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Financial Distress Prediction Model Using Financial Ratios and Cash Flow: A Quantitative Approach (Study for retail companies listed on the IDX for the 2020-2024 period)

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Abstract

This study analyzes the influence of financial ratios and cash flows on financial distress conditions in retail companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The independent variables tested included Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA), and Cash Flow from Operations (CF), with Financial Distress (FD) measured using the Altman Z-Score. The method used is multiple linear regression. The research uses a quantitative approach with secondary data from the financial statements of retail companies listed on the IDX during 2020–2024. The sample was selected by purposive sampling based on the criterion of declining profits for two consecutive years. Financial distress is measured with the Altman Z-Score. Data analysis uses multiple linear regression to test the influence of independent variables on financial distress. Multicollinearity, normality, and heteroscedasticity tests were performed to ensure the validity of the model. The results showed that CR, DER and CF had no significant effect on FD, only ROA had an effect on FD. These findings confirm the importance of managing financial ratios, especially on asset ratios, to reduce the risk of financial distress, which is a reference for managers and investors in financial decision-making.

Keywords: Type your keywords here, between 3 and 6, separated by semicolons. Times New Roman 8pt, Line spacing Exactly 11pt

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1. Introduction

The success of a company in maintaining its operational continuity is highly dependent on the managerial ability to manage various financial aspects. One of the most significant challenges faced by companies is the risk of financial distress, which refers to situations in which companies experience difficulties in meeting their financial obligations, both short-term and long-term. In many cases, financial distress is often the initial phase before bankruptcy occurs (Glousa Lera Silanno, 2021). Financial distress is a critical condition experienced by companies when they experience significant difficulties in fulfilling their financial obligations, both short-term and long-term. This condition not only reflects liquidity problems, but also indicates a fundamental disruption in the company's financial structure that has the potential to lead to bankruptcy (Altman, 1968; Rahman et al., 2021)).

Therefore, it is very important for managers, investors, and creditors to be able to predict the likelihood of financial distress as part of broader risk mitigation efforts. The risk of financial distress can arise due to various internal and external factors, including economic, political, and social factors. In the Indonesian stock market, which is quite affected by exchange rate fluctuations and commodity prices, predictions of financial distress are very relevant. In general, the analysis of a company's financial ratios and cash flow has proven to be an effective tool for monitoring the financial health of a company. The ratio of liquidity, solvency, and profitability provides an idea of a company's ability to survive over the long term, while cash flow reflects the extent to which a company can generate cash to meet its financial obligations (Oktaviani & Lisiantara, 2022; Wisnu & Astuti, 2023). The phenomenon of financial distress has become a major highlight, especially in the Indonesian retail sector which has experienced very volatile market dynamics over

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the past few years. Changes in people's consumption patterns due to advances in digital technology have driven a shift in consumer behavior from conventional shopping to online shopping (e-commerce), forcing retail companies to adapt quickly to remain competitive, (Susanti et al., 2022). However, not all companies are able to adapt optimally, so many experience a decline in financial performance and enter the risk of financial distress. A clear example of this challenge can be seen in several large retail companies in Indonesia that are under heavy pressure, such as PT Matahari Putra Prima Tbk which has experienced a significant decline in revenue due to changes in consumer behavior and fierce competition with online platforms, (Matahari.com, 2023). In addition, PT Ramayana Lestari Sentosa Tbk and PT Sumber Alfaria Trijaya Tbk (Alfamart) are also facing liquidity and performance pressures due to the impact of the pandemic as well as changes in consumer spending trends (Erta Darwati, 2025). These companies experienced a decline in profit margins, an increase in short-term debt, and a decline in cash flow that indicated a real risk of financial distress.

These conditions indicate the need for a deep understanding of the factors that can predict financial distress in the retail sector, especially those related to the company's financial ratios and cash flows. Financial ratios, as an indicator of financial health, can provide an early signal of a company's condition, while cash flow indicates a company's ability to meet its liquidity needs in real terms (Eugene .F Brigham & Joel F. Houston, 2020; Jaafar et al., 2021). Therefore, research that focuses on the relationship between financial ratios, especially Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA) and cash flow from operating activities (CF) to financial distress in retail companies, is very important to provide strategic insights in facing existing challenges.

Previous research by Setiyo Purwanto found that Current Ratio and Return on Asset have a significant effect on financial distress conditions, (Purwanto et al., 2023) according to Septyanto's research, but for ROA it has a insignificant effect on financial distress, (Septyanto et al., 2022), while research conducted by Aditya Mawardana stated that CR had no significant effect on FD, (Mawardana & Pohan, 2024). However, although many previous studies have revealed the relevance of financial ratios and cash flows in predicting financial distress, the application of prediction models in the dynamic Indonesian market with the latest data is still limited. Therefore, this study aims to fill this gap by analyzing the influence of Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA) and cash flow from operating activities (CF) in companies listed on the Indonesia Stock Exchange during the period 2020 to 2024, with the criteria of retail sector companies that have experienced consecutive profit declines for two years in that period.

