

The Determinants of Financial Distress: An Empirical Investigation of Indonesian Firms

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Abstract: This study aims to investigate the determinants of financial distress (i.e., financial indicators, firm size, institutional and managerial ownership). The sample of this study includes 250 firms registered in Indonesia Stock Exchange (IDX) of the period 2014 – 2017. By using logistic regression analysis, the results show that 1) leverage has a positive effect on financial distress; 2) profitability, operating capacity, and firm size have a negative effect on financial distress; and 3) liquidity, sales growth, and institutional and managerial ownership have no effect on financial distress.

Key-Words: financial distress, liquidity, leverage, profitability, operating capacity, sales growth, firm size, institutional ownership, and managerial ownership

1. Introduction

In the current era of globalization, business competition is getting stronger so firms are required to manage their business well. Firms that are able to compete will be able to maintain survival, while firms that are not able to compete will experience financial distress. Financial distress is seen as a stage of decline in the firm's financial condition before the occurrence of bankruptcy or liquidation (Platt & Platt, 2002).

According to Simanjuntak et al. (2017), the global financial crisis that occurred in 2008 is one of the adverse effects that can be felt in the development of globalization. The crisis resulted in weak business activities in general throughout the world and some even went bankrupt like firms in America, Europe, Asia and other countries including Indonesia. The global financial crisis has caused various obstacles for Indonesian firms, which caused the firm to fail in maintaining survival so that it experienced financial distress.

The way to do testing on firms that experience financial distress is to analyze Earning Per Share (EPS) in the firm. According to Elloumi and Gueyie (2001), a firm that experiences financial distress is a firm that has negative EPS for several years. The use of EPS as a proxy for financial distress because EPS is most visible when a firm experiences a loss in its business. EPS shows the income earned from each share or describes the firm's profit that year. The prospect of the firm in the future can be seen from the growth of earnings per share that will influence the decision of investors to invest their capital in the firm.

Firms that are indicated to experience financial distress can be delisted from the Indonesia Stock Exchange (IDX). Based on the analysis of EPS averages in manufacturing firms listed on the Stock Exchange in 2014-2017, net data was obtained that in 2014 averaged 33%. The average has decreased by 9.74% wherein 2015 the average was 23.26%. In 2016 the average EPS was 26.08%, causing an increase of 2.81%. A decrease of 8.42% occurred again in 2017 with an average of 17.66%. The decrease in EPS was caused by 11% of manufacturing firms listed on the Stock Exchange in 2014-2017 proved to experience financial distress such as: PT Asahimas Flat Glass Tbk (AMFG), PT Impack Pratama Industri Tbk (IMPC), PT Inter Delta Tbk (INTD), PT Steel Pipe industry of Indonesia Tbk (ISSP). While 78% of other manufacturing firms proved to experience fluctuations that were almost close to financial distress. When financial distress problems cannot be resolved by the firm, the firm can experience

bankruptcy. Financial statement analysis is a tool for stakeholders to get information about the firm's financial condition and is useful for supporting decision making. Financial statements that are prepared correctly and correctly can provide a picture of the real situation regarding the results that have been achieved by a firm in a certain period of time. This situation is used to assess the firm's financial performance (Aisyah et al., 2017).

According to Jimming and Wei (2011), bankruptcy, failure, and financial distress, in general, can use financial or financial performance indicators to predict the condition of the firm in the future. This indicator is obtained from the analysis of financial ratios contained in financial statement information issued by the firm. There are several types of financial ratios used to measure the performance of a firm, namely: liquidity, leverage, activity, profitability, growth, and valuation ratios (Kasmir, 2016). Apart from using financial indicators, there are other factors, namely: firm size, institutional ownership, and managerial ownership. Financial distress can be experienced by every firm, both large-sized firms and small-sized firms because the causes of financial distress can come from internal and external factors of the firm (Cinantya & Merkusiwati, 2015).

