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The Influence of Return on Equity and Debt to Asset Ratio on Financial Distress in Properties Subsector Companies and Registered Real Estate on the Indonesian Stock Exchange Period 2015-2023

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ARTIC L E I N F O

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A B S T R A C T

This research aims to determine the effect of return on equity and debt to asset ratio on financial distress. The research method used is an associative descriptive method with a quantitative approach. The population in this research is the Properties and Real Estate subsector companies listed on the Indonesia Stock Exchange for the 2015-2023 period. The sample for this research was determined using a Purposive Sampling technique and obtained 4 companies in the Properties and Real Estate subsector with an observation period of nine years to obtain 36 sample data. Hypothesis testing in this research uses panel data regression analysis using the E-Views 12 program and the confidence level used is 5%. The results of this research show that simultaneously return on equity and debt to asset ratio have a significant effect on financial distress with a significance of 0.0000 < 0.05 and f-count > f-table (34.14013 > 3.327654499) and the coefficient of determination using Adjusted R-Squared is equal to 61.73% while the remaining 65.44% was influenced by other variables not examined in this research. Meanwhile, partially return on equity has a significant positive effect on financial distress with a significance of 0.0018 < 0.05 and t-count > t-table (3.387986 < 2.04227), debt to asset ratio has a significant negative effect on financial distress with a significance of 0.0004 < 0.05 and t-count > t-table (|-3.912824| > 2.04227).

INTRODUCTION

The properties and real estate industry has a crucial role in the country's economic growth, including in developing countries. This sector not only drives the development of national infrastructure through projects such as dams, toll roads and historic buildings, but also influences economic dynamics through the development of financial products. PT Nindya Karya and PT Adhi Karya are examples of companies in Indonesia that play an important role in this industry, with a focus on construction, EPC and investment. Intense competition encourages property companies to have high competitiveness in order to survive in the global economy, while taking advantage of regional and microeconomic growth to increase sales and income.

Shares in the property sector experienced a significant decline, recorded down 0.46% according to CNBC Indonesia 2022. This was triggered by market expectations of a reduction in Bank Indonesia's benchmark interest rate, which is expected to reduce credit interest rates and support property investors. However, this also shows potential sales constraints in the properties and real estate sector, which could have a negative impact on companies in this industry. Negative sentiment was also exacerbated by the strengthening of the US dollar and the end of the DTP VAT incentives for the property sector in September 2022, as reported by BUSINESS INSIGHT. PT Summarecon Agung Tbk (SMRA), for example, experienced a decline in share prices of 32.34% this year, influenced by predictions of an economic slowdown and rising interest rates.

The performance in the third quarter of 2022 has made business players in the property sector prefer to survive and look at the prospects for buying and selling housing in 2023, even though there is positive growth in this sector in 2021-2022. However, purchasing power and household consumption are still low, with a decline of 2.30% (YOY) in the third quarter of 2022, which is a challenge. Quoted from (Veganzones & Severin in the journal Treasury, State Finance and Public Policy, Dwitya Estu Nurpramana et al. 2022) Government and BI incentives have encouraged transactions, but companies need to maintain financial performance so as not to get into excessive debt which can increase interest expenses and the risk of bankruptcy . According to Munawir in the Saifi Journal, et al. (2018), financial reports are the basis for interpreting a company's financial condition and operating results. The use of comparative financial reports and ratio analysis can help understand budget conditions within the company (Saifi, et al. 2018).

Financial distress is a decline phase that companies usually go through before experiencing bankruptcy and liquidation (Platt and Platt in Triswidjanti, 2017). This phase occurs when the company has difficulty meeting its debt payment commitments, indicating budget problems even though it has not yet reached the bankruptcy stage. Factors causing financial distress include cash flow challenges, large debt burdens, operational losses, as well as macroeconomic elements such as rising interest rates and natural disasters. Companies experiencing financial distress need predictive tools to help

management make decisions to improve financial conditions before bankruptcy occurs, so that external parties can consider risks before investing or providing loans (Ayu et al. 2017 in the journal Sariroh 2021). The potential for financial distress also raises concerns among employees, managers, creditors and investors, because investments can be lost and debts not paid (Lindawati, 2014). To predict the possibility of bankruptcy, financial statement analysis can be carried out by identifying early symptoms of bankruptcy, and several analysis models such as Altman Z Score, Zmijewski, Springate, and Grover have been developed for this purpose.

