ANALYSIS OF FINANCIAL RATIOS IN PREDICTING FINANCIAL DISTRESS CONDITIONS OF RETAIL COMPANIES ON THE INDONESIA STOCK EXCHANGE (IDX) PERIOD 2020-2023

ABSTRACT

Aims: This study analyses the effect of activity ratios, sales growth, profitability, and company size on the financial distress of retail companies on the Indonesia Stock Exchange from 2020 to 2023.
Study design: The study uses data on activity ratios, sales growth, profitability, and company size as independent variables and financial distress as the dependent variable.
Place and duration of study: The research was conducted in retail companies listed on the Indonesia Stock Exchange with a population of retail company subsectors and using purposive sampling criteria. The research data used financial reports published in 2020-2023.
Methodology: This type of research is quantitative. The research was tested with SPSS 25 using logistic regression. The total population in the study was 32 types of companies in the retail subsector. Purposive sampling obtained 108 unbalance data for 4 years of observation listed on the Indonesia Stock Exchange in 2020-2023.
Result: The results showed a significance value of the activity ratio of 0.000 < 0.05 with β = -1.268. The significance value of sales growth is 0.133 > 0.05 with β = -1.487, and the significance value of profitability is 0.024 < 0.05 with β = -4.050. Then, the significance value of company size 0.347 > 0.05 with β = 0.135.
Conclusion: This study concludes that the ratio of activity and profitability has a significant negative effect on financial distress. Sales growth and company size do not affect financial distress. To reduce financial distress, companies need to increase the ratio of activity and profitability because the greater the ratio of activity and profit generated by the company, the retail company can avoid financial difficulties that cause financial distress.

*Keywords: [*Activity Ratio, Sales Growth, Profitability, Company Size, Financial Distress*]*

1. INTRODUCTION

Retail companies in Indonesia are not only providers of goods and services but also pillars that support the economy. According to the Coordinating Ministry for Economic Affairs, one of the sectors that has a significant contribution to the achievement of economic growth is the trade sector with a magnitude of up to 12.96% of GDP. However, this sector faces various challenges that can affect the company's financial performance. One of the issues faced by retail companies in the 5.0 era is the risk of bankruptcy. Many businesses are focusing their business operations online to keep the company afloat. According to APRINDO (Indonesian Retail Entrepreneurs Association), several retail companies are experiencing financial distress due to the changing behavior of retail consumers to become modern by preferring to shop through e-commerce. Several companies included in the retail company subsector

that faces the risk of financial distress, including Giant, which is part of the Hero Group (PT Hero Supermarket Tbk), PT Matahari Putra Prima Tbk (MPPA), and Ramayana, have closed most of their outlets due to fierce competition in the supermarket business so that it can be seen in Figure 1 that companies included in the retail subsector experienced a decrease in revenue during 2020-2023. This certainly reflects the challenges that the Indonesian retail industry must face.

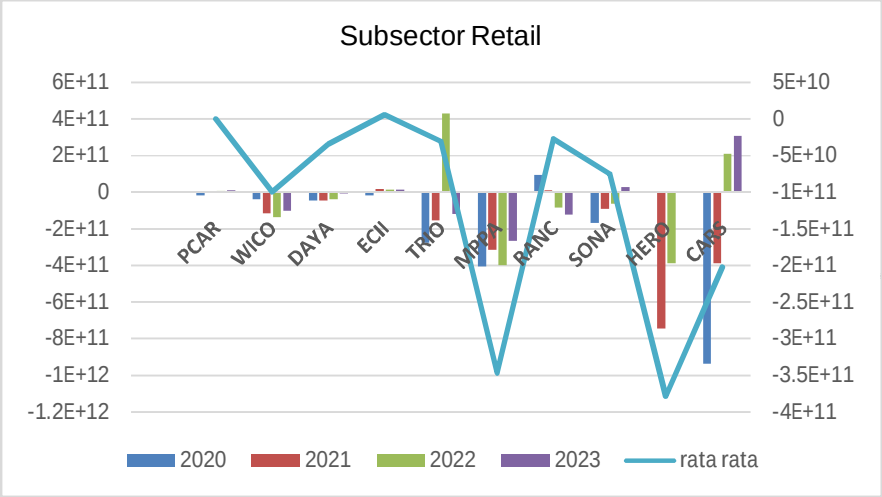

Figure 1 Revenue Decline

APRINDO estimates that the growth of the retail industry in 2024 will stagnate at around 4.8%-4.9% and even now APRINDO estimates that growth has the potential to decline. This affects the behavior of investors in the capital market, before making investment decisions based on the risk and profit preferences expected when investing. Financial distress by a company can be measured using the financial statements issued by the company so that the company's financial performance can be seen to get investors [1]Companies experiencing financial distress may reduce or stop paying dividends. Investors who own shares of the company will experience losses, both in the form of a decrease in share price and the potential for lower dividend payments. This could be detrimental to investors who rely on passive income from dividends for their returns.

