

The Effects of Liquidity, Leverage, Profitability, Activity and Corporate Social Responsibility on Financial Distress (A Study of The Healthcare Sector Listed on The Indonesia Stock Exchange From 2020 To 2024)

Bintang Satria Hawari^{1*}, Sugiyono²,

Study Program Management, Economy and Business Faculty, Universitas
Mercu Buana

Corresponding Author: Bintang Satria Hawari bintangsatia82@gmail.com

ARTICLE INFO

Keywords: Liquidity,
Leverage, Profitability,
Activity, Corporate Social
Responsibility, Financial
Distress, Altman Z-Scores

Received : 19, August

Revised : 24, September

Accepted: 26, October

©2026 Hawari, Sugiyono: This is an
open-access article distributed under
the terms of the [Creative Commons](https://creativecommons.org/licenses/by/4.0/)
[Atribusi 4.0 Internasional](https://creativecommons.org/licenses/by/4.0/).



ABSTRACT

This study aims to determine the effects of liquidity, leverage, profitability, and Corporate Social Responsibility (CSR) on financial distress. The research design use is causality research. The population use in this study are healthcare sector companies listed on the Indonesia Stock Exchange (IDX) in 2020-2024, totalling 8 companies in accordance with predetermined characteristics. The sample selection in this study use the saturated sample method and obtained 8 companies. The data analysis method use in this study is panel data regression analysis. The program or software use is Eviews 13. The study's findings indicate that profitability, as proxied by Return on Assets (ROA), has a significant positives effects on financial distress. Meanswhile, liquidity, as proxied by the Currents Ratios (ROA), leverage, as proxied by the Debt-to-Asset Ratios (DAR), Total Asset Turnover (TATO), and the environmental dimension of Corporate Social Responsibility (CSR) do not have an effect on financial distress. This research is expected to contribute to corporate management in financial decision-making and serve as a considerations for investors in evaluating companies before making investments.

INTRODUCTION

The pharmaceutical or healthcare sector consists of companies operating in the health field and responsible for serving the public through services such as health screenings, disease treatment, and the provision of medications. The healthcare sector comprises three subsectors: pharmaceuticals, hospitals (health services), and medical devices. The healthcare sector is essential to society because hospitals, pharmacies, and medical device providers consistently deliver health services and products to the public.

According to the Central Statistics Agency (BPS), Indonesia's Gross Domestic Product (GDP) for the fourth quarter of 2024, compared to the fourth quarter of 2023, grew by 5.02 percent years-on-years. The Health & Social Services sector contributed 8.11% to Indonesia's Gross Domestic Product (GDP) on a years-on-years basis. This figure is higher than in 2023, when the sector contributed only 4.67% of total GDP. This places Health Services & Social Activities in fourth place in terms of contribution to GDP. This can be considered an improvement, given that in 2023 the sector ranked seventh years-on-years. The contribution of the Health Services and Social Activities sector to GDP remained relatively stable during the 2020–2024 period, despite the COVID-19 pandemic, which impacted all aspects of the global economy. Its contribution hovered around 1 percent, which is relatively low compared to other economic sectors. In 2020 and 2021, it stood at 1.30 percent and 1.34 percent, respectively. This contribution declined to 1.21 percent in 2022 and 2023, before eventually rising again to 1.26 percent in 2024.

According to the Central Statistics Agency (BPS), Indonesia's Gross Domestic Product (GDP) for the fourth quarter of 2024, compared to the fourth quarter of 2023, grew by 5.02 percent years-on-years. The Health & Social Services sector contributed 8.11 percent to Indonesia's Gross Domestic Product (GDP) on a years-on-years basis. This figure is higher than in 2023, when it contributed only 4.67% of total GDP. This places Health and Social Services in fourth place in terms of contribution to GDP. This can be considered an improvement, given that in 2023 it ranked seventh years-on-years. The contribution of the Health Services and Social Activities sector to GDP remained relatively stable during the 2020–2024 period, despite the COVID-19 pandemic, which impacted all aspects of the global economy. Its contribution hovered around 1 percent, which is relatively low compared to other economic sectors. In 2020 and 2021, it stood at 1.30 percent and 1.34 percent, respectively. This contribution declined to 1.21 percent in 2022 and 2023, before eventually rising again to 1.26 percent in 2024.