Liquidity is the firm's ability to fulfill short-term obligations that can be paid for with its current assets (Triwahyuningtias, 2012). The higher the level of liquidity of a firm, the stronger the overall financial condition of the firm. Anjana (2017) explains that the firm is said to be in a liquid state if the firm is able to fulfill its financial obligations on time and has good performance and is able to prevent the firm from the possibility of financial distress.

Leverage shows how much the firm's assets are financed by debt (Rahmy, 2015). Leverage measures the extent to which a firm's financial needs are spent with loan funds from third parties in the form of debt, both current and long-term debt. Mafiroh and Triyono (2016) reveal that the greater the debt is borne by the firm, the greater the likelihood that the firm will experience financial difficulties due to bankruptcy that begins with the firm's failure to pay its debts, especially short-term debt.

Profitability is a ratio used to measure a firm's ability to earn profits or profits at a certain time. According to Antikasari and Djuminah (2017), profitability shows the efficiency and effectiveness of using firm assets because this ratio measures the firm's ability to generate profits based on the use of assets. With the effectiveness of the

use of firm assets, it will reduce the costs incurred by the firm so that the firm will obtain savings and have sufficient funds to run its business (Nora, 2016).

Operating capacity is a ratio used to measure the operational efficiency of a firm in managing its assets daily (Jiming & Wei Wei, 2011). Operating capacity can be measured using the total asset turnover ratio. High total asset turnover shows the effectiveness of the firm in using assets to generate sales well. According to Nora (2016), if the use of firm assets is not effective, the firm's sales will not be optimal so that the firm can experience the potential of financial distress.

Sales growth reflects the implementation of the success of a firm's investment in the past period and can be used as a prediction for the firm's growth in the future. Rahmy (2015) explains that the sales growth ratio is used to measure the extent of a firm's ability to increase sales over time. High sales growth will lead to higher profits received by the firm so that the firm can be said to be successful.

The size of the firm is an illustration of how much assets the firm has (Nora, 2016). Large firms with large total assets will be more courageous to use loan funds to finance all of their assets compared to smaller firms, large firms are better able to solve financial problems faced so firms can avoid financial difficulties that lead to bankruptcy. If the size of the firm increases, then the assets of the firm will also increase (Widyastuti, 2015).

Institutional ownership is the ownership of a firm owned by an institution or another firm that is inside or outside the country (Nora, 2016). This ownership will reduce the occurrence of agency problems because institutional shareholders will oversee the running of the firm so that the alignment of interests between the firm owner and manager is expected to emerge.

Managerial ownership is the firm's stock that is owned by firm management. Fathonah (2016) explains that high managerial ownership will be able to reduce agency problems and bring together the interests of shareholders and managers. This is related to a high sense of ownership of shares and a large management responsibility in managing the firm so that it is expected to reduce the potential for financial difficulties.

2. Literature Review

2.1 Signaling theory

According to Wolk et al (2001), signaling theory is a theory that proposes about how firms should give signals to users of financial statements (stakeholders). The signal is in the form of information about what has been done by management to realize stakeholder desires.

Firms need to provide information to investors through the issuance of financial statements because decisions that investors will make are influenced by the quality of information disclosed by the firm through its financial statements. Financial statements are an important element for external parties and internal parties because the information essentially presents information, notes, or descriptions both for past, present, and future conditions for the survival of a firm (Spence, 1973).

Immanuel (2015) explains that generally there are two types of signals that will be disclosed by the firm to stakeholders, namely good news and bad news. When a firm experiences financial distress, the firm has a bad news signal so that firm managers tend to limit information to be disclosed to the public, whereas if the firm has a healthy financial condition, the firm has a good news signal so that it can show that the firm is able to continue to carry out its operational activities and can affect management in providing firm information.

2.2 Agency theory

Jensen and Meckling (1976) stated that agency theory is a theory that explains the existence of a working relationship between the party giving authority (principal), namely an investor or shareholder with a party that receives authority (agent), namely a manager in the form of a cooperation contract. The theory describes the agency relationship as a relationship that arises because of the contract established between the principal who uses an agent to carry out services that are in the principal's interest in the event of separation of ownership and control of the firm. Agents have the power of attorney and are in control of the operations of the firm so that the agent is demanded to always be transparent in the firm's management and reporting activities. If the working relationship between the principal and the agent can work well then the goals to be achieved can be achieved.