Financial distress is a condition where the company is in a difficult stage of financial condition before bankruptcy or liquidation[2]Three financial conditions cause financial difficulties for a company, including lack of capital, high-interest expense, and losses [3].This is because the company is unable to manage and maintain stable financial results so the financial situation in the current year is getting worse. Financial distress itself can be caused by a series of mistakes, inaccuracies in making decisions, and the existence of various other interconnected weaknesses that have a direct or indirect impact on the company (Brigham & Daves, 2019) in[4]Financial ratios are an important tool in analysing the financial health of a company. This ratio provides an overview of the company's financial performance, which can provide clues to investors about the potential for financial distress. Financial ratios are used in this study to evaluate what must be done in the future so that the management performance of a company can continue to improve or always be maintained by the targets and objectives set by a company (Kasmir, 2016) in[5]The financial ratios used include activity ratios, sales growth, profitability, and company size.

Activity ratios, such as total asset turnover, are crucial measures that illustrate how productive a company is in utilizing its assets to create revenue. A high total asset turnover indicator indicates that the company is utilizing its assets very efficiently to

increase profits, thus making the company's stock price rise. The results of [6]show that total asset turnover has a significant positive effect on financial distress. Different from [7]states that total asset turnover does not affect financial distress.

Sales growth is one of the important factors to consider in making investment decisions for investors. With positive sales growth, it can increase liquidity and profitability, which can help reduce the risk of financial distress. Conversely, a decline in sales experienced can signal potential financial problems that need to be watched out for. The results of research by [8]prove that sales growth has a significant positive effect on financial distress. In contrast to the results of research by [9]that sales growth does not affect financial distress.

Profitability is assessed through return on assets or ROA. A high ROA indicates a company's excellence in optimizing their assets to achieve the desired profit. Conversely, a low ROA indicates a company's difficulty in managing its assets, which could potentially lead to a financial crisis. It is important to consider Return on Assets (ROA) when making investment decisions as it indicates how efficiently a company's assets are being utilized. The results of [10]show that profitability has a significant positive effect on financial distress. In contrast [11]state that profitability has a significant negative effect on financial distress.

Company size plays a role in maintaining the company's financial stability and provides an advantage in facing difficult market challenges. Company size can reflect how large or small the company is based on its total assets. The larger the size of the company, the greater the potential added value that can be enjoyed by investors who invest in it. Research from[12]states that company size does not affect financial distress. In contrast to the research of[3]The inconsistency in the results of previous research motivates the author to analyse and retest how the influence of activity ratios, sales growth, profitability, and company size on financial distress.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Literature Review

2.1.1. Signaling Theory

Financial management science has developed signal theory for the benefit of people in an organization or company insiders who think about the reality that a company desires to provide information to outsiders. Investors before deciding to invest in a company need to research how the company is doing by seeing whether the company's financial condition is experiencing financial distress or not. Financial distress can affect the signals that companies give to the market. When companies experience financial difficulties, the signals they send can create different perceptions in the eyes of investors, creditors, and other parties involved [13].According toSihombing (2018) in[14]signal theory is a theory that discusses the use of debt capital as a source of funds for corporate activities which is used as a signal to investors. This theory discusses the rise and fall of a price in the market so that it affects investors in making investment decisions. Investors can use these signals, such as annual financial reports and other relevant data, to determine the company's current status before investing in it[3].Companies that are experiencing financial distress often send negative signals, companies may delay or reduce dividend payments, pull back expansion plans, or even announce large cost cuts. All of this can reduce investor confidence and increase risk perceptions [14]

2.1.2. Activity Ratio

A measure typically used to evaluate how well a company utilizes its assets or resources in generating revenue. This ratio is a favorite among investors and financial analysts to assess the operating performance of a company, if a company is unable

to generate enough cash flow to cover its operating obligations, it may signal higher financial risk in the eyes of investors. According tokasmir (2016)in[15]the activity ratio measures the assets owned by the company, or in other words, variable measures the efficiency of using company resources. Activity Ratio is calculated by the formula.

