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THE EFFECT OF FINANCIAL RATIO AND CORPORATE GOVERNANCE MECHANISMS ON THE FINANCIAL DISTRESS IN THE INDONESIA STOCK EXCHANGE

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ABSTRACT

The main objective of this research is to examine the influence of financial ratios (Current Ratio, Debt to Equity Ratio, Debt to Assets Ratio, Return on Asset) and governing mechanism (institutional ownership) to the financial distress of the non financial companies listed in Indonesian Stock Exchange. The data used in this research are secondary data. Samples in this research are non financial companies listed during 2012-2016. The hypotheses are tested by running logistic regression analysis. The dependent variable is financial distress proxied by earning per share. The results show that institutional ownership influenced financial distress. While Current Ratio, Debt to Equity Ratio, Debt To Assets Ratio, and Return On Asset did not influenced the financial distress.

Keywords: *Financial Ratio, Institutional Ownership, Financial Distress*

JEL classification: *G30, G39*

1. INTRODUCTION

The global economic growth was under pressure and relatively slow until 2017. The prices of crude oil, coal, gold, copper, iron ore, metals, foodstuffs, and energy from 2005 to 2007 tended to rise. It declined in the beginning of 2008, rose again from mid-2008 until 2011, stable until 2012 and dropped in 2016. As a result, some countries that rely on commodities as their source of income lose their power to make investments and economic development. Furthermore, China's economic growth slowed down from an average of above 10% in the period 1980-2010, it declined below 7% in 2015 (Harsono, 2016). The slowing global economic condition effect the Indonesian industrial sector such as coal mining, trade, and other industrial sectors.

The slowing global economic effects the economy in various countries. In Indonesia for example, the number of companies listed on the Indonesia Stock Exchange (IDX) increased by an average of 4% each year from 2010 to 2016 (Fact Book, 2016). However, not all public companies have good financial conditions. The fact shows that there are still companies that undergo financial hardships, from short-term to long-term hardships that lead to bankruptcy. Some companies such as PT Unitex Tbk. (UNTX), PT Ford Motor Indonesia (ATMP), PT Modern Internasional Tbk (MDRN), PT Indosiar Karya Media Tbk. (IDKM), PT Davomas Abadi Tbk. (DAVO) are bankrupt and delisted from the IDX due to the companies' high operational costs (www.idx.co.id). According to the results of data processed, the percentage of EPS as financial distress indicators from 2012 to 2016 are 16.2%, 22.6%, 20.5%, 31.6%, and 26.9% (Table 1).

Hanafi (2007:278) stated "financial distress can be described from two extreme points, namely short-term liquidity difficulties and insolvable". In 2016, there are approximately 370 companies of non-financial industry (www.idx.co.id). Not all of those companies have good financial, it is shown by the negative Earning Per Share (EPS). In this research, the companies that experience financial distress are proxied by negative Earning Per Share (EPS). EPS is chosen as the financial distress proxy because it is the expected profit per share, so the amount of EPS is very important for the welfare of the shareholders, particularly for the minority holders. The good per share profit growth will reduce the conflict between the shareholders and the future prospect of the companies can be observed so it helps the investor in making decision when investing.

Table 1
Classification of Financial Distress and Non-Financial Distress Companies

INDUSTRIAL SECTOR	2012		2013		2014		2015		2016	
	FD	NON FD	FD	NON FD	FD	NON FD	FD	NON FD	FD	NON FD
Agriculture	4	12	4	12	4	12	8	8	6	10
Mining	9	27	8	28	12	24	15	21	12	24
Basic and Chemical	12	42	17	37	11	45	20	33	11	44
Various Industry	6	22	8	19	11	17	13	13	10	18
Consumer Goods	2	36	5	32	4	35	5	35	4	37
Property, Real Estate & Construction	4	42	7	39	2	46	6	38	7	41
Infrastructure, Utility & Transportation	8	38	11	26	7	21	11	25	17	25
Trade and Investment Services	16	80	18	79	20	80	31	63	32	70
SUM	61	292	78	267	71	275	109	236	99	269
%	16.2	82.7	22.6	77.4	20.5	79.5	31.6	68.4	26.9	73.1
TOTAL	353		345		346		345		368	

Source: results of data processed

Financial ratio is a reflection of the activities and performance of a company. If the financial ratio of a company is more or less than expected, the company is indicated to have financial distress. Besides financial ratio, a company can also utilize corporate governance mechanisms to identify financial distress indication.

