

## **FACTORS AFFECTING FINANCIAL DISTRESS IN MANUFACTURING COMPANIES LISTED ON THE IDX**

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### **ABSTRACT**

*In this study, the causes of financial distress in manufacturing firms listed on the Indonesia Stock Exchange from 2018 to 2020 were investigated. These factors include profitability (as measured by return on assets [ROA]), liquidity (as measured by current ratio [CR]), sales growth (as measured by sales growth rate), leverage (as measured by debt to assets [DAR]), firm size (as measured by the logarithm of total assets), and operating capacity (as measured by total assets turnover [TATO]). Based on the purposive sampling strategy, 99 data from 33 organizations were chosen as research samples. The EViews 12 was used to test the data processing in this investigation. This study's analysis employed a multiple regression analysis approach. The findings of this study indicate that financial distress is significantly and negatively influenced by firm size. Profitability, liquidity, and operating capacity, on the other hand, have a positive and significant impact on financial distress. Leverage and sales growth have no impact on financial distress.*

**Keywords:** *financial distress, profitability, liquidity, sales growth, leverage, firm size, operating capacity.*

## **1. INTRODUCTION**

Every company has various risks in running its business, one of which is the risk of failure marked by financial distress leading to bankruptcy. In practice, however, this risk often goes undetected. In this current economic condition, the risk of getting financial distress is bigger than before because the competition between companies in the industry getting tight and the signal is undetected. The changing in the economic condition caused changes in the company's performance. Companies has to take the economic condition seriously, especially its finances, so the chance of getting bankrupt is smaller.

The symptom of the company is experiencing financial distress shown by the company having a significant decrease in profits from year to year. This indication has been shown in practice, especially manufacturing companies that experienced a decline throughout 2019. For example,

PT Bumi Teknokultura Unggul Tbk has experienced a significant decrease in profits from 2018 to 2020. In 2018, the company had a profit of Rp 76.001.730.866. The profit was decreasing to minus Rp 83.843.800.594 in 2019. It kept getting lower until it has shown on the profit in 2020 of minus Rp 509.507.890.912. Not only PT Bumi Teknokultura Unggul Tbk has experienced this decrease in profit, but PT Goodyear Indonesia Tbk also experienced the same thing. In 2018, the profit earned through the year was Rp 7.317.336.186. The profit was decreasing to minus Rp 3/677.898.778 in 2019 and Rp 100.304.491.560 in 2020. It is also shown on other companies such as PT Hanjaya Mandala Sampoerna Tbk., PT Surya Toto Indonesia, Tbk., and PT Ricky Putra Globalindo Tbk.

A significant decrease in profit, as seen in the example above, will affect the company's cash flow. This effect will be a shock to the company and may subject the company to bankruptcy

[11]. Companies that continue to be in financial distress will incur losses, such as the inability to pay debts, whether short-term or long-term, the inability to obtain sales, and the inability to effectively and efficiently use the asset to generate a profit. Therefore, a company and other several parties that have an interest in the company need to know what factors cause financial distress so that the company can avoid financial distress by doing its job well through the right strategy to reduce bankruptcy risk.

This study looked at the variables influencing financial distress in manufacturing companies listed on the Indonesia Stock Exchange for the years 2018 to 2020. These variables include profitability, as indicated by return on assets (ROA), liquidity, as indicated by current ratio (CR), and sales growth, as indicated by Okrianesia's sales growth rate [17]. Debt to Assets Ratio (DAR) was used to measure leverage, company size was measured using the logarithm of total assets, and operating capacity was measured using total assets turnover (TATO).

Profitability is a reflection of how the company is able to generate profits for the company itself. The more efficiently the company makes a profit, the less likely it is that financial distress will occur because the company has the ability to repay its debts [5].

Liquidity indicates the company's ability to repay its short-term debt [21]. If the company has the ability to repay its short-term debt or the company is liquid, then the indications of the company experiencing financial distress and even bankruptcy due to failure to repay the debt become smaller [5].

Sales growth shows the company's ability to successfully make sales as seen from the increase or decrease from year to year [30]. The increase in sales from year to year will give a positive signal that the company is able to have a relatively stable cash flow.

The debt that a company has can be a boomerang if the company does not have the ability to repay the debt. This is indicated by leverage. Companies must wisely use such debts because too much debts can harm the company and result in financial distress [30].

