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Effect of GCG, ROA and DER to Predict Financial Distress on Property and Real Estate Companies in BEI 2014-2018 period

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ABSTRACT

This paper aims to predict financial distress as seen from the factors of GCG, ROA and DER. This research was conducted in the property and real estate sector, amounting to 52 companies with a sample of 27 companies. The data analysis tool used was multiple discriminant analysis. The results of this data test meet the four requirements of the classical assumption test. The GCG variable in this study uses an independent commissioner proxy and to predict financial distress uses the Altman Z Score formula. The conclusion of this research is that partially GCG (independent commissioner) is notable to distinguish between bankrupt, gray and healthy companies, while partially ROA and DER able to distinguish between bankrupt, gray and healthy companies

1. Introduction

The main source of funding from the property & real estate sector is obtained through bank credit in general, while in carrying out operational activities, this sector has assets in the form of land and buildings. Therefore, this sector has a very high risk. Even though these assets can be used to pay debts, these assets need a long period of time to be converted into cash, so that often the developer is less able to carry out its obligations at a predetermined time.

*Financial distress*a situation in which the company experiences financial decline or losses continuously before bankruptcy or liquidation occurs. Financial distress is also caused by several errors, such as incorrect decision making, weakness in management, and lack of supervision of the company's financial performance so that its use does not match what it needs. Therefore, companies need to maintain their financial performance so as not to cause financial difficulties that eventually lead to bankruptcy.

The implementation of corporate governance can improve the quality of company performance because this system will improve the quality of monitoring and supervision so that companies can be more careful in using debt and focus more on sales activities to optimize profitability. In the following, the researcher presents the phenomenon data on 3 property and real estate companies that describes the problems in the GCG, ROA and DER variables to predict Financial Distress which can be seen in table I.1. the following:

Table 1
The Phenomenon of Research Data for 2014 - 2018

Code	Year	Independent Commissioner	ROA	DER	Z Score	Ket Z Score
	2014	1	0.042	1,799	1,158	Bankrupt
	2015	1	0.045	1,707	1,099	Bankrupt
APLN	2016	1	0.037	1,579	1,004	Bankrupt
	2017	1	0.065	1,504	1,234	Bankrupt
	2018	1	0.007	1,423	0.907	Bankrupt
	2014	1	0.107	0.282	3,623	Healthy
	2015	2	0.046	0.522	2,308	Gray
BEST	2016	2	0.065	0.535	2,385	Gray
	2017	2	0.085	0.486	2,615	Gray
	2018	2	0.067	0.508	2,679	Healthy
	2014	3	0.004	0.577	1,842	Gray
BKSL	2015	3	0.006	0.702	1,153	Bankrupt
	2016	2	0.050	0.586	1,609	Bankrupt

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Code	Year	Independent Commissioner	ROA	DER	Z Score	Ket Z Score
	2017	2	0.031	0.506	1,718	Bankrupt
	2018	2	0.023	0.530	1,599	Bankrupt

Source: financial reports

Note: ZScore> 2.99 is considered healthy.
ZScore <1.81 is potentially bankrupt.
ZScore 1.81 - 2.99 including gray area

From table 1 above it can be seen at PT. Agung Podomoro Land, Tbk, the ROA value in 2015 increased by 0.003 but the company may still be bankrupt based on the Z score of 1.099 and ROA in 2017 has increased by 0.028 but the company may still experience bankruptcy based on the Z Score of 1.234, for the 2015 DER -2018 has decreased consecutively by -0.092, -0.128, -0.075 and -0.077 but the company may still experience bankruptcy based on the Z Score of 1.099, 1.004, 1.234 and 0.907.

The number of independent commissioners in 2015 at PT. Bekasi Fajar Industrial Estate, Tbk increased to 2 people but the condition of the company from healthy (Z score 3,623) to the gray category (Z Score 2.308), ROA in 2018 decreased by -0.018 and DER in 2018 increased by 0.022 but companies from gray based on Z Score 2,615 becomes a healthy condition based on Z Score 2,679.