1.1 Current Ratio and Financial Distress

Liquidity ratio is calculated by Current Ratio (CR). Current Ratio shows the collateral rate of current debt to the current assets (Yogi *et al.*, 2017). A more-liquid CR will be better, but a too-liquid CR can also endanger the companies, so the CR needs to be kept stable to reduce the probability of financial distress. The previous research shows that the Current Ratio (CR) variable has a negative insignificant effect on financial distress. Andre and Taqwa (2014) stated that liquidity has significant effect in predicting the financial distress condition. The following hypothesis is formulated based on the previous research:

H_1 : Current Ratio (CR) effects the financial distress.

1.2 Debt to Equity Ratio and Financial Distress

The relationship between the leverage ratio and financial distress is calculated using Debt to Equity Ratio (DER) and Debt to Asset Ratio (DAR). DER calculation illustrates the utilization rate of debt proportion to equity. Companies which have greater debt proportion than equity means that the companies use more debt compared to their own capital to fund all the companies' activities. The bigger the Debt to Equity is, the smaller the probability of financial distress will be. Yogi *et al.* (2017) stated that DER variable has negative insignificant effect on financial distress. Widarjo *et al.* (2009) argued that DER is indicated to have effect on financial distress. Andre and Taqwa (2014) said that DER variable has significant and positive effect in predicting financial distress. The following hypothesis is formulated based on the previous research:

H_2 : Debt to Equity Ratio (DER) effects the financial distress.

1.3 Debt to Assets Ratio and Financial Distress

A high Debt to Assets Ratio (DAR) means that a company use high debt / financial leverage. High debt utilization will increase profitability, on the other hand, high debt will also increase the risks. Fitriyah and Hariyati (2013) stated that in period t-1, DAR has positive effect on financial distress. Meanwhile in period t-2, DAR does not effect the financial distress. The following hypothesis is formulated based on the previous research:

H_3 : Debt to Asset Ratio (DAR) effects the financial distress.

1.4 Return on Asset and Financial Distress

Profitability is calculated using Return On Assets (ROA) to measure a company's ability to generate net income based on a certain level of assets. The Return On Asset ratio shows the effectiveness of the companies' assets usage, so as to reduce the costs incurred by the companies. Therefore, the companies will get savings and have sufficient funds to run the business, so the probability of financial distress will be lower. According to Andre and Taqwa (2014), the profitability which is calculated using ROA has significant effect in predicting financial distress. The following hypothesis is formulated based on the previous research:

H_4 : Return On Asset (ROA) effects the financial distress.

1.5 Institutional Ownership and Financial Distress

Institutional ownership will reduce agency problems because institutional shareholders will help overseeing a company, so the management will not act to the detriment of shareholders. Large institutional ownership (more than 5%) will provide better ability to monitor the management (Emrinaldi, 2007). The larger the institutional ownership is, the more efficient utilization of the companies' assets will be, so the probability of financial difficulties can be minimized. It happens because institutional investors ownership will be more strict in supervising the management in fulfilling financial statements presentation, so the management is relatively not easy in covering its active performance and it needs to report the net income in the financial statements. Harmawan (2013) stated that institutional ownership influences the financial distress. This result is consistent with Emrinaldi (2007). The following hypothesis is formulated based on the previous research:

H_5: Structure of institutional ownership effects the financial distress.