The company can be said to be large or small through the number of assets owned by the company. These assets can pay off short-term or long-term debt if managed properly [15]. This will help the company reduce and even avoid financial distress.

The effectiveness of companies in using their assets to generate sales is called operating capacity. According to Sutra and Mais [30], the use of assets is important for the sustainability of the company. Assets that are used well will increase the sustainability of the company and avoid the company from financial distress and other risks of bankruptcy.

### ***Our Contribution***

This study showed some differences and progress based on research conducted by Okrianesia et al [17]. On the one hand, we use other factors affecting financial distress that have not been used in previous studies. We also used a different subject to the research conducted by Okrianesia et al [17] which was to use manufacturing companies. The period we used was also longer than in previous studies. The study also used the Altman Z-Score as a proxy for financial distress. Through several studies, it was shown that our improvement was feasible.

## ***Paper Structure***

The rest of the paper is organized as follows. Section 2 introduces the preliminaries used in this paper, covering the basic theories used in this study. Section 3 presents the research model and hypothesis used in the study. Then, the population, sample count, sample criteria, and proxies are described in Section 4. Section 5 shows the results of the study. Finally, Section 6 concludes the paper and presents direction for future research.

## **2. THEORETICAL REVIEW**

### ***Signalling Theory***

Signal theory was first proposed by Spence [27] in the Job Marketing Signaling research. Through the point of view of signal theory put forward by Spence [27], the information that companies can provide is divided into two, namely good information and bad information. This information is a signal for internal and external parties in making decisions. Ross [23], assumed that the internal party has information that the company has that can be a clue for investors, as one of the external parties, to make decisions. With the provision of information, misaligned information or asymmetric information can be reduced. In the company, there is an important signal of various parties, namely financial distress. Financial distress is a signal for both investors and management in making decisions [17].

### ***Agency Theory***

Conflicts of interest often occur due to differences in the information received [12]. Based on the perspective of agency theory, one way to reduce such conflicts is to provide appropriate information to all parties in decision making. The right information can be an illustration of the development of the company. As an agent, managers must present the correct information in order to reduce financial distress. This is also useful so that all parties related to the company, both owners or shareholders as principals and managers as agents can detect indications of bankruptcy by providing information related to the real state of the company. In this manner, agency costs can be reduced, and as a result, business performance is anticipated to improve.

### ***Financial Distress***

The condition where cash flow in the company is disrupted and experiences continuous operating losses leading to bankruptcy is called financial distress. Financial distress is caused by three things, namely the amount of debt, cash flow difficulties and losses in operational activities. These three things are internal factors that cause financial distress. Novica and Yuniarwati [16] mentioned that financial distress can also be caused by external factors such as the government's policy on tax rates and an increase in policy on loan interest rates.

### ***Profitability***

Profitability shows the degree of success or failure by performing efficiencies in making a profit [13]. The greater company's profit achieved, the easier it will overcome financial problems, especially the company's debts. In addition, increasingly large profits will attract investors to invest funds into the company.

### ***Liquidity***

Liquidity is an indicator that measures a company's ability to pay off debt, especially short-term debt. The company's ability needs to be considered so that the company is able to manage finances well and avoid financial distress. Control is also necessary to avoid misappropriation that can cause losses to the company and lead to financial distress and bankruptcy [30].

### ***Sales Growth***

The company's success in making sales is characterized by an increase or decrease from year to year called sales growth [30]. The company must make decisions and make strategies to be able to continue to increase sales that will generate greater profits. With this profit, the company improves welfare within the company and reduces the risk of financial distress.

### ***Leverage***

Short-term debt or long-term debt owned by a company must be resolved so as not to cause financial problems that result in bankruptcy. Leverage shows the company's ability to pay off these debts. The company must have its policy and of course, requires agreement between stakeholders in using debt. Sutra and Mais [30] mention that the use of too much debts can harm the company so that the company is trapped and it is difficult to pay off the debt.

### ***Firm Size***

The size of the company is seen from the number of assets owned by the company. These assets if managed properly will be a strength for the company. Companies with good asset management will tend to be able to overcome financial problems such as paying off short-term debt and long-term debt [15].

### ***Operating Capacity***

The effectiveness of a company in using its assets to generate sales is an understanding of operating capacity [30]. A company that effectively manages assets to generate sales, will reduce the costs incurred and will provide maximum profit in sales. This will have a good impact on the company in its efforts to avoid financial distress.