At PT. Sentul City, Tbk ROA in 2015 increased by 0.002 and DER decreased by 0.125 but the company experienced a gray condition in 2014 based on Z Score 1,842 and became bankrupt in 2015 based on Z Score 1.153. ROA in 2016 increased by 0.044, but the company was still in bankruptcy based on the Z Score 1.609. DER in 2018 increased by 0.024 but the company remained in a bankrupt condition based on the Z Score of 1.599.

2. Theoretical basis

2.1 *Good Corporate Governance*

The mechanism for implementing corporate governance is a set of regulations aimed at controlling the company, which will generate added value to stockholders and stakeholders in a sustainable manner in the long term. [**1**].

The Good Corporate Governance indicator in this study uses an indicator of the number of independent commissioners.

2.2 *Return on Asset*

ROA is a ratio that shows the extent to which assets play a role in creating profits clean[**2**]. The formula for calculating the Return on Assets value is:

ROA = Profit Net: Total Assets

2.3 *Debt to Equity Ratio*

DER is a ratio that shows the percentage of the company's assets provided through debt[3]. The formula for calculating this ratio is:

DER = Total Debt / Total Capital

2.4 *Financial Distress*

Financial distress as a company that was delisted due to negative profit and book value of equity, and the company was merged **[4]**. The Z-Score formula can be described as follows:

Z Score = 1.2 WC / TA + 1.4 RE / TA + 3.3 EBIT / TA + 0.6 MVE / BVD + 1.0 S / TA

Where :

WC / TA = *working capital* / total assets
RE / TA = *retained earnings* / total assets
EBIT / TA = *earning before income tax* / total assets
MVE / BVD = *market value of equity* / book value of debt
S / TA = *sales* / total assets

2.5 The Effect of GCG in Predicting Financial Distress

The independent commissioner functions to supervise the performance of the board of directors in terms of controlling its financial problems so that there are no events that cause the company to lose money, the independent commissioner also has an important role so that the company can avoid financial problems. Thus, the higher the number of independent commissioners will greatly affect the lower the probability that a company will encounter financial difficulties[**1**].

Financial difficulties that are not managed properly can result in a company going bankrupt. Thus, a good corporate governance mechanism must be put into practice in order to maintain a good financial situation**[**5**]**.

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2.6 The Effect of Return on Assets in Predicting Financial Distress

ROA as a measuring tool presented by the company can provide information to stakeholders in making decisions about the possibility of financial distress. Which means that if an organization is able to obtain a positive ROA, the smaller the company will be in a financial distress**[**6**]**.

If the profit ratio increases, there will be an increase so that it affects financial difficulties because retained earnings have an important role in maintaining the company to run operations because retained earnings are used for the company's operating capital.[7].

2.7 The Effect of DER in Predicting Financial Distress

SEvery organization that has a high leverage / debt ratio means that it has a lot of obligations to third parties. This condition indicates that the risk of the company is very high in experiencing financial problems**[**8**]**.

The inability of the organization to deal with risk management on debt which can cause the company to bear the risk of loss that can be avoided and in the end the assets used as collateral are confiscated by the creditors.[9].

Any debt used by the company will affect risk and return. In the beginning, financial difficulties began with the occurrence of failure to pay and the wider the company's transactions were funded by liabilities, due to the bigger debt the organization would pay.[10].

2.8 Hypothesis

The hypothesis of this paper can be explained as follows:

a) *Good Corporate Governance* can distinguish financial distress that occurs in property and real estate companies listed on the IDX for the 2014 - 2018 period.
b) *Return on Asset* can distinguish financial distress that occurs in property and real estate companies listed on the IDX for the 2014 - 2018 period.
c) *Debt to Equity Ratio* can distinguish financial distress that occurs in property and real estate companies listed on the IDX for the 2014 - 2018 period.
d) *Good Corporate Governance*, Return on Asset and Debt to Equity Ratio can distinguish financial distress that occurs in property and real estate companies listed on the IDX for the 2014-2018 period.

3. Research methods

This study uses a deductive approach that presents generally to be more specific, which is presented quantitatively and described descriptively. The type of data used in this study is secondary data. Secondary data was obtained from the website www.idx.co.id in the form of financial reports for property and real estate companies for 2014-2018.

The population used in this study were all property and real estate companies listed on the Indonesia Stock Exchange from 2014 to 2018 totaling 52 companies.