2. RESEARCH METHOD

The population of this research consists of the non-financial industries listed in the Indonesia Stock Exchange (IDX). The sample of this research is taken from the non-financial industries listed in the IDX from 2012-2016.

Purposive sampling is used in this research, in which the sample is taken based on the purpose of the research. In this research, the researcher uses the dummy dependent variable, in which score 1 shows a financial distress and score 0 shows no financial distress. Therefore, the researcher takes the sample from 2 (two) types of companies with different criteria. Those companies are the one that experiences financial distress and the one that does not experience financial distress. The sampling criteria in this research are as follows: (1) The sample has published audited financial statements from 2012-2016; (2) The sample is the companies with financial distress and without financial distress. The companies with financial distress are those which undergo negative Earning Per Share (EPS) and the companies without financial distress are those which undergo positive Earning Per Share (EPS).; (3) The sample is the companies that publish publication report and annual report from 2012-2016; (4) The companies that do not have complete financial report data are excluded from the sample. The data sources are the publication report and annual report taken from www.idx.co.id.

2.1 Dependent Variable

Dependent variables in this study are financial distress. A financial distress company is the one with negative Earning Per Share (EPS) and the non-financial distress company is the one with positive Earning Per Share. The EPS is formulated as follows:

$$EPS=\frac{Net\ profit-special\ share\ dividend}{Average\ number of\ weighted\ of\ ordinary\ shares}$$

2.2 Independent Variable

Independent variables in this study are current ratio, debt to equity ratio, debt to assets ratio, return on assets, and institutional ownership.

Current Ratio (CR) shows the level of current debt collateral to current assets. It is formulated as follows:

$$CR = \frac{Current\ Assets}{Current\ Debt}\ x\ 100\%$$

Debt to Equity Ratio (DER) is the ratio that shows the proportion of debt usage to equity. It is formulated as follows:

$$DER = \frac{Total\ Debt}{Total\ personal\ capital}$$

Debt to Assets Ratio (DAR) is the ratio that shows the proportion of assets used to be the debt collateral. It is formulated as follows:

$$DAR = \frac{Total\ Liability}{Total\ Assets}$$

Return On Asset (ROA) is used to measure a company's ability to make net income based on certain level of assets. It is formulated as follows:

$$ROA = \frac{Net\ Income}{Total\ Assets}\ x\ 100\%$$

Institutional ownership (INST) is the percentage of shares held by the institution of the total outstanding shares of the company. It is formulated as follows:

$$INST = \frac{The\ amount\ of\ shares\ owned\ by\ the\ institution}{total\ outstanding\ shares}\ x100$$

Hypothesis testing is done using logistic regression, in which the researcher want to examine whether the occurrence probability of dependent variable can be predicted by the independent variable. This test is conducted by categorizing the dependent variables into certain groups, they are financial distress and non financial distress. Furthermore, the descriptive statistics is also used. This research uses a tool named SPSS program computer software.

The analytical model used in this study is logistic regression analysis. The logistic regression model used to test the hypothesis in this study is:

$$Ln\frac{P}{(1-P)} = \alpha_0 + \beta_1 CR + \beta_2 DER + \beta_3 DAR + \beta_4 ROA + \beta_5\ INST + \varepsilon i$$

where:

$Ln\frac{P}{(1-P)}$ = The log of comparisons between financial distress opportunities and non financial distress opportunities
α_0 = Constants
β_1-β_5 = Coefficient of Regression
εi = Error

3. RESULTS AND DISCUSSION

3.1 Results

3.1.1 Descriptive Statistics

Table 2 shows the descriptive statistics of each variable which are divided into 3. The first part is the whole sample, the second is the financial distress companies, and the third is the non financial distress companies.