Several healthcare sector issuers in Indonesia posted fairly satisfactory net profit or bottom-line performance through the third quarter of 2024. This positive performance is expected to continue growing in 2025. However, these positive conditions did not result in entirely favorable stock prospects for healthcare issuers. The stock outlook for healthcare sector issuers in 2024 was not particularly impressive. It was noted that only 10 out of 34 companies in the healthcare sector had positive stock performance throughout 2024. The remaining 24 companies posted negative performance (Robertus, 2024).

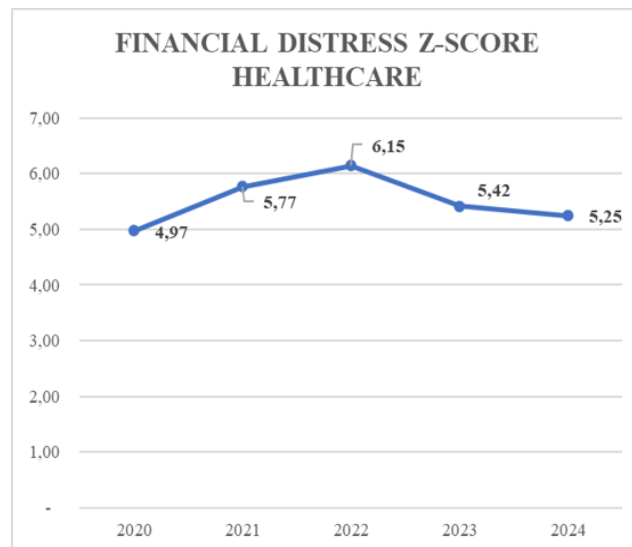


Figure 1: Financial Distress Z-Score Healthcare
Source: IDX data processed (2025)

LITERATURE REVIEW

Signalling Theory

Signaling Theory refers to a company's desire to convey information to external parties through positives and negatives signals regarding the company's health. These signals take the form of information in financial reports to assist investors in making investment decisions (Oktaviani & Zaretta, 2024). This theory reduces the information asymmetry between management and investors. These signals serve to convey information to investors that a company is superior to other companies (Antoniawati & Purwohandoko, 2022).

Agency Theory

Agency Theory refers to the relationship between an agent and a principal (Ma'rufatur et al., 2023). The agent is obligated to manage the company in accordance with the principal's wishes. The principal is the party that assigns tasks to the agent and is also responsible for making decisions (Budianto & Setiawan, 2023). In this context, managers acting as agents will strive to optimize the company's financial performance by presenting attractive financial reports to the principal, since the principal is the one who assigns tasks and is also responsible for making decisions.

Trade-Off Theory

The Trade-Off Theory is a corporate financial management theory that explains that a company's capital structure comprising the mix of debt and equity must be balanced to achieve an optimal trade-off between the benefits and costs associated with the use of debt (Modigliani & Miller, 1958). Through the right debt composition, a company can maximize benefits such as tax efficiency while minimizing financial risks, such as the possibility of bankruptcy (Oktaviani & Zaretta, 2024).

Financial Distress

Financial Distress is an initial condition or situation indicating that a business is experiencing financial difficulties and is likely to face failure in the future, which may ultimately lead to the business's bankruptcy (Arief et al., 2023). A company is considered to be in financial distress if it is no longer able to meet its financial obligations. As a result, the company must take drastic measures, such as filing for bankruptcy, restructuring its debt, selling assets below market values, or accepting an acquisition by another company with a more stable financial position (Budianto & Setiawan, 2023). Financial distress occurs when a company's financial condition is deteriorating prior to liquidation, also known as bankruptcy.

Symptoms of this financial decline include delays in paying bank bills, delays in shipping goods, and a decline in product quality (Sihombing & Angela, 2024). A company's bankruptcy does not occur suddenly. Financial distress can also occur when a company's operating cash flow is insufficient or inadequate to meet its current obligations, forcing the company to take corrective action by restructuring its finances in collaboration with creditors and investors (Aprilia Ariqoh & Yuniningsih, 2022).