The sampling technique is based on purposive sampling, which is determined by various considerations such as:

a) Property and real estate companies listed on the Indonesia Stock Exchange.
b) Property and real estate companies that publish financial reports and have complete 2014-2018 research data.
c) Property and real estate companies that earned net income during 2014-2018.

Table 2
Sample Selection Table

No.	Clarity	amount
1.	Property and real estate companies listed on the IDX	52
2.	Companies that do not publish financial reports and do not have complete 2014-2018 research data	(14)
3.	Companies that did not get a net profit during 2014-2018	(11)
	Number of samples	27
	Number of periods	5
	Number of observations = 27 x 5	135

4. Research Results and Discussion

4.1 Descriptive Statistics

Most of the population who met the criteria in this study amounted to 27 issuers with a research period of 5 years (2014-2018), totaling 135 data. The following is an overview of the minimum, maximum, average and standard deviation (std. Deviation) data of each variable:

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Table 3
Descriptive statistics
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GCG	135	1	8	1,94	1,170
ROA	135	,000	,259	,06688	,047955
DER	135	,043	3,701	,79744	,544860
FD	135	,843	15,106	2,62370	2,154245
Valid N (listwise)	135				

The variable of Good Corporate Governance in this study uses a proxy for the number of independent commissioners. The minimum value on the Good Corporate Governance variable is 1 which indicates the number of independent commissioners is only 1 person, namely 15 companies in this sector while the maximum value of Good Corporate Governance is 8, which means that there are 8 independent commissioners at PT. Metropolitan Kentjana, Tbk. The average value of Good Corporate Governance in the sector in question for the 2014-2018 period is 1.94.

The minimum value of the Return on Asset variable is 0,000 which is obtained by PT. Roda Vivatex, Tbk in 2018 while the maximum value of Return on Asset of 0.259 was obtained by PT. Lippo Cikarang, Tbk in 2018. The average value of return on assets for this sector for the 2014-2018 period is 0.06688.

The minimum value of the Debt to Equity Ratio variable is 0.043 which is obtained by PT. Puradelta Lestari, Tbk in 2018 while the maximum value of Debt to Equity Ratio of 3.701 was obtained by PT.Plaza Indonesia Realty, Tbk in 2017. The average value of the sector's Debt to Equity Ratio for the 2014-2018 period is 0.79744.

The minimum value on the Financial Distress variable is 0.843 which is obtained by PT. Realm of Reality Sutera, Tbk in 2015 while the maximum value of Financial Distress of 15.106 was obtained by PT. Puradelta Lestari, Tbk in 2018. The average value of financial distress in this sector for the 2014-2018 period is 2,62370.

A. Discriminant Analysis

Group Mean Similarity Test.

Table 4
Test of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
GCG	,967	2,225	2	132	,112
ROA	,836	12,993	2	132	,000
DER	,469	74,767	2	132	,000

Based on the above, the independent variables that can be used to distinguish between the bankrupt, gray and healthy groups are ROA and DER because they have a significant value of 0.000 less than 0.05.

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Table 5
Significant Test

Variables Entered/Removed[a,b,c,d]

Step	Entered	Min. D Squared					
		Statistic	Between Groups	Exact F			
				Statistic	df1	df2	Sig.
1	DER	1,238	Grey and Sehat	23,862	1	132,000	2,944E-006
2	ROA	1,592	Grey and Sehat	15,226	2	131,000	1,133E-006

At each step, the variable that maximizes the Mahalanobis distance between the two closest groups is entered.

a. Maximum number of steps is 6.

b. Maximum significance of F to enter is .05.

c. Minimum significance of F to remove is .10.

d. F level, tolerance, or VIN insufficient for further computation.

In table 5 of the 3 independent variables used, the variables that meet the requirements are included in the discriminant equation, namely the DER and ROA variables only.

Table 6
Eigenvalues

Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	1,458[a]	100,0	100,0	,770
2	,000[a]	,0	100,0	,001

a. First 2 canonical discriminant functions were used in the analysis.

The caronical correlation value is 0.770 if this figure is squared to 0.593 which means that there are 59% variations between bankrupt, gray and healthy groups which can be explained by the discriminant variables.