Agency theory concerns contextual relations between members of the firm to avoid the

occurrence of inappropriate relationships. However, differences in interests between the two parties can lead to agency conflicts. Aunonen (2003) explains that agency conflict can occur because of the asymmetry of information that is when one party has accurate information that is not owned by the other party. There are two types of asymmetry information, namely adverse selection, and moral hazard. Adverse selection is a situation where there is an imbalance of information possessed by the principal and agent, while the moral hazard is a form of fraud by the agent that is not in accordance with the agreed contract and the principal is not known by the principal.

2.3 Hypotheses Development

2.3.1 Liquidity and financial distress

Liquidity is the firm's ability to fulfill short-term obligations that can be paid for with its current assets. The higher the liquidity, the better the financial condition of the firm because it shows that the firm is in a liquid state so that the smaller the financial distress. This gives a signal of good news for creditors because firms that have high liquidity are considered capable of covering their current liabilities.

According to Widhiari and Merkusiwati (2015), liquidity has a negative effect on financial distress. In line with the research of Antikasari and Djuminah (2017) which states that liquidity also has a negative effect on financial distress. Therefore,

H1: *Liquidity has a negative effect on financial distress*

2.3.2 Leverage and financial distress

Leverage is the ability of a firm to pay off all its debts (Rahmy, 2015). If the firm's financing uses too much debt, then there will be a risk of payment difficulties in the future because the debt is greater than the assets owned by the firm. This will give a bad news signal to creditors because the greater the debt, the higher the likelihood that the firm will not be able to pay off its debts when due, so that greater financial distress occurs.

According to research Simanjuntak et al. (2017), leverage has a positive effect on financial distress. In line with the research conducted by Gobenvy (2014), that leverage has a positive effect on financial distress. Therefore,

H2: *Leverage has a positive effect on financial distress*

2.3.3 Profitability and financial distress

Profitability is a ratio used to measure a firm's ability to earn profits or profits in a certain period of time based on the efficiency and effectiveness of the use of assets. The higher the profit generated, the more effective the firm is in using assets to generate large profits so that it can signal good news for investors and can minimize the occurrence of financial distress.

According to Nora (2016), profitability has a negative effect on financial distress. In line with the research of Aisyah et al. (2017) which states that profitability also has a negative effect on financial distress. Therefore,

H3: *Profitability has a negative effect on financial distress*

2.3.4 Operating capacity and financial distress

Operating capacity is measured using the total asset turnover ratio. High total asset turnover shows the effectiveness of the firm in using assets to generate sales well. This is a signal of good news for investors because the effectiveness of the use of assets to generate sales is expected to provide greater profits for the firm and show that the financial performance achieved by the firm is getting better so that the possibility of financial distress is getting smaller.

According to Widhiari and Merkusiwati (2015), operating capacity has a negative effect on financial distress. In line with the research of Hanifah and Purwanto (2013) which states that operating capacity also has a negative effect on financial distress. Therefore,

H4: *Operating capacity has a negative effect on financial distress*

2.3.5 Sales growth and financial distress

Sales growth reflects the implementation of the firm's investment success in the past period and can be used as a prediction for the firm's growth in the future. A firm with high sales growth can signal good news for all parties because firms have a tendency to be able to maintain the viability of their business and can reduce the potential for financial distress.

Widhiari and Merkusiwati (2015) state that sales growth has a negative influence on financial distress. Financial distress will not be experienced

by firms if the firm has a high sales growth ratio. Therefore,

H5: Sales growth has a negative effect on financial distress

2.3.6 Firm size and financial distress

Firm size is an illustration of how many total assets owned by a firm. Firms that have large total assets show a signal of good news for creditors because the greater the total assets owned by the firm, the greater the ability to pay off the firm's liabilities in the future, so the possibility of firms experiencing financial distress will be smaller.