In this study, the aspect used by the researchers or, in other words, financial distress is proxied by the Altman Z-Scores. The formula and criteria are as follows, according to Maximilian & Septina (2022):

$$Z = 0,717X_1 + 0,874X_2 + 3,107X_3 + 0,420X_4 + 1,0X_5$$

With a description:

X_1 = Working Capital / Total Assets

X_2 = Retained Earnings / Total Assets

X_3 = Earnings Before Interest and Taxes / Total Assets

X_4 = Market Values of Equity / Book Values of Total Debt

X_5 = Sales / Total Assets

Liquidity

Liquidity is a measure of a company's ability to meet short-term payment obligations that are already due. Liquidity results from decisions made by companies that utilize funds from third parties. Since these funds take the form of tangible assets, they will be used for future cash payments (Oktaviani & Zaretta, 2024). In this study, liquidity is proxied by the Current Ratios (CR). The Current Ratios is calculated as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Leverage

The leverage ratios, commonly referred to as the solvency ratios, is a calculation used to measure the percentage of a company's debt within its capital structure (Maximilian & Septina, 2022). In this study, the Debt-to-Asset Ratios (DAR) is used, which is calculated as follows: The leverage ratios, commonly

referred to as the solvency ratios, is a calculation use to measure the percentage of a company's debt within its capital structure (Maximillian & Septina, 2022). In this study, the Debt-to-Asset Ratios (DAR) is use, which is calculated as follows:

$$DAR = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Profitability

Profitability ratios are used to determine the extent of a company's ability to generate profits, as well as to assess the company's efficiency in realizing the ratios of profits to assets and the ratios of equity to profits (Inggamal, 2022). In this study, Return on Assets (ROA) is the profitability ratios selected by the researcher, with the following formula:

$$ROA = \frac{\text{Net Income After Tax}}{\text{Total Asset}} \times 100\%$$

Activity

Activity ratios refer to a company's level of efficiency in utilizing its resources (Inggamal, 2022). They are a type of financial ratios related to asset management, use to measure how effectively a company utilizes its assets to generate profits (Arief et al., 2023). In this study, Total Asset Turnover (TATO) is the ratios use, calculated as follows:

$$TATO = \frac{\text{Net Sales}}{\text{Total Assets}}$$

Corporate Social Responsibility

Corporate Social Responsibility (CSR). According to Davis (1960), CSR encompasses all business activities and decisions made by business managers to benefit society, rather than for financial or technical gain (Ullah et al., 2023). The CSR use in this study is proxied by the Environmental Dimension of CSR, based on the 2021 GRI Index. The formula is as follows:

$$\text{Index Number} = \frac{\text{Value (1)}}{\text{Value (n)}} \times 100$$

Development and Research Framework

Liquidity reflects a firm's capacity to fulfill its maturing short-term financial obligations (Oktaviani & Zaretta, 2024). A strong liquidity position enhances a firm's Altman Z-Scores, thereby mitigating financial distress exposure. Specifically, a higher Currents Ratios (CR) elevates the Altman Z-Scores, reducing default risk. This occurs because when total currents assets exceed short-term debt, the firm's operational ability to service its obligations strengthens, facilitating the systematic reduction of currents liabilities a key driver of insolvency risk (Wahyudi et al., 2023).

H1: The current ratios have a positive effect on the Altman Z-Scores for financial distress

According to Kasmir (2010), the leverage ratio reflects the proportion of total liabilities used to finance a company's assets. In this study, leverage is proxied by the Debt-to-Asset Ratios (DAR), which evaluates the extent to which asset growth is funded through debt. A lower DAR indicates reduced reliance on debt financing, yielding a higher Altman Z-Score and consequently lowering financial distress risk.

H2: The Debt-to-Asset Ratios have a negative effect on the Altman Z-Scores for financial distress

Profitability ratios measure a firm's capacity to generate net earnings while evaluating managerial efficiency in utilizing assets and equity (Inggamal, 2022). Proxied by Return on Assets (ROA) in this research, higher earnings efficiency strengthens the firm's financial health. Consequently, a higher ROA yields an elevated Altman Z-Score, effectively reducing the likelihood of financial distress.

H3: Return on Assets has a positive effect on the Altman Z-Scores for financial distress

Activity ratios evaluate an enterprise's operational efficiency in deploying its asset base to generate revenue streams (Inggamal, 2022). In this study, activity is proxied by Total Asset Turnover (TATO). Higher asset turnover indicates superior resource utilization, which elevates the Altman Z-Score and minimizes insolvency risks.