$$TATO = \frac{\text{Sales}}{\text{Total Asset}} \quad \ldots\ldots (1)$$

2.1.3.Sales Growth

High sales turnover helps companies avoid financial difficulties [16].Relative sales growth is used to evaluate a company's competitiveness in the industry. An increase in sales where current year sales are higher than the previous year is referred to as a positive sales trend, while a decrease in sales where current year sales are less than the previous year is referred to as a negative sales trend [6]A persistent decline in sales may indicate problems with the company's products, marketing, or competitiveness. In the long term, declining sales can reduce the company's ability to generate sufficient profits to pay financial obligations and increase the risk of bankruptcy. Sales growth is calculated by the formula:

$$\text{Sales Growth} = \frac{\text{Sales} - \text{Sales}_{t-1}}{\text{Sales}_{t-1}} \quad \ldots\ldots (2)$$

2.1.4. Profitability Ratio

Profitability is the company's ability to earn profits from its core business. Profitability ratio is the profit earned by the company in a certain period. When a company's profit is high, investors often choose to invest their capital in the company. Managers use this ratio as a measure of management effectiveness and to assess the overall performance of the company [17].The level of profit earned by the company, in this condition a company with little profit will experience financial difficulties, but if the profit earned is large, the company can be free from financial difficulties In this study ROA is a proxy for profitability ratio. Return On Asset is calculated using the formula:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total asset}} \quad \ldots\ldots (3)$$

2.1.5. Company Size

Company size is one of the components of the financial ratio used to measure and determine the efficiency of the company's various operational assets which aims to measure how the company manages its assets to generate profits [6]. The company category is divided into three, namely large, medium, and small. The company's financial condition is evaluated based on this factor. Company size refers to the company's asset ownership. The bigger the company, the greater the added value for investors who invest their capital [18].Large companies that face declining revenues or problems in debt management can quickly run the risk of facing liquidity difficulties even though they have many assets, the company can be exposed to financial distress conditions. Therefore, company size affects investors' decisions in terms of security and potential returns. Company size is calculated using the formula;

$$\text{Company Size} = \text{Ln}(\text{total asset}) \quad \ldots\ldots (4)$$

2.1.6. Financial Distress

Financial Distress or financial difficulties, namely the company's financial condition decreases then occurs before the bankruptcy of the company, the deterioration of the company's financial condition in the form of decreasing results and the company's inability to pay its debts, this can also take place when the internal distress operating cash flow cannot cover debts, for example, bank debt, accounts payable and expenses charged. If the company is in this situation, it is required to make immediate improvements. Nurbaiti*et al.,*(2021) in[19]The Altman Z-Score method (1968) is one of the most widely used predictive tools to predict financial difficulties. According to [20]financial distress is predicted by corporate financial indicators using size and sales growth. Financial distress is predicted using activity ratios such as total asset turnover, sales growth, profitability, and company size. Unlike previous research, there are additional profitability variables to predict financial distress. In this study, the dependent variable uses a dummy variable measurement which is categorized as value 1 for Z-Score results < 1.20 for bankrupt companies, and value 0 for Z-Score results > 2.9 for non-bankrupt companies.

$\boldsymbol{Z\text{-}Score}=\mathbf{0},\mathbf{717}TATO+\mathbf{0},\mathbf{847}\text{SG}+\mathbf{3},\mathbf{107}ROA+\mathbf{0},0\mathbf{20}\text{UP}$ ..... (5)

2.2. Hypothesis Development

2.2.1. The effect of activity ratio on financial distress

Activity ratios, such as total asset turnover, are important indicators that show how efficiently the company uses its assets to generate sales. A high total asset turnover indicates that the company uses its assets very efficiently to increase profits so that the company's stock price rises. According to kasmir (2016) in[15]the activity ratio measures the assets owned by the company, or in other words, variable measures the efficiency of using company resources. For investors, a good activity ratio indicates that the company is managing assets and liabilities well, which has the potential to generate higher profits and more stable cash flow. In previous research [21]and[22]that the activity ratio has a negative and significant effect on financial distress while research from [7]states that total asset turnover does not affect financial distress, the first assumption in this study is based on the explanation above;

H_1 : Activity Ratio has a significant negative effect on financial distress.

2.2.2. The effect of sales growth on financial distress

Sales growth is a factor that can be considered in making investment decisions for investors, positive sales growth can increase liquidity and profitability to reduce the risk of financial distress. Conversely, if the increase in sales is negative, it indicates conditions that lead to financial difficulties. Consistent sales growth and healthy market demand are important signals for investors who are looking for security and potential profits when investing long-term. The results of research [8]prove that sales growth has a significant positive effect on financial distress. Previous research results in the research of [23]and[24]stated that sales growth has a significant negative effect on financial distress. The second assumption in this study is based on the explanation above;

H_2 : Sales growth has a significant negative effect on financial distress.