2. Literature Review

Financial distress (FD) is a situation in which a company has difficulty fulfilling its financial obligations, both short-term and long-term. This circumstance can have a significant impact on a company's performance and in some cases can lead to bankruptcy if not managed properly. Therefore, it is important to make predictions about the possibility of financial distress as a risk mitigation measure for managers, investors, and creditors (Pratama et al., 2022). Theories that are often applied in predicting financial distress include the theories of liquidity, solvency, and profitability integrated with the company's cash flow analysis (Ikatan Akuntan Indonesia (IAI), 2024) .

Liquidity, especially the Current Ratio (CR), is related to the company's ability to meet its short-term obligations by utilizing its current assets. Ratios commonly used to measure liquidity are the current ratio and the quick ratio. Companies that show low liquidity ratios have a high potential to face financial distress, due to their inability to meet short-term obligations without having to rely on external financing, (Fia Afriyani & Nurhayati, 2023; Tarighi et al., 2022). Liquidity arises as a result of decisions taken by companies in the past related to funding from third parties, both in the form of assets and cash. These decisions can result in a series of future payments. Liquidity is a ratio used to analyze short-term financial positions and assist management in evaluating the efficiency of working capital in a company. The liquidity ratio describes a company's ability to meet short-term obligations. This ratio can serve as an information tool that supports companies in improving management. The importance of liquidity ratios for companies is especially felt when companies face difficulties in meeting short-term obligations, as this can lead to a decline in the company's value or a decrease in investor interest in investing. A high level of liquidity indicates that the company's performance is considered good and reduces the likelihood of financial distress, (Linares-Mustarós et al., 2018; Mahesh et al., 2025; Septyanto et al., 2022; Wijaya & Suhendah, 2023). So that H1 can be formulated, CR has a positive effect on FD.

Solvency refers to a company's ability to meet its long-term obligations. The ratio used to measure solvency is the debt to equity ratio (DER), which describes the extent to which a company is financed by debt compared to its own capital. Companies with high DER tend to face greater risk of financial distress, due to their high dependence on external financing, (Karikari Amoa & Gyarteng, 2021; Kinanti, 2023; Widiyani, 2023). So that H2 can be formulated, DER has a positive effect on FD.

Profitability indicates how well a company can generate profits from the assets and equity it owns. (Kustyaningsih & Jefri, 2023; Saleem et al., 2020; Sethi et al., 2024; Susilowati et al., 2021). The ratios that are often used to measure profitability are return on assets (ROA) and return on equity (ROE). A decline in the profitability ratio can signal that the company is unable to generate enough profit to meet its financial obligations, potentially leading to financial hardship, (Ardi, 2023; Ferdiansyah & Widyarti, 2022; Mesak, 2019; Sherlina Theresa, 2022; Singh, 2022). So that H3 can be formulated, ROA has a positive effect on FD.

Cash Flow (CF) reflects a company's ability to generate cash from its operational activities. Positive cash flow indicates that the company has enough funds to meet its financial obligations, while negative cash flow indicates that the company may have to rely on external sources to meet its obligations, (Edward I. Altman et al., 2019; Liu & Jia, 2025; Seretidou et al., 2025); (Purwaningsih & Safitri, 2022; Sherlina Theresa, 2022; Wijaya & Suhendah, 2023). So that H4 can be formulated, CF has a positive effect on FD. Thus the conceptual framework of this research can be made as follows, as attached in Figure 1.

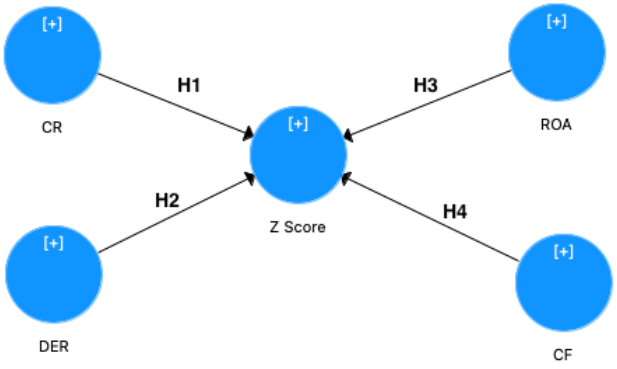

Figure 1. Research Concept Framework

3. Methods

3.1. Research Methods

This study uses a quantitative approach that focuses on secondary data analysis to examine the impact of financial ratios and cash flows on financial distress conditions in companies listed on the Indonesia Stock Exchange (IDX) in the period 2020 to 2024. This approach was chosen because it provides an opportunity for researchers to access available and structured data, so that the analysis of the relationship between variables can be carried out more efficiently. The source of financial statement data is taken from the Indonesia Stock Exchange website : https://www.idx.co.id/ (Bursa Efek Indonesia, 2025)With the criteria of companies engaged in the retail sector that have experienced consecutive declines in profits for 2 years in the time period of 2020 - 2024

3.2. Data Types and Sources

In this study, secondary data was used as statistical data processing material. The data includes important information regarding the company's financial ratios and cash flows, annual reports published by each company and can be accessed through the Indonesia Stock Exchange (IDX) website. The use of secondary data in this study is particularly relevant, given that many previous studies have successfully applied similar approaches. By leveraging published annual reports, the study not only follows in the footsteps of previous research but also ensures that the data used is valid and trustworthy.