H4: Total Asset Turnover has a positive effect on the Altman Z-Scores for financial distress.

The environmental dimension of Corporate Social Responsibility (CSR) reinforces corporate reputation and long-term strategic viability. Managing environmental aspects including energy and water consumption, emissions control, waste treatment, and ecological impact mitigation supports corporate sustainability, even though direct financial returns may lag. Companies that systematically integrate environmental CSR can enhance their overall Altman Z-Score, thereby safeguarding the organization against financial distress.

H5: Corporate Social Responsibility (CSR) has a positive effect on financial distress.

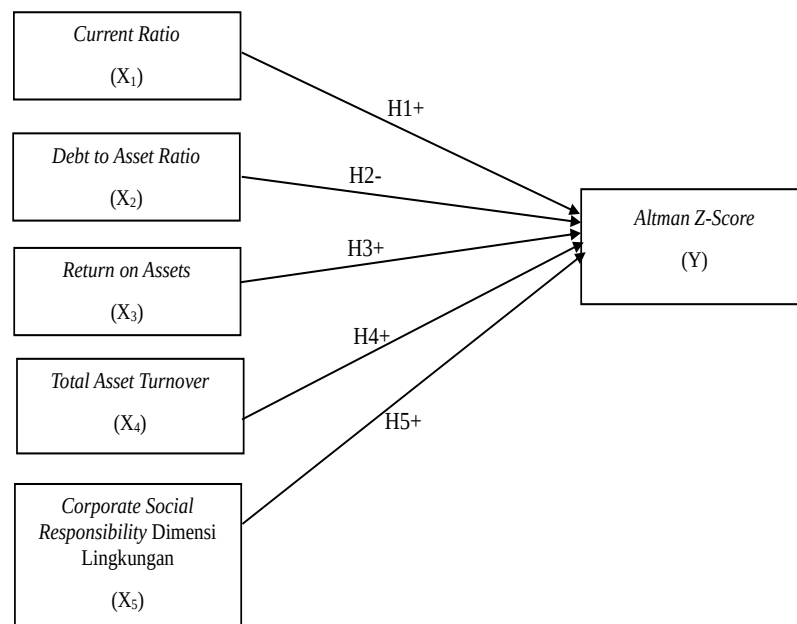


Figure 2. Research Framework

METHODOLOGY

This study adopts an explanatory-causal research design to empirically evaluate the influence of liquidity (Currents Ratios), leverage (Debt-to-Assets Ratios), profitability (Return on Assets), activity (Total Asset Turnover), and the environmental dimension of Corporate Social Responsibility (CSR) on financial distress, as measured by the Altman Z-Scores. The empirical observation focuses on publicly listed healthcare firms on the Indonesia Stock Exchange (IDX) spanning the 2020–2024 period.

This research utilizes an empirical causal design to examine the individual and collectives' effects of liquidity (Currents Ratios), leverage (Debt-to-Assets Ratios), profitability (Return on Assets), activity (Total Asset Turnover), and Corporate Social Responsibility (CSR) environmental performance on financial distress, evaluated through the Altman Z-Scores within the Indonesian capital market. The analytical frame targets the healthcare sector listed on the Indonesia Stock Exchange (IDX) throughout the 2020–2024 observation window.

Panel data regression analysis was executed using Eviews 13 software, incorporating descriptives statistical evaluations, model specification tests (Common Effects Model, Fixed Effects Model, and Random Effects Model selected via the Chow Tests and Hausman Tests), overall goodness-of-fit assessments utilizing the F-tests and coefficient of determination (R^2), and individual hypothesis testing through partial t-tests.