Table 7
Wilks's lamda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	,407	118,280	4	,000
2	1,000	,000	1	,995

The wilks' lamda number is 0.407 with a significant value of 0.000, which means that there is a significant difference between the bankrupt and non-bankrupt company categories in the discriminant model.

Table 8
Canonical Discriminant Function Coefficients

	Function	
	1	2
ROA	-10,769	20,091
DER	2,491	,984
(Constant)	-1,266	-2,128

Unstandardized coefficients

The discriminant functions are formed based on table 3.6, namely:

Z = -1,266 -10,769 ROA + 2,491 DER

The following table is used to determine the cut off point to classify companies by value which is obtained

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Table 9
Functions at Group Centroids

FD	Function	
	1	2
Bangkrut	1,362	,000
Grey	-,403	,001
Sehat	-1,665	-,001

Unstandardized canonical discriminant functions evaluated at group means

Table 10
Prior Probabilities for Groups

FD	Prior	Cases Used in Analysis	
		Unweighted	Weighted
Bangkrut	,333	53	53,000
Grey	,333	51	51,000
Sehat	,333	31	31,000
Total	1,000	135	135,000

Based on the table 9 cut off points that are formed are:

$$Z_{cu} = \frac{N_A Z_A + N_B Z_B + N_C Z_C}{N_A + N_B + N_C}$$

$$Z_{cu} = \frac{(53\ x\ 1{,}362 + 51\ x\ (-0{,}403) + \ 31\ x\ (-1{,}665)}{53 + 51 + 31}$$

QUOTE 0.000133$Z_{cu} = \ Z_{cu} =$

Cut off point provisions:

1) If the Z score> 0.000133, the company is in the healthy category
2) If the Z score = 0.000133, the company is in the gray category
3) If the Z score <0.000133, the company is in the bankrupt category

4.2 Discussion

A. GCG against Financial Distress

The research results prove *Good Corporate Governance* can't tell the difference between healthy, gray and bankrupt companies at the company property and real estate listed on the Indonesia Stock Exchange for the period 2014-2018 based on the partial t test results wherentcount value< ttabel or 0,872 < 1,97838 and a significant value of 0.385> 0.05.

The results of this study are also in line with Munawar et al. (2018), namely that the independent board of commissioners has no effect on financial distress.

B. BROAagainst Financial Distress

The research results prove *Return on Asset* able to distinguish between bankrupt, gray and healthy companies in property and real estate companies listed on the Indonesia Stock Exchange for the period 2014-2018 based on the results of the partial t test wherentcount value> t table or 7,011 > 1,97838 and a significant value of 0.000 < 0.05.

The results of this study are also in line with the results of research by Assaji and Machmuddah (2017), namely that ROA has a negative / significant effect on financial distress.

C. DER against Financial Distress

The research results prove *Debt to Equity Ratio* able to distinguish between bankrupt, gray and healthy companies in property and real estate companies listed on the Indonesia Stock Exchange for the period 2014-2018 based on the results of the partial t test where n-thitung value< -ttable or -31,348 < -1,97838 and a significant value of 0.000 < 0.05.

The results of this study are also in line with Susilawati, et al. (2017) namely *leverage* (DAR) positive and significant effect on firm value. However, it is different from the research results according to Sari and Diana (2020), namely that DER does not affect financial distress.

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5. Conclusions and suggestions

The conclusions of the tests that have been carried out are:

a) *Good Corporate Governance* not able to distinguish between bankrupt, gray and healthy companies in property and real estate companies listed on the Indonesia Stock Exchange for the period 2014 - 2018
b) *Return on Asset* able to distinguish between bankrupt, gray and healthy companies In property and real estate companies listed on the Indonesia Stock Exchange for the period 2014-2018
c) *Debt to Equity Ratio* able to distinguish between bankrupt, gray and healthy companies in property and real estate companies listed on the Indonesia Stock Exchange for the period 2014-2018

Suggestions according to the written work obtained, namely:

a) For further researchers it is recommended to use a larger population and a different type of company, for example in manufacturing companies.
b) Companies in this sector are expected to improve their financial performance by paying attention to the need for the number of independent commissioners in accordance with the company's needs to reduce costs, increase profits from existing assets by actively holding promotions so that asset values increase, and maintain a safe limit for using debt not to exceed 0. 5 of the existing capital.

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