2.2.3. The effect of profitability on financial distress

Profitability is assessed using return on assets, a high ROA indicates the company's ability to manage all of its assets to achieve the desired profit, on the other hand, a low ROA indicates that the company is having difficulty managing its assets, thus allowing the company to experience financial distress. Therefore, stable and increasing profitability provides a great attraction for investors, while poor or declining profitability can reduce investor interest and increase the risk of loss. The results in the research [11]and[25]that profitability has a significant negative effect on financial distress. It is suspected that the third hypothesis is as follows;

H_3 : Profitability has a significant negative effect on financial distress.

2.2.2 The effect of company size on financial distress

Company size can also affect the financial stability of companies, this can help them survive in difficult market conditions. Company size describes the size of the company through its overall assets. The larger the size of the company, the added value for investors who will invest their capital. The bigger the company, the greater the added value for investors who invest their capital[18]. Large companies that face declining revenues or problems in debt management can quickly run the risk of facing liquidity difficulties even though they have many assets the company can be exposed to financial distress conditions. Therefore, investors need to assess company size in the context of the risk and potential returns they want from the investment. Previous research results [26]and[25]show that company size has a negative effect on financial distress. The fourth conjecture from the explanation above;

H_4 : Company size has a significant negative effect on financial distress.

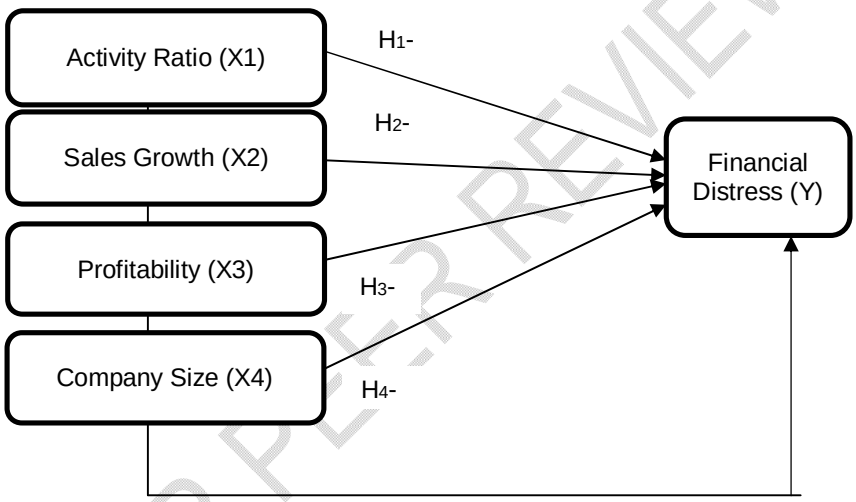

Figure 2 Research Framework

3. METHODS

This study uses a quantitative approach, research using secondary data sources derived from annual financial reports on the Indonesia Stock Exchange with a purposive sampling technique, sample criteria in this study a) Retail companies that are always listed on the IDX in 2020-2023. b) Retail companies that report financial statements during the 2020-2023 period. Based on these criteria, a population of 32 types of companies in the retail company subsector was obtained from the idxchannel.com website with several types of companies such as drug retail & distributors, food retail & distributors, supermarkets & convenience stores (minimarkets), department stores, apparel & textile, automotive retail, and electronic retail. Using purposive sampling, 108 unbalance data were obtained for 4 years of observation. The research was processed with IBM SPSS 25, financial distress was tested with the Altman Z-Score method through logistic regression test.

4. RESULT AND DISCUSSION

4.1. Descriptive Statistics

Descriptive statistics explain the sample size (N) and the value of all variables including the minimum, maximum, and mean values. The purpose of this test is to

provide an overview of the distribution of sample data behavior. Based on the results of SPSS 25 in processing data, it can be obtained that the average financial distress is 0.75, and the average company size (X4) is 31.015. While the average profitability (X3) is 0.006, the average sales growth value (X2) is -0.147, and the average total asset turnover value (X1) is 1.311.

Table.1

Descriptive Statistics

	N	Minimum	Maximum	Mean
Activity ratio	108	.002	7.128	1.31145
Sales growth	108	-8.409	.999	-.14781
Profitability	108	-1.382	.983	.00609
Company size	108	26.067	35.386	31.01515
Financial Distress	108	0	1	.75
Valid N (listwise)	108			

4.2. Overall Model Test Result

This test is used to test the model and the results of the model fit evaluation are used to see that the addition of independent variables to the model can improve the fit of the model.