Identifying companies facing financial distress can be done in various ways, one of which is through the profitability ratio represented by Return On Equity (ROE) and the leverage ratio represented by the Debt To Asset Ratio (DAR). According to Andre and Taqwa (2014), main ratios such as leverage, liquidity, profitability and cash flow serve as indicators for estimating funding challenges and bankruptcy. Companies that can avoid financial distress are those that show good financial performance, as proven through financial ratios (Kristanti et al., 2016). Kasmir (2019:206) states that ROE, which shows the profitability of private capital, reflects the company's ability to use capital, with a high value indicating the owner's strong position. Leverage, measured by DAR, explains a company's ability to finance assets through debt; A high DAR indicates a greater risk of missing debt payments if income decreases. Kasmir (2019:158) explains that DAR measures how much assets are funded with loans, and a higher ratio indicates greater reliance on debt, making it difficult for companies to obtain additional loans. Conversely, a lower ratio indicates reduced reliance on debt financing.

The reason the researcher took as an object the properties and real estate subsector companies listed on the Indonesia Stock Exchange is because this industry has a quite significant impact on economic and societal development. This research will focus more on properties and real estate, because this sector requires large capital requirements and has the potential for high profits in the future, making this sector attractive for research. With that, researchers are interested in conducting research entitled "The Effect of Return On Equity and Debt To Asset Ratio on Financial Distress in Properties and Real Estate Subsector Companies Listed on the Indonesian Stock Exchange for the 2015-2023 Period"

THEORETICAL FRAMEWORK

Financial management

According to Anwar (2019:5 in (Nirwana et al., 2023)) financial management is a field that focuses on managing company finances, including searching for sources of funds, allocation of funds and distribution of profits. According to Irfani (2020), financial management refers to actions that require managing company finances efficiently and effectively to achieve goals (Irfani, 2020).

Return on Equity

a ratio that compares its net income to common equity. It is often used to determine the rate of return that shareholders earn on their investment in the company. An increasing ROE is attractive to potential investors because it shows strong performance and will most likely lead to an increase in share prices (Rahmadewi, 2018 in (Andriani et al., 2022)). The main goal of a company is to generate profits for its shareholders, and a large achievement in ROE indicates success in this aspect.

Debt to Asset Ratio

A ratio that compares total debt to total assets. This ratio also measures the percentage of money obtained from debt, including all forms of company debt. Creditors like low DAR because it indicates a higher level of financial stability. As stated by Kasmir (2019:158 in Inna Indaryani et al., 2022).

Financial Distress

Financial Distress refers to a condition of decline that causes a company's financial status to become unstable. Financial distress refers to a scenario where a company experiences financial difficulties and is in danger of bankruptcy or worsening of its financial condition before reaching the bankruptcy or liquidation stage.

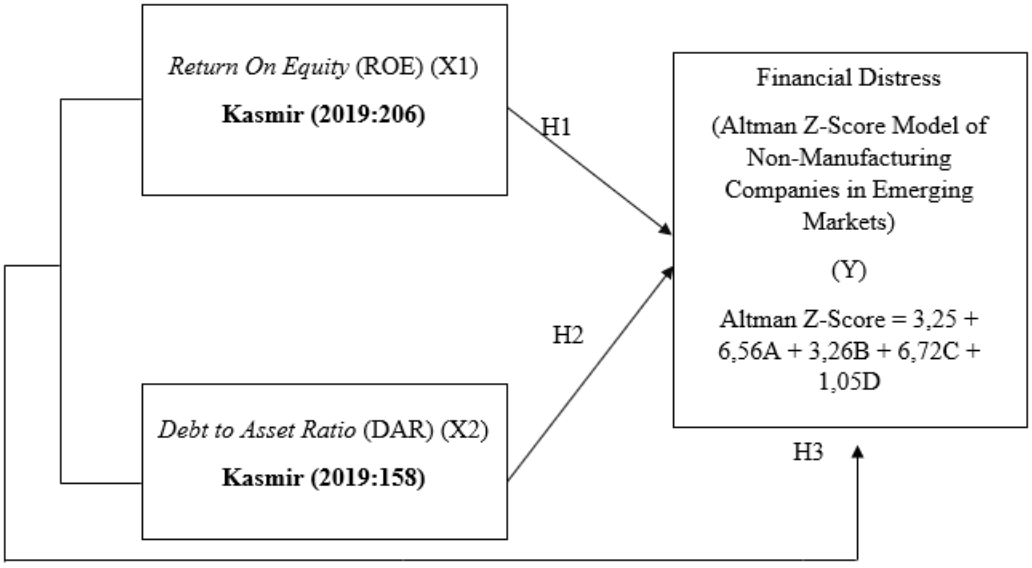

Figure 1. Conceptual Framework

METHODS

Types of research

Sugiyono (2015:14 in Husen, 2023) defines a quantitative approach as a research technique based on positive ideology. In contrast, descriptive

techniques offer a comprehensive picture of the state of the object being studied. The data used is from the annual reports of companies in the Properties and Real Estate subsector for the period 2015 to 2022.

