increase the prosperity of shareholders, for this reason managers have a tendency to obtain the maximum profit at the expense of other parties (Puspita, 2017). The results of this study are in line with research conducted by Istitqomah and Adhariani (2017), Halim & Atmadja (2017) which show that earnings management has a negative effect on stock returns.

The effect of financial distress (Altman and Springate Models) on stock returns is mediated by earnings management

The fourth hypothesis of the 2 models reveals that earnings management mediates the effect of financial distress on stock returns. The results of this test indicate that earnings management mediates the effect of financial distress on stock returns. This means that when the company's financial distress is high, managers will carry out earnings management, usually earnings management does not describe the actual financial condition of the company, so that the decisions taken by investors are often inappropriate and cause the stock returns received by investors to decrease.

The results of this study are also supported by signaling theory which explains that when a company experiences high financial distress, the company will carry out earnings management, then the signal received by investors or shareholders is bad because they know that the information submitted is not true. Investors prefer companies with good financial conditions. This is because companies with poor financial conditions usually respond poorly by decreasing stock prices which also affects the decline in stock returns received by investors.

Conclusions

Currently, many studies related to financial distress have been carried out. Research related to financial distress is usually carried out with several models. There have been several studies that measure financial distress to other variables, but only use one model. This study uses two models to see the effect of financial distress on other variables. This study aims to test and prove empirically the effect of financial distress with the Altman and Springate Models on stock returns through earnings management as a mediator in textile and garment companies listed on the Indonesia Stock Exchange for the 2015-2019 period.

This study has limitations, namely to see the effect of financial distress on stock returns, these two financial distress models focus more on the company’s internals seen from the ratios that the researchers use, while the influence of stock returns can still be seen from the external side of the company, for example inflation, interest rates high, and the exchange rate. The suggestion that the researcher proposes for future researchers is to increase the focus of research on external companies so as to add insight from further researchers regarding the effect of financial distress on stock returns.

References