3.3. Population and Sample

The population in this study includes 32 retail companies listed on the Indonesia Stock Exchange during the period 2020 to 2024, with the criteria of companies that have experienced a decrease in profits for 2 consecutive years and have complete financial statements in that period, and companies that are not in a suspended or delisting condition during the study period. Based on the criteria that have been set, as many as 20 retail companies were selected with

financial statement analysis data for 5 years from 2020 to 2024 to be 100 data sample. The selection with this criterion is very strategic, as it allows researchers to obtain relevant and representative samples.

3.4. Research Variables

In this study, there are two categories of variables identified: dependent variables and independent variables. The dependent variable is financial distress, which is measured using the Z-Score Altman or other bankruptcy prediction model. This Z-Score model combines several financial ratios to predict the likelihood of a company's bankruptcy, including liquidity, solvency, and profitability ratios (Marsenne et al., 2024). Meanwhile, independent variables consist of financial ratios and cash flows. The financial ratios used in this study include liquidity ratios such as current ratio (CR), debt to equity ratio (DER), return on assets (ROA) and cash flow, represented by Cash Flow from Operations (CF), showing the company's ability to generate cash from its operations.

3.5. Data Collection Techniques

Data is collected through documentation studies, where the annual financial statements published by the company are used as the primary source of data. The data collection process involves downloading financial statements from the IDX's official website and the websites of each company. The use of secondary data from published financial statements has been widely applied in financial research, as has been done by (Glousa Lera Silanno, 2021) which analyzes the relationship between financial ratios and financial distress in companies on the Indonesia Stock Exchange.

3.6. Data Analysis Methods

Data analysis was carried out using descriptive statistical analysis and multiple linear regression to test the influence of financial ratios and cash flows on financial distress conditions. The analysis steps carried out include descriptive analysis to describe the characteristics of the overall data, such as averages, standard deviations, and value distribution for each variable. This provides an initial overview of the company's financial condition on the IDX during the research period. Furthermore, the multicollinearity test was performed to ensure that there was no high correlation between independent variables that could affect the accuracy of the regression model. This test is essential to ensure that the model built is valid and not affected by the problem of multicollinearity, (Glousa Lera Silanno, 2021). After that, multiple linear regression is used to test the simultaneous influence between financial ratios, cash flow, and financial distress. The regression model used is as follows.

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \epsilon$$

Where Y is the financial distress condition, X1, X2, and X3 are the ratio of finance and cash flow, β0 is the constant, β1, β2, and β3 are the regression coefficients for each independent variable, and ε is the error term. Significance tests were also performed, where a t-statistical test was used to test the influence of each independent variable on financial distress, while an F-test was used to test the feasibility of the model as a whole. In addition, the coefficient of determination (R^2) is used to measure the extent to which variations in dependent variables can be explained by independent variables included in the model. The high coefficient of determination indicates that the model can explain most of the variation in the data, which indicates that the analysis performed is relevant and reliable.

To ensure valid and reliable results, several tests are performed, such as the normality test used to ensure data is distributed normally, which is one of the basic assumptions in linear regression. Heteroscedasticity tests are also performed to ensure that the error variance remains constant across the data, thus avoiding any bias in the regression results. This test is in accordance with the procedure described by (Glousa Lera Silanno, 2021), which states the importance of testing basic assumptions in regression analysis to obtain valid and unbiased results. By carrying out these tests, researchers strive to ensure that the results of the research are trustworthy and scientifically accountable.

4. Result and Discussions

4.1. Result

4.1.1. Descriptive Test

Descriptive statistics are statistical analysis methods used to provide an overview or description of the data that has been collected. The main purpose of descriptive statistics is to summarize and organize data in a systematic manner so that it can be understood and interpreted more easily. Descriptive statistics function to present data concisely and clearly through measures such as mean, median, standard deviation, minimum, and maximum. The goal is to describe the general characteristics of the data being studied without making generalizations or drawing conclusions.

Table 1. Descriptive Statistics Test

	Mean	Std. Deviation	N
CR	2.6260	4.50578	100
DER	4.4519	20.17267	100
ROA	-.3485	1.77829	100
CF	1108188.2534	1785798.49006	100
Z Score	-61.6303	227.98387	100

Source: SPSS data processing

Based on the results of the descriptive statistical analysis in Table 1, it can be seen that the average value of the CR variable (X1) is 2.6260 and the standard deviation is 4.5058. at the mean value of the variable DER (X2) of 4.4519 and the standard deviation value of 20.1727, then the average value of the variable ROA (X3) is -0.3485 and the standard deviation value is 1.7783. The mean value of the variable CF (X4) is 1108188.2534 and the standard value of the deviation is 1785798.4906. The average value of the variable Z Score (Y) is -61.6303 and the standard deviation value is 227.9839.