Operational Variables

Variable Dependency

Financial Difficulties

The condition of the company is experiencing significant financial difficulties which could result in bankruptcy or a worsening of its financial position before bankruptcy or liquidation. These conditions can be assessed using the Altman Z-Score, which was calculated in this investigation using the Original Altman Z-Score methodology.

$$\text{Altman Z-Score} = 3{,}25 + 6{,}56A + 3{,}26B + 6{,}72C + 1{,}05D$$

Independent Variable

Variable Return on Equity

This ratio measures the effectiveness of a person's use of money. The company's performance increases as the value of this ratio increases, indicating a stronger financial situation for the owner. An increase in net profit will cause an increase in the ROE value.

$$ROE = \frac{Earning\ After\ Interest\ and\ Tax}{Equity} \times 100\%$$

Debt to Asset Ratio

It is a financial metric that measures total debt by total assets. A high DAR is considered to have high leverage. This means that if the company's profits decrease, it is very likely that the company will not be able to make debt payments.

$$DAR = \frac{Total\ Liabilities}{Total\ Asset}\ x\ 100\%$$

RESULTS

Determining panel data regression

Chow test

Table 1. chow test results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.532125	(3,30)	0.0001

Cross-section Chi-square	24.101116	3	0.0000

From the results of the Chow test, the Prob Cross-Section F value is 0.0001 (< 0.05), so the model chosen is the Fixed Effect Model (FEM).

Hausmant Test

Table 2. Hausman test results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	1.496268	2	0.4732

From the Hausman Test results, the value of Prob. Cross-Section Random is 0.4732 (>0.05), so the model chosen is the Random Effect Model (REM).

Langrage Multiplier Test

Table 3. Lagrange Multiplier test results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	25.27715	0.436184	25.71334
	(0.0000)	(0.5090)	(0.0000)

From the results of the Langrage Multiplier (LM) test, the Breusch-Pagan Probability value is 0.0000, so the model chosen is the Random Effect model (REM).

Panel Data Regression Estimation Test

Random Effect Model Testing results

Table 4 . Random Effect Model Testing results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.220190	0.896845	10.28069	0.0000
ROE	3.072105	0.906764	3.387986	0.0018
DAR	-5.433989	1.388764	-3.912824	0.0004

Based on the data in the table, the Random Effect Model (REM) shows a constant value of 9.220190. Furthermore, the regression coefficient value for the ROE variable is 3.072105 and for the DAR variable is -5.433989. With that, the regression equation can be formulated as follows:

Z-Score (Financial Distress) = 9.220190 + 3.072105 (ROE) - |5.433989| (DAR)

Classic Assumption Test

Normality Test Results

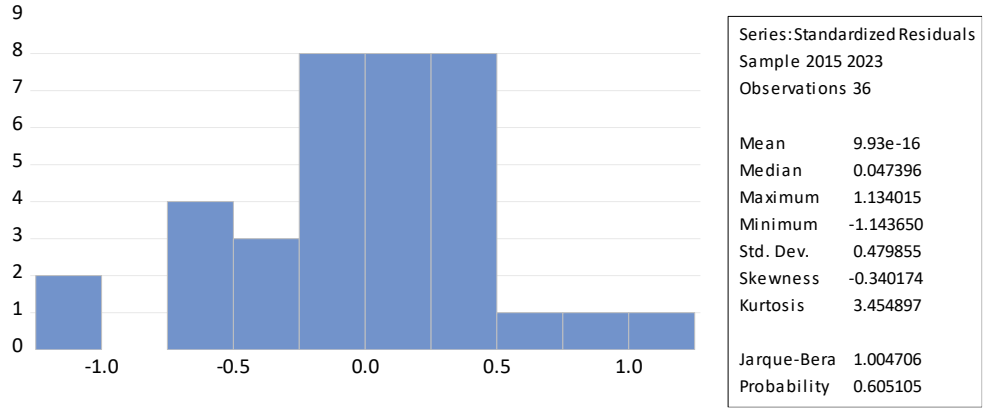

Figure 1. Normalitiy Test Result

Based on the image above, the data in this study is normally distributed, as proven by the Jarque-Bera value of 1.004706 and a probability of 0.605105 > 0.05. This reached the conclusion that the data in this study had a normal distribution (Passed Normality).