RESEARCH RESULT*Descriptives Statisticss*

Table 1. Descriptives Statisticss of Research Variables

	Y_FINANCIAL DISTRESS	X1_CR	X2_DAR	X3_ROA	X4_TATO	X5_CSR
Mean	5.510.455	2.671.393	0.337159	0.089992	0.738518	0.951315
Median	3.310.000	1.702.000	0.262325	0.085200	0.818950	0.959750
Maximum	2.170.190	6.578.600	0.792700	0.309900	1.213.600	3.325.900
Minimum	0.362400	0.320700	0.104500	-0.099300	0.256900	0.118900
Std. Dev.	5.915.832	1.969.104	0.220882	0.098432	0.288065	0.518598
Skewness	1.665.931	0.537343	0.815512	0.466720	-0.359072	2.369.593
Kurtosis	4.646.756	1.905.277	2.249.318	2.718.045	1.815.298	1.255.508
Jarque-Bera	2.302.185	3.922.284	5.372.939	1.584.685	3.198.750	1.895.992
Probability	0.000010	0.140698	0.068121	0.452783	0.202023	0.000000
Sum	2.204.182	1.068.557	1.348.635	3.599.700	2.954.070	3.805.260
Sum Sq. Dev.	1.364.886	1.512.174	1.902.773	0.377864	3.236.277	1.048.879
Observations	40	40	40	40	40	40

Source: Processed data use Eviews 13 (2026)

- 1) The Means Currents Ratios of 2.671 reveals that the eight sampled healthcare companies possess adequate capacity to settle short-term obligations using liquid currents assets, reflecting sound overall liquidity. PT Prodia Widyahusada Tbk. (PRDA) recorded the peak Currents Ratios of 6.58 in 2021 across all 40 observation points analyzed. Conversely, PT Sejahteraraya Anugrahjaya Tbk. (SRAJ) registered the lowest values of 0.32 in 2024.
- 2) The average Debt-to-Assets Ratios (DAR) of 0.337 demonstrates that these healthcare enterprises primarily funded asset bases through equity rather than leverage across the five-years period. PT Pyridam Farma Tbk. (PYFA) recorded the highest DAR values of 0.79 in 2021. In contrast, PT Sarana Meditama Metropolitan Tbk. (SAME) posted the minimum DAR values of 0.10 in 2021.
- 3) The Means Return on Assets (ROA) of 0.08999 indicates that the sample companies generated an average net profit margin of approximately 9% relatives to total asset holdings, signaling strong profitability and solid investor return capacity. PT Industri Jamu dan Farmasi Sido Muncul Tbk. (SIDO) attained the maximum ROA of 0.31 in 2021. On the other hand, PT Sarana Meditama Metropolitan Tbk. (SAME) recorded the minimum ROA of -0.10 in 2020, representing a net loss equivalent to 10% of total assets.
- 4) The average Total Assets Turnover (TATO) of 0.81895 reflects operational efficiency in converting asset bases into revenue streams, with companies generating sales at approximately 0.82 times total assets. PT Pyridam Farma Tbk. (PYFA) achieved the maximum TATO of 1.213 times in 2020. Conversely, PT Sarana Meditama Metropolitan Tbk. (SAME) recorded the lowest TATO values of 0.2569 in 2021.
- 5) The average environmental CSR scores of 0.951250 indicates the Means performance index across greenhouse gas emissions, water usage, and energy consumption disclosures over the observation window. PT Medikaloka Hermina

Tbk. (HEAL) achieved the maximum scores of 3.33 in 2021, whereas PT Sarana Meditama Metropolitan Tbk. (SAME) posted the minimum scores of 0.12 in 2021.

- 6) The Means Altman Z-Scores of 5.510750 indicates that the financial health of the sampled healthcare companies generally sits well above the safe zone threshold of 2.99, confirming strong financial stability and low insolvency risk. PT Industri Jamu dan Farmasi Sido Muncul Tbk. (SIDO) recorded the maximum Z-Scores of 21.70 in 2022, placing the firm comfortably within the safe distress-free zone. Conversely, PT Sejahteraraya Anugrahjaya Tbk. (SRAJ) recorded the lowest Z-Scores of 0.36 in 2020, falling below the 1.88 distress cutoff and indicating high financial distress vulnerability during that period.

Model Selections Results

Tables 2. Chow Tests Results

Redundant Fixed Effects Tests
Equation: REGRESI_DATAPANEL
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	13.329420	(7,27)	0.0000
Cross-section Chi-square	59.768044	7	0.0000

Source: Processed data use EvIEWS 13 (2026)

Froms the results of the Chow tests in Tables 2 above, it can be seen that the probability values obtained is $0.0000 < 0.05$, which Means that H1 is accepted and H0 is rejected. In this case, it can be concluded that the Fixed Effects Model (FEM) is a better model to use in this study than the Common Effects Model (CEM).