Widyastuti (2015) states that firm size has a negative influence on financial distress. Financial distress will not be experienced by firms if the firm has a high firm size. Therefore,

H6: Firm size has a negative effect on financial distress

2.3.7 Institutional ownership and financial distress

Institutional ownership is the ownership of a firm owned by another institution. The greater the institutional ownership, the more efficient the utilization of firm assets so that the potential for financial distress can be minimized. This is because the greater the institutional ownership, the greater the supervision carried out on the firm.

According to the research of Setiawan et al. (2016) institutional ownership has a negative effect on financial distress. In line with the research of Hanifah and Purwanto (2013) which states that institutional ownership also has a negative effect on financial distress. Therefore,

H7: Institutional ownership has a negative effect on financial distress

2.3.8 Managerial ownership and financial distress

Managerial ownership is a condition where the manager as a shareholder of the firm. The greater managerial ownership will be able to unite the interests of shareholders and managers because it is related to the sense of mutual ownership of the firm's shares so as to reduce the potential for financial distress.

According to the research of Setiawan et al. (2016), managerial ownership has a negative effect on financial distress. In line with the research of Hanifah and Purwanto (2013) which states that

managerial ownership also has a negative effect on financial distress. Therefore,

H8: Managerial ownership has a negative effect on financial distress

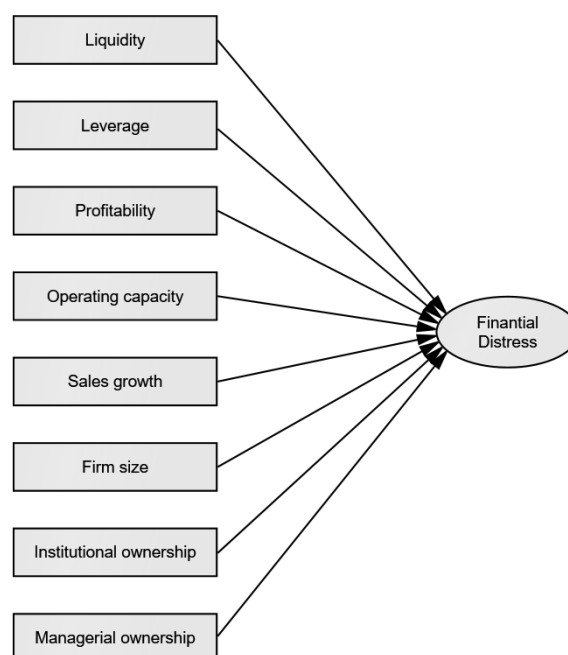


Figure 1 Empirical framework

3. Research Methods

3.1 Population and sample

The population of this study is manufacturing firms listed on the Indonesia Stock Exchange in 2014-2017. Sampling is done by using a purposive sampling method that is a sample selected a certain number of populations by using considerations that meet certain criteria and in accordance with the objectives of the researcher. The criteria that must be met are as follows:

1. Manufacturing firms listed on the Indonesia Stock Exchange during the period 2014 to 2017.
2. Manufacturing firms that publish annual reports.
3. Manufacturing firms that make financial statements in units of Rupiah.
4. Manufacturing firms that provide all data regarding the complete research variables.

3.2 Measurement

Financial distress is presented in the form of a dummy variable:

Financial Distress: Zero (0) = positive of EPS; and
One (1) = negative of EPS

The ratio used to measure liquidity is the current ratio / current asset to current liabilities which is the firm's ability to fulfill its short-term debt by using its current assets (Hanifah & Purwanto, 2013).

$$\text{Current Ratio} = \frac{(\text{Current Assets})}{(\text{Current Liabilities})}$$

Leverage is measured by comparing total liabilities with total assets.

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Profitability is measured by return on assets (ROA) which is a comparison between net income and total assets of a firm where this ratio is used based on returns on assets used to generate net income for the firm.