4.1.2. Validity and Reliability Test

The validity test is intended to test the research statistical data to measure the validity and reliability of the data, where the conditions are determined on nonparametric statistics, Cronbach's Alpha and Composite Reliability above 0.7. These results can be seen in Table 2.

Table 2. Validity and Reliability Test Results

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
CF	1.000	1.000	1.000	1.000
CR	1.000	1.000	1.000	1.000
DER	1.000	1.000	1.000	1.000
ROA	1.000	1.000	1.000	1.000
Z Score	1.000	1.000	1.000	1.000

Source: SmartPLS data processing

Based on the results of the validity and reliability test, it shows that the results of Cronbach's Alpha and Composite Reliability test are above 0.7, so the data is declared valid and reliable. According to (Asfihan, 2021) There are several tests in data validity that include classical assumption tests to ensure that the regression model used meets the necessary assumptions.

4.1.3. Normality Test

Testing the normality of the data is an important assumption in statistical analysis, before performing hypothesis testing. This test uses the Kolmogorov-Smirnov method of unstandardized residuals. Where if the significance test result (Asymp. Sig. 2-tailed) > 0.05, it means that the data is distributed normally and can be forwarded to perform multiple linear regression tests for hypothesis tests. However, if Asymp. Sig. 2-tailed shows < 0.05 , which means that the data is not normally distributed, then the hypothesis test uses nonparametric statistics.

Table 3. Normality Test Results
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	104.42915464
Most Extreme Differences	Absolute	.305
	Positive	.289
	Negative	-.305
Test Statistic		.305
Asymp. Sig. (2-tailed)		.000[c]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.

Source: SPSS data processing

Based on Table 3 The normality test using Kolmogorov-smirnov shows that Asymp. Sig. 2-tailed is 0.000, meaning that the data is not normally distributed.

4.1.4. Hypothesis Test

Hypothesis testing aims to determine whether the research hypothesis will be accepted or rejected. Based on regression analysis, it can be seen in Figure 2 the hypothesis research test of the relationship between the research variables.

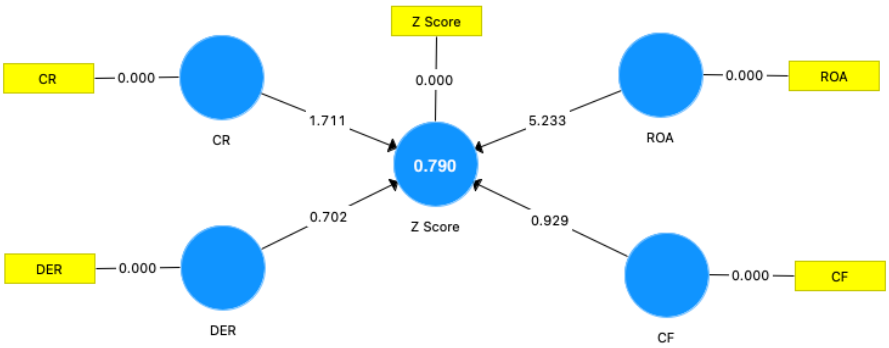

Figure 2. Hypothesis Research Test

The results of the hypothesis test can be seen in Table 4.

Table 4. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
CR -> Z Score	0.099	0.105	0.058	1.711	**0.088**
DER -> Z Score	0.028	0.042	0.040	0.702	**0.483**
ROA -> Z Score	0.860	0.839	0.164	5.233	**0.000**
CF -> Z Score	0.054	0.057	0.058	0.929	**0.353**

Source: SmartPLS data processing

Based on the results of the hypothesis test in Table 4, it serves to see the effect of the direct relationship of each independent variable on the dependent variable. If the sig value > 0.05 the hypothesis is rejected and if the significant

value is ≤ 0.05 then the hypothesis is accepted. The results of data processing with SmartPLS reveal the following; H1 which states the direct influence of the Cash Ratio on Financial Distress, where the P value of 0.088 > 0.05 means, H1 is rejected. H2 which states the direct influence of the Debt to Equity Ratio on Financial Distress, where the P value is 0.483 > 0.05, meaning that H2 is rejected. H3 which states the direct influence of Return On Assets on Financial Distress, where the P value is 0.000 < 0.05, meaning that H3 is accepted. H4 which states the direct influence of Cash Flow on Financial Distress, P value of 0.353 > 0.05 means that H4 is rejected.

4.1.5. Determination Test

R2 serves to measure how well the regression model explains the variation of dependent variables or in other words, R2 is an indicator of many independent variables, (Indartini & Mutmainah, 2024) If R2 measures the proportion of variance in the dependent variable (the variable that the regression model wants to predict or explain) can be explained by the regression model, that is, by the independent variables (predictors) included in the model. R^2 provides an indication of how well the regression lines attached to the sample data are able to explain the variations that occur in the dependent variables. The value of R2 ranges from 0 to 1, where a higher value indicates that the proportion of variance in the model's predictable dependent variable is also larger, and vice versa. If R^2 is a value of 1, this indicates that all variances in the dependent variables can be perfectly explained by the independent variables in the regression model.