Multicollinearity Test Results

Table 5 . Multicollinearity Test

	ROE	DAR
ROE	1.000000	-0.596003
DAR	-0.596003	1.000000

Based on the table above, each independent variable ROE and DAR shows a correlation coefficient value of -0.596003. This states that none of the independent variables has a correlation coefficient exceeding 0.90, namely -0.596003 < 0.90. So, in conclusion, there is no multicollinearity between the independent variables.

Heteroscedasticity Test Results

Table 6 . Heteroskedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.590637	0.493233	1.197481	0.2397
ROE	0.299888	0.721916	0.415406	0.6805

DAR	-0.409738	0.767593	-0.533795	0.5971

Based on the table above, heteroscedasticity does not occur. This can be seen from each variable having a significance level value > 0.05. For example, ROE profitability with a value of 0.6805 > 0.05. Likewise, DAR profitability was recorded at 0.5971, also exceeding 0.05. Thus, the conclusion is that there is no heteroscedasticity in the regression model.

Hypothesis Testing

Simultaneous Test (F Test)

Table 6 . Results of F Test, T Test and Coefficient of Determination

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.220190	0.896845	10.28069	0.0000
ROE	3.072105	0.906764	3.387986	0.0018
DAR	-5.433989	1.388764	-3.912824	0.0004
Effects Specification				
			S.D.	Rho
Cross-section random			0.400834	0.5397
Idiosyncratic random			0.370155	0.4603
Weighted Statistics				
Root MSE	0.351681	R-squared		0.674171
Mean dependent var	1.804300	Adjusted R-squared		0.654424
S.D. dependent var	0.624844	S.E. of regression		0.367319
Sum squared resid	4.452464	F-statistic		34.14013
Durbin-Watson stat	0.923033	Prob(F-statistic)		0.000000
Unweighted Statistics				
R-squared	0.649822	Mean dependent var		6.132942
Sum squared resid	8.059125	Durbin-Watson stat		0.509952

Based on the table above, which shows a significance of 0.05 (0.000000 < 0.05), it can be seen that the Return On Equity (ROE) and Debt To Asset Ratio (DAR) variables simultaneously have a significant influence on the Z-Score (Financial Distress). These results are supported by the F-calculated value of the Return On Equity (ROE) and Debt To Asset Ratio (DAR) variables on the Z-Score

(financial distress) simultaneously of 34.14013 which is greater than the F-table 3.327654499 (34.14013 > 3.327654499) with df1 = 3 - 1 = 2 and df2 = 32 – 3 = 29 with a significance of 5%, meaning that Ho3 is rejected and Ha3 is accepted. In conclusion, the Return On Equity (ROE) and Debt To Asset Ratio (DAR) variables simultaneously have a positive and significant influence on the Z-Score (Financial Distress) value.

Partial Test (T Test)

Based on the table above which presents the results of data processing carried out using Eviews 12 software, the partial relationship between the independent variable and the dependent variable is described as follows:

a. Effect of Return On Equity (ROE) on Z-Score (financial distress)

Based on the table above, it can be seen that Return On Equity (ROE) has a significance level greater than α with a value of 0.0018 < 0.05 and a value of tcount < ttable, namely 3.387986 < 2.04227 and df 32-3 = 29 at a significance level of 5% . As a result, Ho is rejected and Ha is accepted, which means ROE has an influence on the Z-Score (Financial Distress). As for direction, Return On Equity (ROE) has a positive influence on the Altman Z-Score (financial distress).

b. Influence of Debt To Asset Ratio (DAR) on Z-Score (financial distress)

Looking at the table above, it shows that the Debt To Asset Ratio (DAR) has a lower significance level than α, namely 0.0004 < 0.05. Furthermore, the calculated t value is greater than ttable, namely -3.912824 > 2.04227 and the degrees of freedom (df) 32-3 = 29, at a significance level of 5%. As a result, Ho is rejected and Ha is accepted. As for direction, the Debt To Asset Ratio (DAR) has a negative influence on the Altman Z-Score (financial distress).