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Operating capacity is measured using the total asset turnover ratio, which is by comparing sales with total assets owned by the firm (Nora, 2016). The higher the total assets turnover of the firm, the higher the sales, so the possibility of firms experiencing financial distress will be lower.

$$\text{TATO} = \frac{\text{Sales}}{\text{Total Assets}}$$

Sales growth can be calculated by reducing the sales period now with the previous period, then divided by the previous sales period (Widhiari & Merkusiwati, 2015). Sales growth in firms is said to be successful if the value of sales growth is high.

$$\text{Sales Growth} = \frac{\text{Sales} - \text{Sales}_{-1}}{\text{Sales}_{-1}}$$

The size of the firm in this study is measured by Ln from the total assets owned by the firm. Natural logarithms are used to refine total asset data and are expected to reduce the difference

in total assets that are too large between firms with each other (Gobenvy, 2014).

$$\text{Ukuran Perusahaan} = \text{Ln}(\text{Total Assets})$$

Institutional ownership can be measured by calculating the proportion of total share ownership of firms by institutions of all outstanding shares.

$$\text{Institutional ownership} = \frac{\sum \text{Shares ownership}}{\sum \text{Outstanding shares}}$$

Managerial ownership in this study is measured by the proportion of shares held by the firm management of all outstanding shares.

$$\text{Managerial ownership} = \frac{\text{Shares management}}{\text{Total shares}}$$

3.3 Model analysis

Testing the hypothesis in this study uses logistic regression because the dependent variable is a dummy variable (with categories 0 and 1) so that it does not require a test of normality, heterogeneity, and autocorrelation as in multiple regression tests (Rilantini et al., 2017). This regression equation model is as follows:

$$\text{Ln } FD_{t+1} = \alpha + \beta_1 \text{LIKUID}_t + \beta_2 \text{LEV}_t + \beta_3 \text{PROFIT}_t + \beta_4 \text{OP_CAP}_t + \beta_5 \text{SALES}_t + \beta_6 \text{SIZE}_t + \beta_7 \text{KEP_INST}_t + \beta_8 \text{KEP_MAN}_t + e$$

4. Results and Discussion

The data used in this study is secondary data.

Table 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FD	250	-231,26	971,00	77,0395	192,23900
LIKUID	250	,0337	464,9847	4,540936	29,5167745
LEV	250	,0413	2,7669	,497434	,3411671
PROFIT	250	-,3226	,3759	,045551	,0781526
OP_CAP	250	,0468	3,0824	,995224	,5376581
SALES	250	-,9539	,7868	,036792	,2227809
SIZE	250	17,6606	26,4124	21,289459	1,7379385
KEP_INST	250	,0002	,9800	,636537	,2016043
KEP_MAN	250	,0000	,8944	,077927	,1396185
Valid N (listwise)	250				

Source: Own calculations

Based on Table 1, the number of observations studied was 250 firms. Table 1 illustrates that the financial distress of manufacturing firms in the period of 2014-2017 has an average of 77.0395 with a standard deviation of 192.23900. The minimum value is -231.26 while the maximum value is 971.00. The mean value of liquidity for 2014-2017 is 4,540936 with a standard deviation of 29,5167745. The minimum value of liquidity is 0.0337 while the maximum value is 464.9847. The mean leverage value of 2014-2017 is 0.497434 with a standard deviation value of 0.3411671. The minimum leverage value is 0.0413, while the maximum value is 2.7669. The mean value of profitability in 2014-2017 was 0.045551 with a standard deviation of 0.0781526. The minimum profitability value is -0.3226, while the maximum value is 0.3759. The average value of operating capacity in 2014-2017 is 0.995224 with a standard deviation value of 0.5376581. The minimum operating capacity value is 0.0468, while the maximum value is 3.0824. The mean sales growth in 2014-2017 was 0.036792 with a standard deviation value of 0.2227809. The minimum sales growth value is -0.9539, while the maximum value is 0.7868. The average value of firm size starting in 2014-2017 is 21.289459 with a standard deviation value of 1.7379385. The minimum value of firm size is 17,6606, while the maximum value is 26,4124. The mean value of institutional ownership in 2014-2017 is 0.636537 with a standard deviation value of 0.2016043. The minimum institutional ownership value is 0,0002, while the maximum value is 0.9800. The mean value of managerial ownership in 2014-2017 is 0.077927 with a standard deviation value of 0.1396185. The minimum value of managerial ownership is 0.0000, while the maximum value is 0.8944.