Table.2

Iteration History[a,b,c]

			Coefficients
Iteration		-2 Log likelihood	Constant
Step 0	1	121.665	1.000
	2	121.464	1.096
	3	121.464	1.099
	4	121.464	1.099

The SPSS output shows that the -2log-likehood value is 121.464 before the independent variable is added and after the independent variable is entered the value is 78.921. This means that the data fits the model. This shows that the decrease is 42.543. In the chi-square table *df* = 4 at a significance of 0.05 of 9.488, this indicates a value of 42.543> 9.488, meaning that adding independent variables to the model to test the entire model can improve the model for the better.

Table.3

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	78.921[a]	.326	.482

4.3. Coefficient of Determination

The coefficient of determination is a logistic regression evaluation that shows the percentage of the dependent variable that is successfully affected by the independent variable. The coefficient of determination obtained from the R Square Negelkerke column shows a result of 0.482 or equivalent to 48.2%. This implies that the independent variables are able to explain 48.2% of the variation in the dependent variable, while most (51.8%) is influenced by other factors outside the model.

Table.4

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	78.921[a]	.326	.482

4.4. Hosmer and lemeshow's Goodness of Fit Test

Hosmer and Lemeshow's Goodness of Fit Test is used for hypothesis testing, the results of the model feasibility test assessment show a chi square value of 4.186 with a probability of 0.840 if the significance value > 0.05 then the model formed fits the observation data. Table 5 shows the results of Hosmer and Lemeshow's significance of 0.840> 0.05 indicating that the model fits the observation data.

Table.5

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.186	8	.840

4.5. Classification Matrix Results

In estimating the regression model that is used to group companies into several categories of companies that have a chance of not facing financial distress using classification matrix testing, in step 0 companies that are not bankrupt are seen in the observed column as many as 27 and companies experiencing bankruptcy 81, then step 1 in the predicted column for companies that are not bankrupt as many as 15 with the acquisition of 55.6% classification accuracy (15/27), and for companies experiencing bankruptcy as many as 80 with classification accuracy obtained 98.8% (80/81) so overall classification accuracy is 88%.

Table.6

Classification Table[a]

Observed			Predicted		
			Financial Distress		Percentage Correct
			NON FD	FD	
Step 1	Financial Distress	NON FD	15	12	55.6
		FD	1	80	98.8
	Overall Percentage				88.0

a. The cut value is .500

4.6. Omnibus Test

The SPSS output shows the significance value of the omnibus test of 0.000 < 0.05, meaning that all independent variables in the model simultaneously affect the dependent variable.

Table.7

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	42.543	4	.000
	Block	42.543	4	.000
	Model	42.543	4	.000

4.7. Binary Logistic Analysis

Hypothesis testing is carried out to test financial indicator variables such as TATO, Sales Growth, ROA, and Company Size. These variables are used to estimate the influence on the dependent variable, which is difficult financial conditions. This test has been carried out using the binary logistic regression test, where the effect is reflected through the variables listed in the variable table in the equation. If the significance value is less than 0.05, the variable is believed to have an effect on unfavorable financial conditions, and vice versa. The constant value (β) shows the direction of significance whether it is negative or positive.

Table.8

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Activity ratio	-1.268	.350	13.127	1	.000	.282
	Sales growth	-1.487	.991	2.252	1	.133	.226
	Profitability	-4.050	1.792	5.111	1	.024	.017
	Company size	.135	.143	.883	1	.347	1.144
	Constant	-1.040	4.340	.057	1	.811	.353

Parameter estimation with the formula:

$$Ln = \frac{Pi}{1-P} = \beta + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

Description:

$Ln = \frac{Pi}{1-P}$ =log of the comparison of companies experiencing financial distress and companies that are not experiencing financial distress.

β = Constanta

β_1 = Coefisienregression activity ratio

β_2 = Coefisienregression sales growth

β_3 = Coefisienregression profitability

β_4 = Coefisienregression company size

X1 = Activity ratio

X2 = Sales Growth

X3 = Profitability

X4 = Company size

$Ln = \frac{Pi}{1-P}$ = -1,040 + (-1,268)0,000 + (-1,487)0,133 + (-4,050)0,024 + (0,135)0,347

Based on the results shown in Table 8, the variable in the equation significance level of 0.05 obtained the significance value of the activity ratio of 0.000 < 0.05 with a beta value of -1.268 indicates a significant negative effect on financial distress then, the significance value of sales growth of 0.133 > 0.05 with a beta value of - 1.487 shows no effect on financial distress, the significance value of profitability is less than 0.05 of 0.024 < 0.05 with a value (β) of -4.050 indicating that profitability has a significant negative effect on financial distress. Then, the significance value of company size of 0.347 > 0.05 with a value (β) of 0.135 indicates that company size has no effect on financial distress.