Table 2
Descriptive Statistics

	All Sample				Financial Distress Company				Non Financial Distress Company			
	Min	Max	Mean	Std.	Min	Max	Mean	Std	Min	Max	Mean	Std.
FD	0	1	0.5	0.50	1	1	1	0	0	0	0	0
CR	1.19	9993	297.2	857.8	2.05	9993	263.7	716.93	1.19	9930	330.7	979.15
DER	-24.1	64.05	1.46	3.98	-24.1	64.05	1.46	5.06	-16.8	14.38	1.47	2.47
DAR	0.02	11.84	0.68	0.98	0.04	5.98	0.64	0.7	0.02	11.84	0.73	1.22
ROA	-476	74.84	-1.02	26.95	-476	74.84	-1.64	33.65	-173	28.83	-0.41	17.96
INST	0.01	100	46.71	27.28	0.73	100	40.61	28.35	0.01	96.53	52.8	24.77
Valid N (listwise)	450				225				225			

Source: Author's Estimation

3.1.2 Overall Model Fit Test Results

The overall model fit test is done using the fit model by comparing the value of -2 *LogLikelihood* (-2LL at the beginning (*Block Number*=0) and the value of -2 *LogLikelihood* (-2LL) at the end (*Block Number*=1). If seen from the statistics, the value of -2LL at the beginning is 623.832 (Table 3). After the three new variables are inserted, the value of -2LL at the end declines to 598.078 (Table 3). The declining *Likelihood* (-2LL) shows better regression model or in other words, the hypothesized model fits the data.

Table 3
Assessing The Whole Model

Iteration		-2 Log likelihood	Coefficients					
			Constant	CR	DER	DAR	ROA	INST
Step 1	1	598.122	.912	.000	-.002	-.164	-.002	-.017
	2	598.078	.952	.000	-.002	-.177	-.002	-.017
	3	598.078	.952	.000	-.002	-.177	-.002	-.017

Initial -2 Log Likelihood: 623.832

Source: Author's Estimation

3.1.3 Model Feasibility Test

The feasibility of the logistic regression model is tested using Hosmer and Lemeshow's Goodness of fit which tests the null hypothesis that empirical data is suitable or in accordance with the model. If the Hosmer-Lemeshow value is significant or lower than 0.05, then the null hypothesis is rejected and the model is considered not fit. The test shows a Chi-square of 20.750 with a significance (p) of 0.106 (Table 4). Based on the results, since the significance value is bigger than 0.05, then it is concluded that the model can predict the observation value.

Table 4
Results of Model Feasibility Test

Step	Chi-square	df	Sig.
1	20.750	8	.106

Source: Author's Estimation

3.1.4 Partial Coefficient Test

The following table shows the results of Partial testing of the significance of predictors that was carried out using the Wald test and the chi square approach:

Table 5
Results of Logistic Regression Test

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1[a]	CR	.000	.000	.301	1	.583	1.000
	DER	-.002	.024	.006	1	.938	.998
	DAR	-.177	.111	2.548	1	.110	.838
	ROA	-.002	.004	.298	1	.585	.998
	INST	-.017	.004	22.041	1	.000	.983
	Constant	.952	.223	18.217	1	.000	2.591

Source: Author's Estimation

3.2 Discussion

From the calculation results shown in Table 5, the logistic regression model can be written as follows:

3.1.1 Current Ratio (CR) and Financial Distress

In the test of the effect of Current Ratio (CR) variable on financial distress, the Wald value shows a result of 0.301 with a significance of 0.583. The significance value above 0.05 indicates that there is no significant effect of CR on financial distress.

It shows that Hypothesis 1 is rejected in the logistic regression model, this is consistent to Fitriyah and Hariyati (2013) but contrary to Andre and Taqwa (2014) which shows that the liquidity measured by Current Ratio has significant effect on the financial distress. Even though the Current Ratio value is high, it does not guarantee the current liability fulfillment, because in current assets there are accounts receivable and inventory which will be used to meet current liabilities that require more time to be converted into cash.