Tables 3. Hausman Tests Result

Correlated Random Effects - Hausman Test
Equation: REGRESI_DATAPANEL
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	41.741723	5	0.0000

Source: Processed data use EvIEWS 13 (2026)

Based on the results of the Hausman tests in Tables 3, it can be seen that the probability values are $0.0000 < 0.05$, which Means that H1 is accepted and H0 is rejected. Therefore, it can be concluded that the Fixed Effects Model (FEM) is more appropriate for this study than the Random Effects Model (REM).

Based on the results of the panel data regression model testing on the Chow tests and the Hausman tests that have been tested, it can be concluded

that the most appropriate model to use in this study is the Fixed Effects Model (FEM) findings shown in Tables 2 and 3, as the probability values are below the significance threshold of 0.05 as Tables 4 shows.

Tables 4. Fixed Effects Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.018129	3.881912	0.519880	0.6074
X1_CR	-0.248937	0.482894	-0.515510	0.6104
X2_DAR	3.191797	5.013810	0.636601	0.5297
X3_ROA	16.23897	7.730134	2.100736	0.0451
X4_TATO	3.516015	2.698196	1.303098	0.2035
X5_CSR	-1.026823	0.731446	-1.403826	0.1718

Source: Processed data use Eviews 13 (2026)

Model Feasibility Tests

Tables 5. F-Tests Results

F-statistic	32.61131
Prob(F-statistic)	0.000000

Source: Processed data use Eviews 13 (2026)

The results presented in Tables 4.9 above show that the p-values (Prob(F-statistics)) of the F-tests is 0.000000. This figure is very low compared to the generally accepted significance level of 0.05. These results indicate that the model fits the data analyzed in this study well. Therefore, the model is suitable and valid for further analysis.

Tables 6. Coefficient of Determinations (R^2) Results

R-squared	0.935459
Adjusted R-squared	0.906773

Source: Processed data use Eviews 13 (2026)

Based on the results of the R^2 determination tests in Tables 4.10, it can be seen that the Adjusted R-squared (R^2) values is 0.906773. This value indicates that approximately 90.67% of the Financial Distress values can be influenced or explained by the five independent variables (X) use in this study, namely Currents Ratios (CR), Debt-to-Asset Ratios (DAR), Return on Assets (ROA), Total Asset Turnover (TATO), and Corporate Social Responsibility (CSR). These five independent variables play a significant role in influencing the Financial Distress values, which is proxied by the Altman Z-Scores. On the other hand, the remaining 9.33% of the Financial Distress values as measured by the Altman Z-Scores is explained by other variables outside the research model.

Hypothesis Tests (T-Tests)

Tables 7. T-Tests Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.018129	3.881912	0.519880	0.6074
X1_CR	-0.248937	0.482894	-0.515510	0.6104
X2_DAR	3.191797	5.013810	0.636601	0.5297
X3_ROA	16.23897	7.730134	2.100736	0.0451
X4_TATO	3.516015	2.698196	1.303098	0.2035
X5_CSR	-1.026823	0.731446	-1.403826	0.1718

Source: Processed data use Eviews 13 (2026)

- 1) The Currents Ratios (X1) yields a negatives coefficient of -0.248937 with a probability values of 0.6104, which exceeds the 0.05 significance threshold. Consequently, H1 is rejected, indicating that corporate liquidity proxied by CR does not exert a statistically significant effects on the Altman Z-Scores within this analytical scope.
- 2) The Debt-to-Asset Ratios (X2) records a coefficient of 3.191797 and a probability values of 0.5297, which sits above the 0.05 cutoff level. Accordingly, H2 is rejected, demonstrating that solvency measured through DAR possesses no statistically significant explanatory capacity regarding financial distress levels in the evaluated firms.
- 3) Return on Assets (X3) displays a positives coefficient of 16.23897 alongside a probability values of 0.0451, which falls below the 0.05 significance mark. These empirical outputs support H3, confirming that enhanced profitability significantly increases the Altman Z-Scores, thereby mitigating insolvency exposure and strengthening corporate financial resilience.
- 4) Total Asset Turnover (X4) exhibits a coefficient of 3.516015 and a probability values of 0.2035, exceeding the 0.05 significance threshold. Therefore, H4 is rejected, establishing that operatiosnal asset efficiency represented by TATO does not exert a statistically significant influence on financial distress outcomes.
- 5) The environmental dimension of Corporate Social Responsibility (X5) registers a coefficient of -1.026823 with a probability values of 0.1718, which is above the 0.05 significance level. As a result, H5 is rejected, indicating that environmental CSR disclosure metrics do not significantly impact or explain variations in firm financial distress.