Table 2 Hosmer and Lemeshow's Test

Step	Chi-square	Df	Sig.
1	13,489	8	,096

Source: Own calculations

Table 2 shows the value of Hosmer and Lemeshow's goodness of 13,489 with a significance value of 0.096. This signification value is greater than 0.05, which means that the model is able to predict the value of its observations.

4.1 Chi-square Test

Chi-square testing for the whole model is done by comparing the value between -2 log likelihood at

the beginning (the result of block number 0) with the value of -2 log likelihood at the end (the result of block number 1). If there is a decrease, then the model shows a good regression model. The decrease in -2 loglikelihood can be seen in Table 3.

Table 3 Log Likelihood

Iteration		-2 Log likelihood
Step 0	1	259,412
	2	258,299
	3	258,297
	4	258,297
Iteration		-2 Log likelihood
Step 1	1	181,028
	2	149,483
	3	139,949
	4	138,618
	5	138,583
	6	138,583
	7	138,583

Source: Own calculations

Tests on Block Number 0 obtained a value of -2 log likelihood of 258,297, while in Block Number 1 the value of -2 log likelihood was 138,583. This shows a decrease in the value of -2 log likelihood. This decrease in the value of -2 log likelihood shows a good regression model. A decrease in the value of the -2 log likeness is presented in Chi-Square found in the Omnibus Test of Model.

Table 4 Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	119,715	8	,000
	Block	119,715	8	,000
	Model	119,715	8	,000

Source: Own calculations

The overall regression coefficient testing uses the Of Omnibus Test Model Coefficient. The results of the Omnibus test obtained a chi-square value of 119.715 with a significant value of 0.000. Significant values lower than 0.05 indicate a significant effect of the independent variables on the dependent variable.

Table 5 Cox and Snell's R Square and Nagelkerke's Square

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	138,583a	,381	,591

Source: Own calculations

Table 5 shows that Nagelkerke R Square value is 0.591 or 59.1%, which means that 59.1% of the dependent variable can be explained by the independent variable, while the remaining 40.9% is explained by other variables outside the research model.

Tabel 6 2x2 Classification

	Observed		Predicted		
			FD		Percentage Correct
			0	1	
Step 1	FD	0	191	6	97,0
		1	19	34	64,2
	Overall Percentage				90,0

Source: Own calculations

Based on Table 6, it can be seen that from 197 samples of firms that have healthy financial (nonfinancial distress), 191 firms or 97% (191/197) samples can be accurately predicted by the regression model, and 6 firms cannot be predicted by the model. In addition, from 53 samples of firms experiencing financial distress, 34 firms or 64.2% (34/53) samples can be predicted by the model, and 19 firms cannot be predicted by the model. Overall there are $191 + 34 = 225$ firms out of 250 firm samples or 90% (225/250) samples can be predicted correctly by the regression model. Thus, it can be concluded that the high percentage

supports the absence of a significant difference between the predicted data and observational data, thus indicating a good regression model.

4.2 Hypotheses testing

Testing the hypothesis in this study uses a logistic regression model. This test aims to determine the significance of each independent variable on the dependent variable by looking at the values in the sig column. This testing procedure uses a significance level of 5% or 0.05. The results of the hypothesis test are presented in Table 7.