4.8. Discussion

The effect of activity ratios on financial distress based on the results of calculations that have been carried out shows that the significance value (total asset turnover) is smaller than the significance value, namely (0.000 < 0.05) and negative beta, therefore TATO is proven to have an impact on financial distress, TATO has a negative beta coefficient value, meaning that total asset turnover has a significant negative effect on financial distress. These results are consistent with research from [27]and[6]which shows that the activity ratio has a significant negative effect on financial distress. TATO is an activity ratio that measures the efficiency of a company in using its assets to generate revenue. Investors rely heavily on the activity ratio to evaluate the company's operational efficiency and growth potential. When a company shows a poor activity ratio, this can be a signal of higher risk for investors[27].This is in line with signal theory, where investors can see the information shared by the company by measuring the total asset turnover of the retail company subsector during 2020-2023. Investors can use such signals, such as annual financial reports and other relevant data, to determine the current status of the company before investing in it [3].

The effect of sales growth on financial distress based on calculations that have been tested in the 2020-2023 retail company subsector shows that the significance value of sales growth is greater than the significance value of 0.05, namely (0.133>0.05) and negative beta, therefore sales growth has no impact on financial distress. This result does not match the hypothesis proposed and is in line with signalling theory where investors do not get good signals from the company, it is suspected that company managers carefully send signals that are too negative which can make things worse so that, in this study, the value of sales growth cannot have an effect while the value decreases every period indicating a lack of funds to manage their assets despite an increase in sales, the company may not be able to cope with liquidity. The hypothesis that sales growth has a significant negative effect on financial distress is rejected, supported by research from[16]and [28]which state that sales growth does not affect financial distress.

The effect of profitability on financial distressthe results of testing ROA on financial distress show that the significance value of ROA is smaller than the significance value, namely (0.024 < 0.05) and negative beta, this means that hypothesis three is accepted and shows that profitability has a significant negative effect on financial distress. This means that the company does not generate profits and does not use its assets efficiently, this condition can be a sign of operational difficulties. Supported by signal theory where this can influence investors in making investment decisions by looking at the level of profit increase from the company. Low ROA indicates that retail companies are less productive in sales turnover so as to generate less than maximum profit The results of this study are consistent with previous research from[16]and[14]which state that profitability affects financial distress where companies with high profitability indicate that the company has good financial capabilities so that there is less chance of experiencing financial distress.

The effect of company size on financial distress based on measurements that have been made on the company size variable, the significance value of company size is greater than the significance value, namely (0.347>0.05) and beta is positive, this research is consistent with previous research from[29]and[12]which state that company size has no effect on financial distress. Company size as measured by the company's total assets shows how much of the assets owned by the company are used for the company's operational activities. Investors often pay attention to company size as an important indicator in assessing risk and potential returns. In general, for investors a large company size can experience a sharper decline in income during a financial distress crisis, due to its slower growth potential[30]. This can influence investors to switch to start-ups or companies with small market capitalization that have the potential to generate higher returns. so that the signal from the company on the assets owned cannot influence investors' decisions to invest.

5. CONCLUSSION

Based on the results of this research, it shows that the activity ratio and profitability have a significant negative effect on financial distress in retail companies listed on the IDX for the 2020-2023 period. Sales growth and company size do not affect financial distress in retail companies on the IDX for the 2020-2023 period. To reduce financial distress, companies need to increase the ratio of activity and profitability because the greater the ratio of activities and profits generated by the company, retail companies can avoid financial difficulties that cause financial distress. Markets often respond to signals sent by companies, including those related to financial distress. If the market perceives the signal as negative (for example, an announcement of debt restructuring or dividend cuts), the company's stock price may fall. However, if the company manages to convince the market that it will overcome the financial distress and can return to a healthy financial condition, this can ease market concerns and may even push up the share price. In the coefficient of determination, which is 48.2%, the variables in this study have an effect, the remaining 51.8% can be influenced by other independent variables. It is recommended that future research use the complete GCG mechanism variable to predict financial distress and it is recommended for companies to pay more attention to their corporate governance, make interesting innovations so that they can be productive and effective in generating profits and remain in good condition to avoid financial distress.

REFERENCES

[1] A. Runis, D. Samsul Arifin, A. Masud, and U. Kalsum, "The Influence of Liquidity, Leverage, Company Size and Profitability on Financial Distress," International Journal of Business and Social Science Research, pp. 11–17, June. 2021, doi: 10.47742/ijbssr.v2n6p2.