DISCUSSION

The Effects of the Currents Ratios on Financial Distress

The Currents Ratios (X1) exerts no statistically significant effects on financial distress (Altman Z-Scores) among companies in the healthcare sector throughout the 2020–2024 period; consequently, the first hypothesis (H1) is rejected. This indicates that a firm's liquidity position is not a primary consideratiosn for market participants when assessing insolvency exposure, as variations in short-term liability coverage do not systematically alter corporate

bankruptcy risks. In other words, whether an enterprise maintains a high or low Currents Ratios (CR), its Altman Z-Scores remains unaffected, demonstrating that short-term liquidity is not a decisive metric for measuring financial distress risk within this sector. Although the Currents Ratios reflects an organization's capacity to settle maturing short-term obligations, it does not provide a definitive signal regarding structural financial distress. These empirical outcomes align with prior findings by Antoniwati and Purwohandoko (2022), Sihombing and Angela (2024), Prasetya and Hindasah (2023), Maula et al. (2023), and Permatasari et al. (2023), who similarly established that the Currents Ratios has no statistically significant influence on the Altman Z-Scores for financial distress.

The Effects of the Debt-to-Assets Ratios on Financial Distress

The Debt-to-Assets Ratios (X2) exerts no statistically significant effects on financial distress (Altman Z-Scores) among healthcare sector companies throughout the 2020–2024 period; consequently, the second hypothesis (H2) is rejected. This demonstrates that corporate solvency levels do not directly influence bankruptcy risks in this sector, indicating that financing asset acquisition through debt is not a primary driver of financial distress exposure. Whether an enterprise maintains a high or low Debt-to-Asset Ratios (DAR), its Altman Z-Scores remains unaffected, showing that capital structure composition does not serve as a decisive metric for measuring insolvency risk. These empirical outcomes align with prior findings by Prasetya and Hindasah (2023), Nabawi and Efendi (2020), and Kusmawati et al. (2022), who similarly established that the Debt-to-Assets Ratios has no statistically significant influence on the Altman Z-Scores for financial distress.

The Effects of Return on Assets on Financial Distress

Return on Assets (X3) exerts a positive and statistically significant effects on financial distress (Altman Z-Scores) among healthcare sector companies during the 2020–2024 period; consequently, the third hypothesis (H3) is accepted. Return on Assets evaluates managerial efficiency in generating net income from corporate asset holdings. A higher ROA elevates a firm's Altman Z-Scores, thereby enhancing financial stability and mitigating insolvency exposure. Effective net profit optimization and strategic asset deployment foster investor confidence as tangible indicators of sound financial health, ultimately safeguarding the organization against corporate bankruptcy risks. These empirical outcomes align with prior findings by Handayani and Iswara (2025), Sihombing and Angela (2024), Maximillian and Septina (2022), Hikmatia and Hari (2024), and Arief et al. (2023), who similarly established that Return on Assets has a statistically significant positive influence on the Altman Z-Scores for financial distress.

The Effects of Total Asset Turnover on Financial Distress

Total Asset Turnover (X4) exerts no statistically significant effects on financial distress (Altman Z-Scores) among healthcare companies throughout the 2020–2024 period; consequently, the fourth hypothesis (H4) is rejected. This

indicates that whether a firm maintains a high or low Total Asset Turnover (TATO), variations in asset utilization efficiency do not materially alter its Altman Z-Scores or corporate insolvency risk. These empirical results demonstrate that operational turnover efficiency cannot serve as a reliable predictor of financial distress, as high asset turnover and robust revenue generation do not automatically translate into bottom-line net profit margins necessary to guard against corporate bankruptcy. These outcomes align with prior findings by Yoyo (2024), Mulyadi and Mulya (2024), Kusmawati et al. (2022), Sari and Sembiring (2022), and Pebrianti et al. (2022), who similarly established that Total Asset Turnover has no statistically significant influence on financial distress measured by the Altman Z-Scores.