Table 5. Determination Test Results

	R Square	R Square Adjusted
Z Score	0.790	0.781

Source: SmartPLS data processing

Based on the results of the determination coefficient in table 5, it is explained that the value of the determination coefficient (R-Square) in this study is 0.79. This shows that the Z Score in the retail sector is influenced by the CR, DER, ROA, CF variables by 79% while the remaining 21% is influenced by other factors or variables that are not studied in this study.

4.2. Discussion

Based on the results of multiple linear regression analysis, it was found that only the ROA variable had a significant effect on financial distress, with a significance value (p-value) of 0.000 (<0.05). This shows that a company's profitability, as measured through ROA, has an important role in predicting financial distress conditions. The higher the ROA, the lower the risk of a company experiencing financial distress, which underscores the importance of effective asset management to maintain the financial health of retail companies in Indonesia.

In contrast, the Current Ratio (CR), Debt to Equity Ratio (DER), and Cash Flow from Operations (CF) variables did not show a significant effect on financial distress (p-values of 0.088; 0.483; and 0.353 > 0.05, respectively). These findings indicate that liquidity (CR), capital structure (DER), and operating cash flow (CF) are not directly the main predictors of financial distress in the context of retail companies that experienced consecutive declines in profits during the study period. This may reflect that the profitability aspect is more dominant in determining financial distress risk compared to liquidity and leverage in the retail sector in Indonesia.

The value of the determination coefficient (R^2) of 0.79 showed that the model used was able to explain 79% of the variation in financial distress through the variables CR, DER, ROA, and CF, while the remaining 21% was influenced by other factors not analyzed in this study. This confirms that although ROA is the dominant variable, other factors outside of financial ratios and cash flow also affect the financial distress condition of retail companies.

These results are in line with several previous studies that emphasize the importance of profitability as a key indicator of financial health and a predictor of financial distress (Karikari Amoa & Gyarteng, 2021; Purwanto et al., 2023; Sherlina Theresa, 2022), but in contrast to findings that show a significant influence of liquidity and leverage (Fia Afriyani & Nurhayati, 2023; Widiyani, 2023). This difference can be caused by the characteristics of the retail sector which is very dynamic and influenced by changes in consumer behavior and fluctuating macroeconomic conditions during the 2020-2024 period.

In addition, the data normality test shows that the data is not normally distributed so analysis using non-parametric

methods needs to be considered for further validity of the results. However, the validity and reliability test of the data shows that the measurement instrument used is valid and reliable. In practical terms, these findings provide important implications for retail managers and investors in Indonesia to focus more on increasing profitability through efficient asset management as a key strategy in reducing the risk of financial distress. Meanwhile, liquidity management and capital structure need to be considered, but it is not the main focus in predicting financial distress based on the results of this study.

5. Conclusions

This study examines the effect of financial ratios and cash flows on financial distress conditions in retail companies listed on the Indonesia Stock Exchange (IDX) during the 2020-2024 period. The variables analyzed included Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA), and Cash Flow from Operations (CF), with financial distress measured using the Altman Z-Score as the main indicator. Based on the results of multiple linear regression analysis, only Return on Assets (ROA) was proven to have a significant influence on financial distress conditions with a significance value (p-value) of 0.000 (<0.05). These findings confirm that the company's profitability, especially the company's ability to generate profits from its assets, is a key factor in reducing the risk of financial distress in retail companies in Indonesia. On the other hand, the variables Current Ratio (CR), Debt to Equity Ratio (DER), and Cash Flow from Operations (CF) did not show a significant influence on financial distress, with a p-value of 0.088 each; 0,483; and 0.353 (>0.05). This indicates that liquidity, capital structure, and operating cash flow are not the main predictors of financial distress in the context of retail companies that experienced consecutive declines in profits during the study period.

A determination coefficient (R^2) of 0.79 showed that the model used was able to explain 79% of the variation in financial distress through the CR, DER, ROA, and CF variables, while the remaining 21% was influenced by other factors not analyzed in this study. Thus, although ROA is the dominant variable, there are other external or internal variables that also affect the financial distress conditions of retail companies.

This research makes an important empirical contribution in the context of Indonesia's dynamic capital market, especially in the retail sector which is facing changing consumer behaviour and competitive pressures from e-commerce. The practical implication of the results of this study is the need for managerial focus on increasing profitability through effective asset management as the main strategy to mitigate the risk of financial distress. Meanwhile, liquidity and leverage management needs to be considered, but it is not the main focus in predicting financial distress based on the data and period analyzed.

Overall, this study confirms that Return on Assets (ROA) is the most significant indicator in predicting financial distress in retail companies on the IDX during 2020-2024, while the Current Ratio (CR), Debt to Equity Ratio (DER), and Cash Flow from Operations (CF) do not have a significant influence. These findings provide a basis for more appropriate managerial and investment decision-making and add to the literature related to predictions of financial distress in the Indonesian capital market.