[2] D. Purwanti and R. Ulan Sari, "Prediction of Financial Distress in property and Real Estate Companies in Indonesia: Liquidity Ratio, Leverage Ratio, Activity Ratio, Profitability Ratio, Growth Ratio" International Journal of Accounting, Management, Economics and Social Sciences (IJAMESC), vol. 1, no. 2, pp. 110–117, Apr. 2023, doi: 10.61990/ijamesc.v1i2.10.

[3] D. P. Setiowati, N. T. Salsabila, and I. Eprianto, "The effect of company size, leverage, and profitability on financial distress," JURNAL ECONOMINA, vol. 2, no. 8, pp. 2137–2146, Aug. 2023, doi:10.1007/j.2023.04.2023. : 10.55681/economina.v2i8.724.

[4] R. Mercury Andreini and L. Safrida, "Trilogi accounting and business research the influence of financial ratios on financial distress in the property, real estate, and construction sectors," 2023.

[5] Ainnun Masita and Purwohandoko, "Analysis of the influence of financial ratios, managerial ownership, and institutional ownership on financial distress in companies in the trading, service, and investment sectors listed on the IDX in 2015-2018," 2020. [Online]. Available: www.idx.co.id,

[6] H. Arief, E. T. P. Saratian, C. Oktaviar, E. Marlapa, and M. Soelton, "The Influence of Sales Growth, Profitability, Liquidity and Firm Size Towards Financial Distress," Formosa Journal of Sustainable Research, vol. 3, no. 8, pp. 1923–1934, Aug. 2024, doi: 10.55927/fjsr.v3i8.10636.

[7] K. Digdowiseiso and I. S. Ningrum, "The Effects of Total Asset Turnover, Return on Assets, And Sales Growth on Financial Distress in Food and Beverage Companies over the Period 2016-2020," Budapest International Research And Critics Institute-Journal(BIRCI-Journal), 2022, doi: 10.33258/birci.v5i2.5042.

[8] D. W. Muslimin and S. Bahri, "The influence of GCG, company size, and sales growth on financial distress," Owner, vol. 7, no. 1, pp. 293–301, Dec. 2022, doi: 10.33395/owner.v7i1.1249.
[9] A. Jaya Saputra and S. Salim, “The effect of profitability, leverage, firm size, and sales growth on financial distress,” Profitability Influence, 2020.
[10] H. Heliani and S. Elisah, “The effect of profitability, macroeconomics , Firm Size Against Financial Distress With Firm Value as a Moderating Variable,” Owner, vol. 6, no. 4, pp. 4142–4155, Oct. 2022, doi: 10.33395/owner.v6i4.1080.
[11] J. Jessie and T. Tannia, “The Effect of Liquidity, Activity, Profitability, and Leverage on The Financial Distress of Properties And Real Estate Companies in 2019-2022,” Dinasti International Journal of management science, 2023, doi: 10.31933/dijms.
[12] Drmiasih Ray Ni Wayan, Endiana Made I Dewa, and Asri Pramesti Ayu I Gusti, “The effect of capital structure, cash flow, good corporate governance and company size on financial distress,” Jurnal Kharisma, vol. 4, 2022.
[13] F. Wisnu and D. P. Astuti, “Financial Distress: Profitability Ratios and Liquidity Ratios, with Financial Statement Fraud as Moderating,” Economic Education Analysis Journal, vol. 12, no. 2, pp. 15–26, Jun. 2023, doi : 10.15294/eeaj.v12i2.67570.
[14] I. Aldo Hosea, T. Siswantini, S. Murtatik, and U. Pembangunan Nasional Veteran Jakarta, “Leverage, profitability, sales growth, towards financial distress in retail companies on the IDX,” 2020.
[15] MuzharoatiningsihMuzharoatiningsih and Ulil Hartono, “The effect of financial ratios, sales growth, and company size on financial distress in the consumer goods industry sector on the IDX for the period 2017-2020,” Journal of Management Science, vol. 10, 2022, doi: https://journal.unesa. ac.id/index.php/jim/article/view/17977.
[16] R. Hakim, W. Wiralestari, and S. Yetti, “The influence of firm size, leverage, sales growth and profitability on financial distress (empirical study of property and real estate sector companies listed on the IDX in 2015-2019), ” Jambi Accounting Review (JAR), vol. 2, no. 2, pp. 128–143, Feb. 2022, doi: 10.22437/jar.v2i2.17256.
[17] N. Kalbuana, M. Taqi, L. Uzliawati , and D. Ramdhani, “The Effect of Profitability, Board Size, Woman on Boards, and Political Connection on Financial Distress Conditions,” Cogent Business & Management, vol. 9, no. 1, Dec. 2022, doi: 10.1080/23311975.2022.2142997.
[18] S. Jaka Maulana, “The effect of return on assets (ROA) on financial distress in chemical subsector companies listed on the Indonesia Stock Exchange,” LAND JOURNAL, vol. 3, 2022. [19] Salim Nafilla Sanny and Dillak Juliana Vaya, “The effect of company size, managerial agency costs, capital structure and gender diversity on financial distress,” JurnalIlmiah MEA, vol. 5, 2021.
[20] D. Wu, X. Ma , and D. L. Olson, “Financial distress prediction using integrated Z-score and multilayer perceptron neural networks,” Decis Support Syst, vol. 159, p. 113814, Aug. 2022, doi: 10.1016/j.dss.2022.113814.
[21] Putri Suryani Deanisyah and NR Erinos, “The Effect of Financial Ratios, Company Size and Agency Costs on Financial Distress (Empirical Study on Retail Companies Listed on the IDX in 2016-2018),” Journal of Accounting Exploration, vol. 2, 2020.