### ***Hypothesis Development***

#### ***The Effect of Profitability on Financial Distress***

Profitability measures the efficiency of a company in making a profit. The higher the ratio of profitability, the higher the company's profit. This makes companies tend to have more funds obtained from profits. This additional fund will provide benefits for the company in carrying out operational activities. The funds obtained from the profit can be used by the company to generate higher sales and greater profits. So that the profit obtained by the company is able to prevent the company from financial distress. In this study, the profitability proxied with ROA showed that companies make efficiencies in using their assets to generate profits. With a

large profit, the company has the ability to overcome financial problems, especially company debts.

H1: Profitability has a negative and significant influence on financial distress.

### ***The Effect of Liquidity on Capital Structure***

Liquidity measures the company's performance in repaying short-term debt. The higher the value of the liquidity ratio, it can be said that the company is able to repay its short-term debt. Repayable short-term debt will reduce the burden on the company. This will provide an opportunity for the company to continue to maximize the use of its funds to generate high sales and generate large profits. The liquidity proxied with CR shows that the company is able to repay its short-term debt with the current assets owned by the company. That way, the higher the liquidity ratio, the less risk of default and financial distress.

H2: Liquidity has a negative and significant influence on financial distress.

### ***The Effect of Sales Growth on Financial Distress***

Sales growth is used to find out the company's growth by looking at sales from year to year. Higher sales growth tends to provide benefits for the company. This advantage indicates that the strategy executed by the company is successful. These profits are able to encourage the company to grow and be able to generate more profit. This is because with the profit, the company is able to expand and continue to carry out its activities to generate high sales again.

H3: Sales growth has a negative and significant influence on financial distress.

### ***The Effect of Leverage on Financial Distress***

Leverage is useful for measuring a company's ability to pay off its long-term debt. The company's increased leverage indicates the greater the amount of long-term debt that the company has. More and more long-term debts can put a burden on the company for its obligations to pay off these debts. With the debt that needs to be repaid, the company's burden increases and can distract the company from sales and profits because it pays attention to third-party funds that need to be repaid. This can result in the company losing control and lead to financial distress for the company. In this study, DAR became a proxy for the leverage ratio which indicates that the company has the ability to repay both long-term and short-term debt with all assets owned by the company. The greater the value of DAR indicates that the company has a large amount of debt as well. So, the larger the DAR, the harder it is to pay the debts and the more likely it is to experience financial distress.

H4: Leverage has a positive and significant influence on financial distress.

### ***The Effect of Firm Size on Financial Distress***

Firm size shows the total assets that the company has. The larger the size of the company means the larger the company's assets. Company assets that are used effectively and efficiently will provide an opportunity for the company to generate higher and higher sales. These sales will have an impact on the company's profits which are getting bigger as well. This profit will increase the company's ability to become a company that counts in the market. This study uses Ln (Total Assets) as a company size proxy which shows that the number of company assets determines the size of the company. The larger the assets owned, the larger the company, the smaller the possibility of the company having difficulty paying debts, the smaller the company experiences financial distress.

H5: Firm Size has a negative and significant influence on financial distress.

### ***The Effect of Operating Capacity on Financial Distress***

Operating capacity shows the effectiveness and efficiency of the company in using assets to obtain sales. The increasingly large operating capacity shows that the company is able to use its assets effectively and efficiently. This indicates savings in the use of assets but the company still optimally generates sales. Optimal sales will give the company an impetus to make a large profit. In this study, operating capacity was proxied with TATO which shows that companies have the ability to generate sales with the number of assets owned. The greater the value of the TATO, the greater the company's ability to generate sales, the greater the profit the company earns, the less likely the company is to experience financial difficulties.

H6: Operating Capacity has a negative and significant influence on financial distress.