5.1. Research Limitations

This study has several limitations that need to be considered in the interpretation of the results and the application of the findings. First, the research only focuses on companies engaged in the retail sector listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2024. Thus, the results of this study cannot be generalized directly to other industrial sectors or companies that are not listed on the IDX. Second, the research sample was selected using purposive sampling with the criteria of companies that experienced consecutive profit declines for two years in the research period. This approach limits the scope of the study to only companies that have already shown symptoms of declining financial performance, so it does not include companies with stable or improving financial conditions. This can affect the generalization of results to the overall retail company population. Third, the financial distress variable was measured using the Altman Z-Score as a single indicator. Although the Altman Z-Score is a widely used and valid model for predicting financial distress, the use of a single model can limit a more comprehensive understanding of financial distress conditions that may be influenced by other variables or different prediction models. Fourth, this study uses secondary data in the form of annual financial statements published by the company and accessed through the IDX's official website. The use of secondary data relies on the accuracy and disclosure of information provided by the company, so the potential for bias or incompleteness of the data cannot be completely eliminated. Fifth, the results of the normality test show that the data is not normally distributed so the multiple linear regression analysis used may face

limitations in meeting classical statistical assumptions. This study did not perform a follow-up analysis with non-parametric methods that could be more appropriate for abnormal data. Sixth, the regression model used only included the variables Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA), and Cash Flow from Operations (CF) as independent variables. Other factors that have the potential to affect financial distress, such as macroeconomic conditions, risk management, or other non-financial aspects were not analyzed in this study.

Considering these limitations, the results of this study need to be interpreted with caution and it is recommended to conduct further research with a wider scope, the use of diverse prediction models, and consider additional relevant variables to gain a more comprehensive understanding of financial distress in retail companies in Indonesia.

5.2. Research Findings

The independent variables tested included Current Ratio (CR), Debt to Equity Ratio (DER), Return on Assets (ROA), and Cash Flow from Operations (CF), while financial distress was measured using the Altman Z-Score as a dependent variable. Based on descriptive statistical analysis, the average value of Current Ratio (CR) is 2.6260 with a standard deviation of 4.5058, the average Debt to Equity Ratio (DER) is 4.4519 with a standard deviation of 20.1727, the average Return on Assets (ROA) is negative is -0.3485 with a standard deviation of 1.7783, and Cash Flow (CF) from average operations is 1,108,188 with a standard deviation of 1,785,798. The average value of the Altman Z-Score as an indicator of financial distress is -61.6303 with a standard deviation of 227.9839, indicating that there are quite varied financial distress conditions in the company sample.

The results of the validity and reliability test showed that all variables had Cronbach's Alpha and Composite Reliability values above 0.7, so the data was declared valid and reliable for further analysis.

The normality test using Kolmogorov-Smirnov indicated that the data was not normally distributed Asymp. Sig. 2-tailed = 0,000 (<0,05), so hypothesis testing used a non-parametric approach or with caution in the interpretation of multiple linear regression results. The results of the hypothesis test with multiple linear regression showed that only the Return on Assets (ROA) variable had a significant effect on financial distress conditions with a p-value of 0.000 (<0.05). This indicates that company profitability as measured through ROA is the main factor that can predict the risk of financial distress in retail companies on the IDX. The higher the ROA, the less likely the company is to experience financial distress.

On the other hand, the Current Ratio (CR) variable with a p-value of 0.088, Debt to Equity Ratio (DER) with a p-value of 0.483, and Cash Flow from Operations (CF) with a p-value of 0.353 did not show a significant influence on financial distress. These findings indicate that liquidity, capital structure, and operating cash flow are not the main predictors of financial distress in the context of retail companies that experienced consecutive declines in profits during the study period. A determination coefficient (R^2) of 0.79 indicates that the variables CR, DER, ROA, and CF together are able to explain 79% of the variation in financial distress in retail companies, while the remaining 21% are influenced by other factors not analyzed in this study.

Overall, the results of the study confirm the importance of profitability management through effective asset management as the main strategy in reducing the risk of financial distress. Meanwhile, liquidity management and capital structure need to be considered, but it is not the main focus in predicting financial distress based on the data and period analyzed.

These findings provide an empirical contribution in the context of Indonesia's dynamic capital market, particularly in the retail sector which faces competitive pressures and changes in consumer behavior due to advances in digital technology and the pandemic. This study also fills the gap in the literature by providing the latest evidence on the financial variables that are most influential in predicting financial distress in retail companies in Indonesia.

References

Ardi, S. (2023). The Effect of Profitability and Managerial Ownership on Financial Distress with Capital Structure as Moderating Variable. In *International Journal of Science and Society* (Vol. 5). http://ijsoc.goacademica.com

Asfihan, A. (2021). ANALISIS REGRESI DAN ANALISIS JALUR UNTUK RISET BISNIS MENGGUNAKAN SPSS 29.0 & SMART-PLS 4.0. *Fe Unisma*, *July*, 1–11.

Bursa Efek Indonesia. (2025). *Laporan Keuangan dan Tahunan*. Https://Www.Idx.Co.Id/Id/Perusahaan-Tercatat/Laporan-Keuangan-Dan-Tahunan/.