3.1.2 Debt to Equity Ratio (DER) and Financial Distress

In the test of the effect of Debt to Equity Ratio (DER) variable on financial distress, the Wald value shows a result of 0.006 with a significance of 0.938. The significance value above 0.05 indicates that there is no significant effect of DER on financial distress.

It shows that Hypothesis 2 is rejected in the logistic regression model. This research supports the research conducted by Yogi *et al.,* (2017), but contrasts with Widarjo *et al*., (2009) and Andre and Taqwa (2014) who stated that Debt to Equity Ratio is indicated to have effect on the financial distress. The absence of significant effect from Debt to Equity Ratio to financial distress is caused by the use of a proportion of debt greater than equity in financing all activities that may increase the value of the companies but on the other hand it can also increase the risks faced by the companies, so the companies will likely to choose the source of funds that have small risks and improve the management of the company in order to obtain maximum profits.

3.1.3 Debt to total Assets Ratio (DAR) and Financial Distress

In the test of the effect of Debt to total Assets Ratio (DAR) variable on financial distress, the Wald value shows a result of 2.548 with a significance of 0.110. The significance value above 0.05 indicates that there is no significant effect of DAR on financial distress.

It shows that Hypothesis 3 is rejected in the logistic regression model. This is contrast to Fitriyah and Hariyati (2013) which shows that Debt to Assets Ratio effects the financial distress. Furthermore, a high Debt to Assets Ratio may increase the risk that the company bear. On the other hand, it can also increase the productivity and the profit of the companies. So, the Debt to Assets Ratio does not effect the financial distress.

3.1.4 Return on Asset (ROA) and Financial Distress

In the test of the effect of Return On Asset (ROA) variable on financial distress, the Wald value shows a result of 0.298 with a significance of 0.585. The significance value above 0.05 indicates that there is no significant effect of ROA on financial distress.

It shows that Hypothesis 4 is rejected in the logistic regression model. This is contrary to Andre and Taqwa (2014) who stated that Return On Asset effects the financial distress. Furthermore, a negative Return On Asset shows that the proportion of asset usage in the company is too high, so the level of profit generated is not optimal because of the excessive costs incurred by the companies in running their business.

3.1.5 Institutional Ownership (INST) and Financial Distress

In the test of the effect of Institutional Ownership (INST) variable on financial distress, the Wald value shows a result of 22.041 with a significance of 0.000. The significance value above 0.05 indicates that there is no significant effect of INST on financial distress.

It shows that Hypothesis 5 is accepted in the logistic regression model. This research is consistent to Hermawan (2013) and Emrinaldi (2007). Large institutional ownership (more than 5%) will provide better ability to monitor the management. The larger the institutional ownership is, the more efficient utilization of the companies' assets will be, so the probability of financial difficulties can be minimized. It happens because institutional investors ownership will be more strict in supervising the management in fulfilling financial statements presentation, so the management is relatively not easy in covering its active performance and it needs to report the net income in the financial statements. This shows that the results of Institutional Ownership effect the financial distress.

4. CONCLUSIONS

Based on the research results and discussion, it can be concluded that the financial ratio proxied by four independent variables in the hypothesis namely Current Ratio (H_1), Debt to Equity Ratio (H_2), Debt to Assets Ratio (H_3) and Return On Asset (H_4) do not have significant effect on the probability of financial distress. Furthermore, The results of hypothesis testing for Institutional Ownership (H_5) indicate that institutional ownership has a significant effect on financial distress. It means that bigger percentage of Institutional Ownership will result in smaller risk of the companies in experiencing financial distress.

In connection with this research, in order to obtain a better and comprehensive picture, the authors suggest several things as follows: (1) Public companies and potential investors are expected to pay attention to factors that can cause companies' financial distress, so if the companies are indicated to have financial distress, they can quickly take action to improve their financial condition; (2) Further researches are advised to use various predictor data that are different between the financial distress group and the non financial distress group, and choose other proxy as the predictor of financial distress and add other variables that are likely to become factors which influence financial distress possibility.

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