In summary, the hypothesis are shown below:

H1: Profitability has significant negative effect on Financial Distress

H2: Liquidity has significant negative effect on Financial Distress

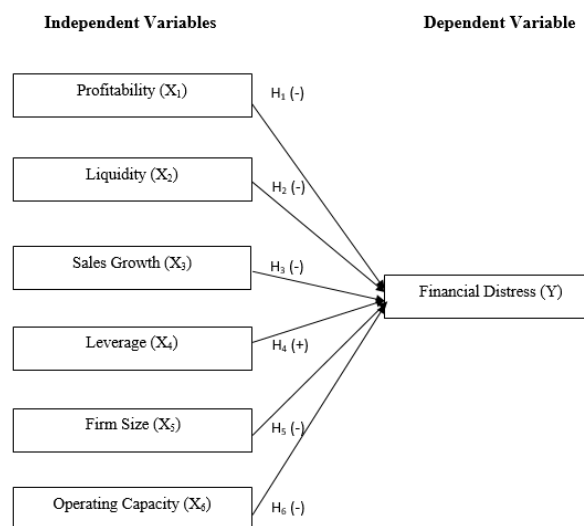
H3: Sales growth has significant negative effect on Financial Distress

H4: Leverage has significant positive effect on Financial Distress

H5: Firm Size has significant negative effect on Financial Distress

H6: Operating Capacity has significant negative effect on Financial Distress

The research model of this study as presented in Figure 1 below:



**Figure 1.** The Research Model

### **3. RESEARCH METHOD**

All manufacturing businesses registered on the Indonesia Stock Exchange for the years 2018 through 2020 represent the study's population. There are 33 businesses in the chosen research sample. Purposive sampling was utilized for the sample selection, and the following sample

criteria were used: (1) Manufacturing companies listed on the IDX successively in the period 2018-2020; (2) Companies whose financial statements do not expire on December 31; (3) Companies that do not experience financial distress according to the Altman Z-Score model analysis in the 2018-2020 period. Multiple regression analysis was used to examine a total of 99-panel data (33 samples times 3 periods). Eviews software 12, the student edition, was used to process the data for this investigation. The operationalization of the research variables shown in Table 1 is as follows:

**Table 1.** The Operationalization of Research Variables

Variable	Proxies and Formulas	Source
Financial Distress	Proxy: <i>Altman Z-Score</i> $Z\text{-SCORE} = 1.2T1 + 1.4T2 + 3.3T3 + 0.6T4 + 1.0T5$ Information: $T1 = \text{Working Capital} / \text{Total Assets}$ $T2 = \text{Retained Earnings} / \text{Total Assets}$ $T3 = \text{EBIT} / \text{Total Assets}$ $T4 = \text{Market Value of Equity} / \text{Total Liabilities}$ $T5 = \text{Sales} / \text{Total Assets}$	Jaafar <i>et al.</i> (2018)
Profitability	Proxy: <i>Return on Assets</i> $ROA = \frac{\text{Earning After Taxes}}{\text{Total Assets}}$	Okrisnesia, <i>et al.</i> (2021)
Liquidity	Proxy: <i>Current Ratio</i> $CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	Okrisnesia, <i>et al.</i> (2021)
Sales Growth	Proxy: <i>Sales Growth Rate</i> $SG = \frac{\text{Sales Year } (t) - \text{Sales Year } (t - 1)}{\text{Sales Year } (t - 1)}$	Okrisnesia, <i>et al.</i> (2021)
Leverage	Proxy: <i>Debt to Assets Ratio</i> $DAR = \frac{\text{Total Liabilities}}{\text{Total Assets}}$	Jaafar <i>et al.</i> (2018)
Firm Size	Proxy: <i>Logarithm of Total Assets</i> $SIZE = \ln(\text{Total Assets})$	Dirman (2020)
Operating Capacity	Proxy: <i>Total Assets Turnover</i> $TATO = \frac{\text{Net Sales}}{\text{Total Assets}}$	Putri (2021)

#### 4. RESULTS

The result of descriptive statistical test of 99 samples of dependent and independent variable in manufacturing company can be seen in the following table.

**Table 2.** Descriptive Statistics

	FD	ROA	CR	SG	DAR	SIZE	TATO
<i>Mean</i>	1.426176	0.010741	1.255228	0.012381	0.561296	29.16322	0.715726
<i>Maximum</i>	2.903260	0.090300	2.468900	0.584900	0.789500	32.72560	1.661800
<i>Minimum</i>	-1.139070	-0.095200	0.266700	-0.500700	0.257500	26.73070	0.261500
<i>Std. Deviation</i>	0.747749	0.034919	0.444998	0.197461	0.126360	1.542792	0.315799
<i>Observations</i>	99	99	99	99	99	99	99

Source: Data Processing using EViews 12

The chow test shows the cross-section chi-square probability value is 0.0000. It is smaller than the level 5% significance. It indicates  $H_a$  is accepted and the estimation model chosen from the Chow Test is Fixed Effect Model (FEM).