[22] E. I. Altman, “Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy,” J Finance, vol. 23, no. 4, p. 589, Sep. 1968, doi: 10.2307/2978933.
[23] J. I. Shidiq and K. Khairunnisa, “Analysis of Liquidity Ratio, Leverage Ratio, Activity Ratio, and Growth Ratio to Financial Distress Using the Altman Z-Score Method in the Textile and Garment Sub-Sector at the IDX for the 2013-2017 Period,” JIM UPB (Scientific Journal of Management, Putera Batam University), vol. 7, no. 2, p. 209, Aug. 2019, doi: 10.33884/jimupb.v7i2.1229.
[24] A. L. Ramadhani and K. Nisa, “The Effect of Operating Capacity, Sales Growth, and Operating Cash Flow on Financial Distress,” Journal of Financial and Accounting Research, vol. 5, no. 1, Sep. 2019, doi: 10.25134/jrka.v5i1.1883.
[25] A. Runis, D. Samsul Arifin, A. Masud, and U. Kalsum, “The Influence of Liquidity, Leverage, Company Size and Profitability on Financial Distress,” International Journal of Business and Social Science Research, pp. 11–17, Jun. 2021, doi: 10.47742/ijbssr.v2n6p2.
[26] A. Dirman, “Financial distress: the impact of profitability, liquidity, leverage, firm size, and free cash flow,” International Journal of Business, Economics and Law, vol. 22, p. 1.
[27] Emia Eunike, “Analysis of Understanding Financial Ratios on Predicting Financial Distress Conditions Emia Eunike Violine Ginting Endah Dwi Kusumastuti,” Indonesian Accounting Research Journal, vol. 3, no. 2, pp. 131–138, 2023.
[28] M. Sholikhah and N. Rokhmania, “The Effect of Profitability, Liquidity, Sales Growth, Operating Capacity and Company Size on Financial Distress,” Eqien - Journal of Economics and Business, vol. 11, no. 04, Dec. 2022, doi: 10.34308/eqien.v11i04.1327.
[29] F. Pandapotan and F. Puspitasari, “The Effect of Cash Flow, Board Independence, and Company Size on Financial Distress,” Saudi Journal of Economics and Finance, vol. 6, no. 9, pp. 311–318, Sep. 2022, doi: 10.36348/sjef.2022.v06i09.003.
[30] Y. Yohana and M. H. Y. Nyale, “The Effect of Operating Capacity, Sales Growth and Firm Size on Financial Distress,” J-MAS (JurnalManajemen dan Sains), vol. 8, no. 1, p. 376, Apr. 2023, doi: 10.33087/jmas.v8i1.734.
[31] COORDINATING MINISTRY OF ECONOMY, "Having a Significant Contribution to the National Economy, Coordinating Minister Airlangga Hopes the Retail Sector Will Be the Backbone Amidst Uncertainty," April 18, 2024. [Online]. Available: https://www.ekon.go.id/publikasi/detail/5715/miliki-kontribusi-signifikan-bagi-perekonomian-nasional-menko-airlangga-berharap-sektor-retail-jadi-tulang-punggung-di-tengah-ketidakpastian.
[32] Liputan6, "Apindo: Many Retail Stores Close Due to Changes in Consumer Behavior," February 13, 2023. [Online]. Available: https://www.liputan6.com/bisnis/read/5205782/apindo-toko-ritel-banyak-tutup-karena-perubahan-perilaku-konsumen?page=2.
[33] Indonesia Stock Exchange, November 29, 2023. [Online]. Available: https://www.idxchannel.com/market-news/daftar-saham-ritel-di-bei-32-emiten-market-cap-tertinggi-rp118-triliun.