Edward I. Altman, Edith Hotchkiss, & Wei Wang. (2019). Corporate Financial Distress. In *Corporate Financial Distress, Restructuring, and Bankruptcy: Vol. First Edition* (pp. 1–20). John Wiley & Sons. https://doi.org/https://doi.org/10.1002/9781119541929.ch1

Erta Darwati. (2025, February 25). *Harapan Ramayana (RALS) & Matahari (LPPF) Kerek Kinerja Saat Ramadan*. Bisnis.Com. https://market.bisnis.com/read/20250225/192/1842561/harapan-ramayana-rals-matahari-lppf-kerek-kinerja-saat-ramadan

Eugene .F Brigham, & Joel F. Houston. (2020). *Dasar-Dasar Manajemen Keuangan* (Edisi Keempat Belas). Salemba Empat.

Ferdiansyah, F., & Widyarti, E. T. (2022). Analysis of CAMEL ratio on financial distress banking companies in Indonesia. *Diponegoro International Journal of Business*, *5*(1), 47–56. https://doi.org/10.14710/dijb.5.1.2022.47-56

Fia Afriyani, & Nurhayati. (2023). Pengaruh Rasio Likuiditas, Leverage, Aktivitas dan Profitabilitas terhadap Financial Distress pada Perusahaan F&B. *Jurnal Riset Akuntansi*, 23–30. https://doi.org/10.29313/jra.v3i1.1766

Glousa Lera Silanno. (2021). *Pengaruh Current Ratio, Debt to Equity Ratio dan Return on Asset Terhadap Financial Distress Pada Perusahaan di Sektor Industri Barang Konsumsi (Studi Empiris di Bursa Efek Indonesia)*. *2*, 85–09.

Ikatan Akuntan Indonesia (IAI). (2024). *Manajemen Keuangan Lanjutan* (2nd ed.). Ikatan Akuntan Indonesia Publisher.

Indartini, M., & Mutmainah. (2024). *ANALISIS DATA KUANTITATIF* (H. Warnaningtyas, Ed.; Cetakan1 ed., Vol. 14, Issue 5). Klaten, Lakeisha (Anggota IKAPI No.181/JTE/2019).

Jaafar, S., Salleh, A., & Hamzah, H. (2021). Financial ratio analysis as a device for predicting financial distress. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3818116

Karikari Amoa, & Gyarteng. (2021). Corporate Financial Distress: The Impact of Profitability, Liquidity, Asset Productivity, Activity and Solvency. *Journal of Accounting, Business and Management (JABM)*, *28*, 104–115. https://doi.org/https://doi.org/10.31966/jabminternational.v28i2.447

Kinanti, V. S. (2023). Financial Ratio Analysis For Predicting Financial Distress. *Journal Eduvest*, *3*(10), 1841–1856. http://eduvest.greenvest.co.id

Kustyaningsih, D., & Jefri, R. (2023). Analisis Keuangan Menggunakan Rasio Keuangan Untuk Mengukur Kinerja Keuangan PT Mayora Indah Tbk Dalam Periode 2019-2022. *JURNAL PUNDI*, *7*(2), 137. https://doi.org/10.31575/jp.v7i2.482

Linares-Mustarós, S., Coenders, G., & Vives-Mestres, M. (2018). Financial performance and distress profiles. From classification according to financial ratios to compositional classification. *Advances in Accounting*, *40*, 1–10. https://doi.org/https://doi.org/10.1016/j.adiac.2017.10.003

Liu, J., & Jia, M. (2025). Financial distress prediction with annual reports-based deep textual feature extraction: A hybrid approach. *Information Sciences*, *686*, 121318. https://doi.org/https://doi.org/10.1016/j.ins.2024.121318

Mahesh, R., Anamika, K., Debabrata, S., Sreelakshmi, N., & and Ramesh, R. (2025). Predicting financial distress in emerging markets: the case of Indian small enterprises. *Cogent Economics & Finance*, *13*(1), 2489708. https://doi.org/10.1080/23322039.2025.2489708

Marsenne, M., Ismail, T., Taqi, M., & Hanifah, I. A. (2024). Financial distress predictions with Altman, Springate, Zmijewski, Taffler and Grover models. *Decision Science Letters*, *13*, 181–190. https://doi.org/10.5267/dsl.2023.10.002

Matahari.com. (2023). *Matahari Annual Report 2022*. Https://Matahari.Com/Pages/Annual-Report?Srsltid=AfmBOoooljsoQ-MTxZTA8kyqRYtig_Gqd0sAUbghrFyB61ne_6sjTdLw.