**Table 3.** Chow Test Result

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	24.659743	(32,60)	0.0000
Cross-section Chi-square	262.334782	32	0.0000

Source: Data processing using EViews 12

After Chow Test, Hausman test is used to proven the model used in this research is Fixed Effect Model (FEM). The Hausman test shows that the probability value of random cross-section is 0.0001, smaller than the level 5% significance. Therefore,  $H_a$  is accepted and the model used in this research is Fixed Effect Model (FEM).

**Table 4.** Hausman Test Result

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

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	27.593228	6	0.0001

Source: Data processing using EViews 12

The data used in this study is panel data, which is a combination of cross-sectional and time-series data. The multicollinearity test and the heteroscedasticity test are the conventional assumption tests performed since panel data are being used.

**Table 5.** Multicollinearity Test Result

	ROA	CR	SG	DAR	SIZE	TATO
ROA	1.000000	0.503439	0.309449	-0.282827	0.360811	0.120468
CR	0.503439	1.000000	0.079051	-0.412368	0.299434	-0.083180
SG	0.309449	0.079051	1.000000	-0.068823	-0.034822	0.187454
DAR	-0.282827	-0.412368	-0.068823	1.000000	-0.090151	0.074281
SIZE	0.360811	0.299434	-0.034822	-0.090151	1.000000	-0.348339
TATO	0.120468	-0.083180	0.187454	0.074281	-0.348339	1.000000

Source: Data Processing using EViews 12



According to the findings above, each independent variable's R2 coefficient was less than 0.90, which indicates that there are no multicollinearity issues with the correlation between the independent variables.

**Table 6. Heteroscedasticity Test Result**

Heteroskedasticity Test: Harvey			
Null hypothesis: Homoskedasticity			
F-statistic	2.022287	Prob. F(6,92)	0.0705
Obs*R-squared	11.53554	Prob. Chi-Square(6)	0.0732
Scaled explained SS	14.27153	Prob. Chi-Square(6)	0.0267

Source: Data Processing using EViews 12

The heteroscedasticity tests reveal that all variables have probability values larger than 0.5. This indicates that there is no heteroscedasticity in the regression model.

From the multiple regression analysis result (shown in Table 7), the adjusted R2 value is 0.964444 shows that 96.44% of the dependent variables in this study are financial distress can be explained by independent variables in the form of profitability, liquidity, sales growth, leverage, sales size, and operating capacity. While the rest, which is 3.56% is explained by other variables apart from the variables in this study. The simultaneous significance test (F-test) results show that the independent variable in this study concurrently affects the dependent variable, with a Prob value (F-Statistic) of 0.000000. The results of the hypothesis testing are shown in Table 2, demonstrating the suitability of the regression model employed.

**Table 7. Multiple Regression Analysis Results**

Dependent Variable: FINANCIAL_DISTRESS				
Method: Panel Least Squares				
Date: 06/25/22 Time: 04:42				
Sample: 2018 2020				
Periods included: 3				
Cross-sections included: 33				
Total panel (balanced) observations: 99				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.66454	6.465016	3.196363	0.0022
ROA	3.476481	0.955464	3.638525	0.0006
CR	0.325938	0.107454	3.033277	0.0036
SG	0.064446	0.123846	0.520373	0.6047
DAR	-1.139143	0.649251	-1.754548	0.0844
FIRM_SIZE	-0.668978	0.228403	-2.928941	0.0048
TATO	0.647332	0.197755	3.273403	0.0018
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.978231	Mean dependent var	1.426176	
Adjusted R-squared	0.964444	S.D. dependent var	0.747749	
S.E. of regression	0.140997	Akaike info criterion	-0.793050	
Sum squared resid	1.192812	Schwarz criterion	0.229270	
Log likelihood	78.25598	Hannan-Quinn criter.	-0.379418	
F-statistic	70.95363	Durbin-Watson stat	2.787737	
Prob(F-statistic)	0.000000			

Source: Data Processing using EViews 12

The multiple linear regression is obtained as follows:

$$\text{FINANCIAL DISTRESS} = 20.66454 + 3.476481 \text{ ROA} + 0.325938 \text{ CR} + 0.064446 \text{ SG} - 1.139143 \text{ DAR} - 0.668978 \text{ SIZE} + 0.647332 \text{ TATO} + e$$