Table 7 Hypotheses testing

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	LIKUID	,011	,012	,867	1	,352	1,011
	LEV	3,475	1,278	7,398	1	,007	32,302
	PROFIT	-19,297	4,971	15,068	1	,000	,000
	OP_CAP	-2,500	,664	14,155	1	,000	,082
	SALES	-,098	1,278	,006	1	,939	,907
	SIZE	-,442	,187	5,552	1	,018	,643
	KEP_INST	1,083	1,453	,556	1	,456	2,955
	KEP_MAN	-1,011	2,194	,213	1	,645	,364
Constanta		7,920	4,202	3,552	1	,059	2752,20

Source: Own calculations

Based on Table 7, the regression model is obtained as follows:

$$\ln FD_{t+1} = 7,920 + 0,011 \text{ LIKUID}_t + 3,475 \text{ LEV}_t - 19,297 \text{ PROFIT}_t - 2,500 \text{ OP_CAP}_t - 0,098 \text{ SALES}_t - 0,442 \text{ SIZE}_t + 1,083 \text{ KEP_INST}_t - 1,011 \text{ KEP_MAN}_t + e$$

4.2.1 Liquidity and financial distress

The results of hypothesis testing indicate that the beta coefficient value is 0.011 with a significant

value of $0.352 > 0.05$ so that H1 is rejected. Good liquidity does not necessarily give a signal of good news for creditors because firms that have too high liquidity can signal that the firm is experiencing financial difficulties. A high current ratio may indicate the existence of current assets that are low in liquidity, such as inventory that accumulates.

The results of the firm's current assets turnover should be used to guarantee or pay off debts, pay interest costs, and finance daily operations. Therefore, when a firm cannot be

effective in playing its smooth assets that are too high, the firm experiences financial distress. The results of this study are in line with the research conducted by Simanjuntak et al. (2017) which states that liquidity does not affect financial distress.

4.2.2 Leverage and financial distress

The results of hypothesis testing indicate that the beta coefficient value is 3.475 with a significant value of $0.007 < 0.05$ so H2 is accepted. The higher the firm's leverage, the higher the financial distress condition will be. If the firm's financing uses too much debt, it will run the risk of payment difficulties in the future because the debt is greater than the assets owned so the firm is unable to generate more income to pay the debt and interest. This will give a bad news signal for investors because firms with high leverage mean that the firm has many responsibilities for the acquisition of corporate funding that are not supported by the total assets owned. The results of this study are in line with the research conducted by Simanjuntak et al. (2017) which states that leverage has a positive effect on financial distress.

4.2.3 Profitability and financial distress

The results of the hypothesis test indicate that the beta coefficient value is -19,297 with a significant value of $0,000 < 0,05$ so that H3 is accepted. Profitability is measured using ROA, a ratio that measures the ability of a firm in the efficiency and effectiveness of total asset use in generating profits. With the amount of profit generated, the firm will easily expand so that the firm avoids crisis conditions, especially experiencing financial distress. The effectiveness of the use of firm assets will also be able to reduce the costs incurred by the firm.

The results of these studies can signal good news to shareholders because negative test results indicate that firms that have a high-profit value will reduce the occurrence of bankruptcy. The results of this study are in accordance with the study of Nora (2016) which states that profitability has a negative effect on financial distress.

4.2.4 Operating capacity and financial distress

The results of the hypothesis test indicate that the beta coefficient value is -2,500 with a significant

value of $0,000 < 0,05$ so that H4 is accepted. Operating capacity describes the efficiency of a firm's operational activities as measured by the total asset turnover ratio. The higher the total assets turnover, the more effective the firm's total assets in generating sales. Thus, a good operating capacity will give a good news signal to potential investors or investors. Because the effectiveness of the use of assets to generate sales is expected to provide greater profits for the firm so that the possibility of financial distress is getting smaller. The results of this study agree with the research conducted by Simanjuntak et al. (2017) which states that operating capacity has a negative effect on financial distress.

4.2.5 Sales growth and financial distress

The results of the hypothesis test indicate that the beta coefficient value is -0.098 with a significant value of $0.939 > 0.05$ so that H5 is rejected. Good sales growth does not necessarily give a signal of good news to all parties because the firm's growth cannot be the main reference for measuring the firm's financial distress. This study proves that the increase in profits caused by sales growth does not always prevent the firm from financial distress risk because if the operational activities of large firms, the funds used to finance operational activities are also large so that the profits obtained by the firm will be used to cover operational costs.