Coefficient of Determination

Based on the table above, the coefficient of determination value obtained through Adjusted R-Squared is 0.654424. This means that Return On Equity (ROE) and Debt To Asset Ratio (DAR) can describe 65.44% of the total variance of Financial Distress (Altman Z-Score). Thus, the remaining 34.56% (100% - 65.44%) was caused by other variables not examined in this study.

DISCUSSION

1. The Influence of ROE and DAR on Financial Distress

The findings of the ROE and DAR hypothesis test have a significant influence on the Z-Score (financial distress) with a significance value of 0.0000 <0.05. This means that both the ROE and DAR variables have an influence on the Z-Score. This conclusion is supported by an F-calculation value of 34.14013 for the ROE and DAR variables for the Z-Score (financial distress). This value is higher than the F-table value of 3.327654499 (34.14013 > 3.327654499). Showing that Ho3 is rejected and Ha3 is accepted, implies that ROE and DAR, have a major impact on the Z-Score (a measure of financial distress). In addition, the

determination value of 0.654424 indicates that the combination of ROE and DAR covers 65.44% of the variation in the Z-Score (a measure of financial difficulty).

2. The Influence of ROE on Financial Distress

The value of tcount > t table for ROE is 3.387986 < 2.04227. With a significance value of 0.0018 < 0.05, we can conclude that Ho1 is rejected and Ha1 is approved.

In line with research by Indriyanti & Izzati (2022). Their research is in line with these findings, ROE has an important and beneficial impact on financial difficulties. However, Lalugi & Dewi's (2023) research findings are different. from the current results. Specifically, their research shows that ROE has a negative effect on financial distress.

3. The Effect of DAR on Financial Distress

The Eviews output from the Random Effect Model findings shows a value of tcount > ttable of |-3.912824 | > 2.04227 and the significance value is 0.0004 < 0.05, then Ho2 is rejected and Ha2 is accepted.

This research is in line with Rahma's (2020) conclusion. The report confirms that financial difficulties are negatively influenced (DAR). However, Prayuningsih et al. (2021), Saraswathy et al. (2020), and Sudario (2021) present contrasting findings, showing that DAR has a significant and beneficial impact on financial distress. Apart from that, Simanjuntak (2020) and Indriyanti and Izzati (2022) their research reveals that the debt to asset ratio has no influence on financial difficulties.

CONCLUSIONS AND RECOMMENDATIONS

ROE and DAR simultaneously have a significant influence on financial distress. What is shown by the significance value of 0.0000 < 0.05 and the F-count value of 34.14013 > F-table 3.327654499 is that Ho3 is rejected and Ha3 is accepted. The coefficient of determination is 65.44%

The results of the analysis show that ROE has a significant positive influence on Financial Distress. With a prob.sig value of 0.0018 < 0.05 and a t-count value of 3.387986 > t-table 2, 04227. That, Ha is accepted

The results of the DAR analysis show a significant negative influence on financial distress. significance value 0.0004 < 0.05 and t-count value |-3.912824| > t-table 2.04227. Therefore the null hypothesis (Ho2) is rejected**.**

FURTHER STUDY

Research Limitations

a. The research sample only consisted of 4 companies with a period of 9 years.
b. There are only 3 variables in this study, namely 2 dependent variables, namely ROE and DAR, and one independent variable (dependent), namely Financial Distress.
c. The company/sample selection categories are only taken from the BCI Asia Award.
d. The company/sample selection categories are only taken from the number of companies that have not been suspended from the IDX

e. The company/sample selection category is only taken from the number of companies that distribute dividends

Suggestions

1. Future researchers can use other variables that might influence financial distress. In addition, the review period or research object can be extended beyond service companies and the use of company sample data with a wider scope can provide much more relevant research results on financial distress.

2. It is hoped that this research can become a basis for consideration or recommendations for management in managing the Company's bankruptcy risk. By paying attention to the increase in Financial Distress, management can concentrate on factors that help reduce the level of Financial Distress, namely where management must be able to manage its assets and liabilities effectively so that it can make an effective contribution to the company.

3. It is hoped that investors can provide considerations and an overview of the funding performance of companies in this industry before investing, looking at how the company manages its company both in terms of obtaining profits, liquidity, equity and the use of company debt which can influence Financial Distress.

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