According to the results of the partial significance test (T-test), independent variables that affect the dependent variable are profitability, liquidity, firm size, and operating capacity where the Prob value for each variable is below 0.05. The results are shown as follows:

**Table 8.** The Results of Hypotheses Testing

Variable	Coefficient	Significance	Conclusion Ha
Profitability (-)	3.476481	0.0006	Rejected
Liquidity (-)	0.325938	0.0036	Rejected
Sales Growth (-)	0.064446	0.6047	Rejected
Leverage (+)	-1.139143	0.0844	Rejected
Firm size (-)	-0.668978	0.0048	Accepted
Operating capacity (-)	0.647332	0.0018	Rejected

## 5. CONCLUSIONS

The authors came to various conclusions based on the data collected and supplied by this study.

First, profitability has a positive and significant effect on the financial distress of manufacturing companies for the 2018-2020 period. The profitability of the companies studied has a maximum ROA value of 0.09, but this company can avoid financial distress or financial distress. This shows that these companies can manage well. One of the management carried out by the company is to provide the right decisions on plans for the future [2]. The results of this study are also in line with Andreani dan Yuniarwati [2], Asfali [3], Dirman [5], Jaafar, et al [11], Kurniasih et al [14], Novica dan Yuniarwati [16], dan Okrianesia, et al [17].

Second, liquidity has a significant and positive effect on financial distress for manufacturing companies for the 2018-2020 period. Too much liquidity is not good for the company because it shows an excess of current assets such as inventories and receivables [16]. In this study, low liquidity was shown not to cause financial distress. This shows that the company uses a lot of third-party funds to finance current assets, while its current assets are more widely used to make a profit for the company. This is in line with research conducted by Asfali [3], Kurniasih et al [14], Mappadang, et al [15], Novica dan Yuniarwati [16], dan Okrianesia, et al [17].

Third, sales growth did not have a significant effect on the financial distress of manufacturing companies for the 2018-2020 period. High sales growth followed by a high cost of goods sold

as a burden from the company was able to make sales growth not affect the company. This was stated by Giarto and Fachrurrozie [8], where growing sales accompanied by a high cost of goods sold made the profit earned by the company low. So high sales growth may not necessarily prevent the company from financial distress. Similarly, low sales growth does not necessarily indicate the company is experiencing financial distress. This is in line with research conducted by Giarto and Fachrurrozie [3], and Sutra dan Mais [29].

Fourth, leverage did not have a significant effect on the financial distress of manufacturing companies for the 2018-2020 period. In this study, leverage did not have a significant effect because the company under study, although it has a large long-term debt, it is also guaranteed by large assets [5]. This is in line with research conducted by Gunawan dan Putra [9], Sutra dan Mais [29], and Dirman [5].

Fifth, the size of the company has a negative and significant effect on the financial distress of manufacturing companies for the 2018-2020 period. The larger the size of the company, the smaller the chances of the company experiencing financial distress. This is because the larger the size of the company, the more it shows that the company has large assets as well. This large asset increases the company's ability to repay its debts in the future [5]. This is in line with research conducted by Dirman [3] and Silalahi, et al [26].

Sixth, operating capacity has a positive and significant effect on the financial distress of manufacturing companies for the 2018-2020 period. Fast asset turnover if not accompanied by effective use of assets is also the reason the company is not able to generate enough sales [25]. This shows the company's poor performance. This is in line with research conducted by Setyawati [3], Pratiwi and Muslih [18], and Putri [19]. According to the study's findings, financial distress is negatively impacted by firm size. Financial distress is positively and significantly impacted by profitability, liquidity, and operating capacity. Leverage and sales growth have no discernible impact on financial distress.

## **6. LIMITATIONS AND RESEARCH SUGGESTION**

This study has several limitations as follows.

1. This research only used six independent variables, namely profitability, liquidity, sales growth, leverage, firm size, and operating capacity.
2. Second, the samples used in the study were limited to 33 manufacturing enterprises.
3. Third, the period in this study was only three years, namely from 2018-2020.

Some suggestions for further researchers are:

1. For further research: (a) adding other independent variables such as corporate governance, operating cash flow, inflation rate, or capital structure; (b) using moderation variables; (c) adding the observation periods so that it can show the influence of independent variables in the long term; (d) using other companies besides manufacturing sector companies such as consumer goods companies so that different results can be obtained.
2. For investor: based on this study, it is better for investor to invest on the larger company than small or medium sized company.
3. For the companies studied, based on the test results firm size has a negative effect on financial distress, therefore, it is expected to continue to manage assets effectively and on the other side, companies on a small and medium scale must improve the ability to manage company assets to be used effectively so as not to experience financial distress.