Mawardana, A., & Pohan, F. S. (2024). The Effect of Financial Ratios on Financial Distress in Insurance Companies. *DAR*, *2*(1). https://doi.org/10.38035/dar.v2i1

Mesak, D. (2019). FINANCIAL RATIO ANALYSIS IN PREDICTING FINANCIAL CONDITIONS DISTRESS IN INDONESIA STOCK EXCHANGE. *Russian Journal of Agricultural and Socio-Economic Sciences*, *86*, 155–165. https://doi.org/10.18551/rjoas.2019-02.18

Oktaviani, N. D. D., & Lisiantara, G. A. (2022). Pengaruh Profitabilitas, Likuiditas, Aktivitas, Leverage, dan Sales Growth Terhadap Financial Distress. *Owner*, *6*(3), 1649–1559. https://doi.org/10.33395/owner.v6i3.944

Pratama, Y., Eka Saputra, S., Mulia Pratama, I., & Rahmad, I. (2022). Determinan Faktor yang Mempengaruhi Financial Distress Perusahaan Manufaktur Sub Sektor Barang Dan Konsumsi. *Jurnal Ekobistek*, 143–149. https://doi.org/10.35134/ekobistek.v11i2.343

Purwaningsih, E., & Safitri, I. (2022). Pengaruh Profitabilitas, Likuiditas, Leverage, Rasio Arus Kas dan Ukuran Perusahaan Terhadap Financial Distress. *JAE (JURNAL AKUNTANSI DAN EKONOMI)*, *7*(2), 147–156. https://doi.org/10.29407/jae.v7i2.17707

Purwanto, S., Perkasa, D. H., & Abadi, F. (2023). Assessment of Banking Conditions on Financial Distress During the Period of COVID-19 in Indonesia. *WSEAS Transactions on Business and Economics*, *20*, 467–474. https://doi.org/10.37394/23207.2023.20.42

Rahman, M., Sa, C., & Masud, M. (2021). Predicting Firms' Financial Distress: An Empirical Analysis Using the F-Score Model. *Journal of Risk and Financial Management*, *14*, 199. https://doi.org/10.3390/jrfm14050199

Saleem, R., Hussain, A., & Ibraheem, R. (2020). Banking Industry Specific Determinants of Financial Distress: Empirical Evidence from ASEAN Countries. *IRASD Journal of Economics*, *2*(2), 113–123. https://doi.org/10.52131/joe.2020.0202.0020

Septyanto, D., Welandasari, N. F., & Sayidah, N. (2022). An Empirical Test of The Financial Ratio Effect on Financial Distress in Indonesia (Study in Garment and Textile Industry). *Journal of Economics and Business*, *5*(2). https://doi.org/10.31014/aior.1992.05.02.428

Seretidou, D., Billios, D., & Stavropoulos, A. (2025). Integrative Analysis of Traditional and Cash Flow Financial Ratios: Insights from a Systematic Comparative Review. *Risks*, *13*(4), 62. https://doi.org/10.3390/risks13040062

Sethi, S. R., Mahadik, D. A., & Bilolikar, R. V. (2024). Exploring Trends and Advancements in Financial Distress Prediction Research: A Bibliometric Study. *International Journal of Economics and Financial Issues*, *14*(1), 164–179. https://doi.org/10.32479/ijefi.15472

Sherlina Theresa. (2022). *Pengaruh Profitabilitas, Arus Kas, Good Corporate Governance, dan Umur Perusahaan Terhadap Financial Distress*. *10*, 250–259.

Singh, G. (2022). FINANCIAL RATIOS SIGNIFICANCE IN PREDICTING FINANCIAL DISTRESS: A LITERATURE REVIEW. *RB Journal of Lib & Information Science (UGC Care Group I Listed Journal)*, *12*(01), 38–43.

Susanti, F., Rasyad, R., & Wardi, J. (2022). *PENGARUH LABA DAN ARUS KAS TERHADAP KONDISI FINANCIAL DISTRESS PADA PERUSAHAAN MANUFAKTUR YANG TERDAFTAR DI BURSA EFEK INDONESIA*. *17*(2). www.idx.co.id,

Susilowati, K. D. S., Riwajanti, N. I., & Widiastuti, R. (2021). Predicting Financial Distress of Small and Medium-Sized Entities. *The International Journal of Business & Management*, *9*(6). https://doi.org/10.24940/theijbm/2021/v9/i6/bm2106-037

Tarighi, H., Hosseiny, Z. N., Abbaszadeh, M. R., Zimon, G., & Haghighat, D. (2022). How Do Financial Distress Risk and Related Party Transactions Affect Financial Reporting Quality? Empirical Evidence from Iran. *Risks*, *10*(3). https://doi.org/10.3390/risks10030046

Widiyani, Z. (2023). ANALISIS KINERJA KEUANGAN BERDASARKAN RASIO LIKUIDITAS, RASIO AKTIVITAS, RASIO PROFITABILITAS DAN RASIO SOLVABILITAS PADA PT ACSET INDONUSA TBK TAHUN 2020-2022. In *JakSya: Jurnal Akuntansi Syariah* (Vol. 4, Issue 1).

Wijaya, J., & Suhendah, R. (2023). Pengaruh Likuiditas, Leverage, Dan Arus Kas Terhadap Financial Distress. *Jurnal Ekonomi*, *28*(2), 177–196. https://doi.org/10.24912/je.v28i2.1468

Wisnu, F., & Astuti, D. P. (2023). Financial Distress: Profitability Ratios and Liquidity Ratios, with Financial Statement Fraud as Moderating. *Economic Education Analysis Journal*, *12*(2), 15–26. https://doi.org/10.15294/eeaj.v12i2.67570