The decline in sales growth also indirectly gives an indication that the firm will experience bankruptcy in its operations, but will only reduce profits in that period. The results of these studies are in line with the research conducted by Simanjuntak et al. (2017) which states that sales growth has no influence on financial distress.

4.2.6 Firm size and financial distress

The results of the hypothesis test indicate that the beta coefficient is -0.444 with a significant value of $0.018 < 0.05$ so that H6 is accepted. If the size of the firm increases, the assets owned by the firm will also increase so that the potential for financial distress is low. Large firms will be better able to solve financial problems faced in order to maintain the continuity of their business compared to firms that are smaller in size.

Firms that have large total assets show a signal of good news for creditors because the greater the total assets owned by the firm will have an impact on the increasing ability to pay off firm obligations in the future so the firm can avoid

financial problems. The results of this study are in accordance with the research of Widyastuti (2015) which states that firm size has a negative effect on financial distress.

4.2.7 Institutional ownership and financial distress

The results of hypothesis testing indicate that the beta coefficient value is 1.083 with a significant value of $0.456 > 0.05$ so that H7 is rejected. The amount of institutional ownership in a firm will have an impact on the amount of capital value that can be used to carry out the operational activities of a firm. Based on agency theory, this is not something that is caused by the behavior of managers but because of the interest in investing from other institutions towards the firm. Therefore, however, the work of managers to improve firm performance is not at all related to the size of institutional ownership of the firm.

The supervision of institutions is expected to be able to make managers use debt at a low level so that the possibility of financial distress is low. The results of this study support the study of Nora (2016) which states that institutional ownership has no effect on financial distress.

4.2.8 Managerial ownership and financial distress

Hypothesis test results indicate that the beta coefficient value is -1.011 with a significant value of $0.645 > 0.05$ so that H8 is rejected. Managerial ownership is only used as a symbol that is used to attract investors' attention. If investors know that a firm has managerial ownership, investors will assume that the value of the firm will increase and the problem between the owner of the firm and management can be overcome, so that the firm's management will try to maximize the value of the firm. This happens because managerial ownership is considered to use debt well to maximize the value of the firm so that the interest expense can be lower.

The health or not condition of a firm is not caused by the size of the shares owned by management, but more due to the ability of management to manage the firm. The results of this study are in accordance with the research of Kusanti and Andayani (2015) which states that managerial ownership has no influence on financial distress.

5. Conclusion

Based on the results of the study, it can be concluded that: 1) liquidity has no effect on financial distress; 2) leverage has a significant positive effect on financial distress; 3) profitability has a significant negative effect on financial distress; 4) operating capacity has a significant negative effect on financial distress; 5) sales growth has no effect on financial distress; 6) firm size has a significant negative effect on financial distress; and 7) Institutional and managerial ownership have no effect on financial distress.

5.1 Limitation of the study

This study has limitations as follows:

1. The results of the overall feasibility test of the model on the independent variable are 59.1%. This shows that the level of financial distress that can be explained by the variables in this study is 59.1% and the remaining 40.9% is explained by other variables outside the research model.
2. Firms that are sampled are only conducted at manufacturing firms listed on the Indonesia Stock Exchange (IDX) in 2014-2017.
3. Based on the results of the study, there are only four variables that influence financial distress, namely: leverage, profitability, operating capacity, and firm size.

5.2 Suggestion for future research

Suggestions that can be conveyed are as follows:

1. Future studies are expected to add to the research period so that more corporate data can be used as research samples.
2. Future studies are expected not only to use manufacturing firms as populations but can use other corporate sectors such as service firms.
3. Further researchers are advised to choose other research variables that are used to determine the factors that influence the likelihood of financial distress such as good corporate governance, cash flow, inflation, and exchange rate.

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