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## **REFERENCES**

- [1] Altman. E. I. (1968). Financial Ratios, Discriminant Analysis dan The Prediction of Corporate Bankruptcy. *The Journal of Finance*, 23(4), 589-609. DOI: <https://doi.org/10.2307/2978933>
- [2] Andreani, S., dan Yuniarwati. (2022). Pengaruh Rasio Keuangan Terhadap Kondisi Financial Distress di Indonesia. *Jurnal Multiparadigma Akuntansi*, 4(1), 254-263.
- [3] Asfali, I. (2019). Pengaruh Profitabilitas, Likuiditas, Leverage, Aktivitas, Pertumbuhan Penjualan Terhadap Financial Distress Perusahaan Kimia. *Jurnal Ekonomi dan Manajemen*, 20(02), 56-66.
- [4] Basuki, Tri Agus. (2021). Analisis Data Panel dalam Penelitian Ekonomi dan Bisnis (Dilengkapi dengan Penggunaan Eviews). Yogyakarta: Universitas Muhammadiyah Yogyakarta.
- [5] Dirman, A. (2020). Financial Distress: The Impacts of Profitability, Liquidity, Leverage, Firm Size, and Free Cash Flow. *International Journal of Business, Economics and Law*, 22(1), 17–25.
- [6] Ghozali, I. (2021). Aplikasi Analisis Multivariate dengan Program IBM SPSS 26 (Edisi 10). Semarang: Badan Penerbit Universitas Diponegoro.
- [7] Ghozali, I., dan Ratmono. D. (2017). Analisis Multivariat dan Ekonometrika Teori, Konsep, dan Aplikasi dengan Eviews 10 (Edisi 2). Semarang: Badan Penerbit Universitas Diponegoro.
- [8] Giarto, R. V. D., dan Fachrurrozie. (2020). The Effect of Leverage, Sales growth, Cash Flow on Financial Distress with Corporate Governance as a Moderating Variable. *Accounting Analysis Journal*, 9(1), 15-21. DOI: <https://doi.org/10.15294/aaaj.v9i1.31022>
- [9] Gunawan, B., dan Putra, H. C. (2020). Determinant of Financial Distress (Empirical Study of Manufacturing Companies Listed on The Indonesia Stock Exchange and Malaysia Stock Exchange Period 2017-2018). *Advances in Economics, Business, and Management Research*, 176, 113-120. DOI: <https://dx.doi.org/10.2991/aer.k.210121.016>
- [10] Hidayat, M. A., & Meiranto, W. (2014). Prediksi Financial Distress Perusahaan Manufaktur di Indonesia. *Diponegoro Journal of Accounting*, 3(3), 1-11.
- [11] Jaafar, M. N., Muhamat, A. A., Alwi, A. F. S., Karim, N.A., Rahman, A. B. A. (2018). Determinants of Financial Distress among the Companies Practise Note 17 Listed in

- Bursa Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(11), 800–811. DOI: <http://dx.doi.org/10.6007/IJARBS/v8-i11/4956>
- [12] Jensen, M. C., dan Meckling, W. H. (1976). Theory of The Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal Of Financial Economics*, 3(4), 305-360.
- [13] Kieso, D. E., Weygandt, J. J., dan Warfield, T. D. (2020). *Intermediate Accounting: IFRS Edition (4th Edition)*. Hoboken: John Wiley & Sons, Inc.
- [14] Kurniasih, A., Heliantono, Sumarto. A.H., Srtiyawasih, R., Pujihastuti, I. (2020). Determinant of Financial Distress: The Case of Pulp & Paper Companies Registered in Indonesia Stock Exchange. *Jurnal Manajemen & Agribisnis*, 17(3), 254-264.
- [15] Mappadang, A., Ilmi, S., Handayani, W. S., Indrabudiman, A. (2019). Faktor-Faktor Yang Mempengaruhi Financial Distress pada Perusahaan Transportasi. *Jurnal Riset Manajemen Dan Bisnis (JRMB) Fakultas Ekonomi UNIAT*, 4(1), 683–696.
- [16] Novica dan Yuniarwati. (2021). Pengaruh Profitabilitas, Likuiditas, dan Solvabilitas Terhadap Financial Distress pada Perusahaan Manufaktur. *Jurnal Multiparadigma Akuntansi*, 3(4), 1651-1659.
- [17] Okrianesia, M., Supheni, I., Suroso, B. (2021). Pengaruh Profitabilitas, Likuiditas dan Pertumbuhan Penjualan Terhadap Financial Distress di Masa Pandemi Covid-19 pada Perusahaan Food and Beverages yang Terdaftar di Bursa Efek Indonesia. *Seminar Nasional Manajemen, Ekonomi Dan Akuntansi*, 6(1), 1466–1474.
- [18] Pratiwi, K. dan Muslih, M. (2020). Pengaruh Operating Capacity, Sales Growth, Biaya Agensi Manajerial Terhadap Financial Distress. *E-Proceeding of Management*, 7(2), 3048-3056.
- [19] Putri, P. A. D. W. (2021). The Effect of Operating Cash Flows, Sales Growth, and Operating Capacity in Predicting Financial Distress. *International Journal of Innovative Science and Research Technology*, 6(1), 638–646.
- [20] Rahmawati, D., dan Khoiruddin, M. (2017). Pengaruh Corporate Governance dan Kinerja Keuangan dalam Memprediksi Kondisi Financial Distress. *Management Analysis Journal*, 6(1), 1-12. DOI: <https://doi.org/10.15294/maj.v6i1.8184>
- [21] Robinson, T. R., Henry, E., dan Broihahn, M. A. (2020). *International Financial Statement Analysis*. Hoboken: John Wiley & Sons, Inc.
- [22] Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. *American Economic Association*, 63(2), 134-139.
- [23] Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signalling Approach. *The Bell Journal of Economics*, 8(1), 23–40.
- [24] Salim, S. N., dan Dillak, V. J. (2021). Pengaruh Ukuran Perusahaan, Biaya Agensi Manajerial, Struktur Modal, dan Gender Diversity Terhadap Financial Distress. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, dan Akuntansi)*, 5(3), 182-198. DOI: <https://doi.org/10.54783/mea.v5i3.1416>

- [25] Setyawati, L. (2021). Pengaruh Likuiditas, Leverage, Operating Capacity dan Sales Growth Terhadap Financial Distress. *Jurnal Manajemen Diversifikasi*, 1(3), 440-454.
- [26] Silalahi, H. R. D., Kristansi, F. T., Muslih, M. (2018). Pengaruh Rasio Keuangan dan Ukuran Perusahaan Terhadap Kondisi Kesulitan Keuangan (Financial Distress) pada Perusahaan Sub-sektor Transportasi yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2013-2016. *E-Proceeding of Management*, 5(1), 796-802.
- [27] Spence, M. (1973), Job Market Signaling: *The Quarterly Journal of Economics*, 87(3), 355-374. DOI: <https://doi.org/10.2307/1882010>
- [28] Sugiharto, B., Putri, T. E., Nur'alim, R. M. (2021). The Effect of Liquidity, Leverage, and Sales Growth on Financial Distress with Profitability as Moderating Variables (Case Study of Manufacturing Companies Listed on The Indonesia Stock Exchange 2017-2019). *Journal of Accounting for Sustainable Society (JASS)*, 3(1), 45-69. DOI: <https://doi.org/10.35310/jass.v3i01.895>
- [29] Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif dan R & D*. Bandung. Alfabeta.
- [30] Sutra, F. M., dan Mais, R. G. (2019). Faktor-Faktor yang Mempengaruhi Financial Distress dengan Pendekatan Altman Z-Score pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Tahun 2015-2017. *Jurnal Akuntansi dan Manajemen*, 16(01), 35-72. DOI: <https://doi.org/10.36406/jam.v16i01.267>
- [31] Yazdanfar, D. dan Ohman, P. (2019). Financial Distress Determinants among SMEs: Empirical Evidence from Sweden. *Journal of Economic Studies*, 47(3), 547-560. DOI: <https://doi.org/10.1108/JES-01-2019-0030>
- [32] Zelig, E. M. (2019). Determinants of Financial Distress in Case of Insurance Companies in Ethiopia. *Research Journal of Finance and Accounting*, 10(15), 27-32. DOI: <https://doi.org/10.7176/RJFA/10-15-05>