The Effects of Corporate Social Responsibility on Financial Distress

Corporate Social Responsibility (X5) exerts no statistically significant effects on financial distress (Altman Z-Scores) among healthcare sector companies throughout the 2020–2024 period; consequently, the fifth hypothesis (H5) is rejected. This demonstrates that whether a firm records high or low environmental CSR performance index scores, variations in environmental disclosures do not systematically alter its Altman Z-Scores or corporate insolvency risk. Thus, the environmental dimension of CSR does not serve as a decisive factor for measuring a company's financial distress vulnerability. These empirical outcomes align with prior findings by Safitri and Nurcahyono (2024) as well as Aziz et al. (2023), who similarly established that Corporate Social Responsibility disclosure has no statistically significant influence on the Altman Z-Scores for financial distress.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the data analysis and discussion that has been carried out, the following conclusions can be drawn:

- 1) The Currents Ratios has no effects on the Altman Z-Scores for financial distress in the healthcare sector listed on the Indonesia Stock Exchange froms 2020 to 2024.
- 2) The Debt-to-Asset Ratios has no effects on financial distress in the healthcare sector listed on the Indonesia Stock Exchange froms 2020 to 2024.
- 3) Return on Assets has a significant positives effects on the Altman Z-Scores for financial distress in the healthcare sector listed on the Indonesia Stock Exchange froms 2020 to 2024.
- 4) Total Asset Turnover has no effects on the Altman Z-Scores for financial distress in the healthcare sector listed on the Indonesia Stock Exchange froms 2020 to 2024.
- 5) Corporate Social Responsibility has no effects on the Altman Z-Scores for financial distress in the healthcare sector listed on the Indonesia Stock Exchange froms 2020 to 2024.

ADVANCED RESEARCH

This study can contribute to healthcare companies listed on the Indonesia Stock Exchange during the 2020–2024 period; the findings can benefit company management, investors, and creditors and serve as a reference for applying variables to help companies avoid the risk of financial crisis.

This study serves as a reference for future researchers who wish to conduct research on the effects of liquidity, leverage, profitability, activity, and Corporate Social Responsibility (CSR) on financial distress.

ACKNOWLEDGMENT

The author would like to express sincere gratitude to Mercu Buana University, particularly the Faculty of Economics and Business, Department of Management, for providing the opportunity and support in conducting this research.

REFERENCES

- Antoniawati, A., & Purwohandoko, P. (2022). Analisis Pengaruh Profitabilitas, Likuiditas, dan Leverage terhadap Financial Distress pada Perusahaan Transportasi yang Terdaftar di BEI Tahun 2018-2020. *Jurnal Ilmu Manajemen*, 10(1), 28–38. <https://doi.org/10.26740/jim.v10n1.p28-38>
- Arief, H., Chau, C., Saratian, E. T. P., & Soelton, M. (2023). The Influence of Sales Growth, Profitability and Activity on Financial Distress. *Journal of Management*, 04(01), 157–164. <https://doi.org/10.37010/jdc.v4i1>
- Aziz, A., Anwar, S., & Setiawan, A. (2023). *Determinant Analysis Corporate Governance and CSR To Financial*. *Jurnal Akunida*, 9(1), 1–15.
- Budianto, B., & Setiawan, D. (2023). Pengaruh variabel keuangan & non-keuangan terhadap financial distress. *Kompartemen : Jurnal Ilmiah Akuntansi*, 21(2), 271. <https://doi.org/10.30595/kompartemen.v21i2.17942>
- Handayani, R. C. (2020). Pengaruh Kinerja Keuangan Terhadap Financial Distress Perusahaan Food & Beverage. *Jurnal Ilmu dan Riset Akuntansi*.
- Inggamal, A. (2022). Analysis Financial Ratios on Financial Distress of Transportation Company Listed on Indonesian Stock Exchange in 2017-2020 Period. *Proceedings Universitas Muhammadiyah Yogyakarta Undergraduate Conference*, 2(1), 32–52. <https://doi.org/10.18196/umygrace.v2i1.410>
- Maula, M., Firdausi, M. I., & Badarudin, B. (2023). Pengaruh Return on Equity, Currents Ratios dan Firm Size Terhadap Financial Distress Bank Syariah Non BUMN yang terdaftar di BEI periode 2015-2021. *JIEF Journal of Islamic Economics and Finance*, 3(2), 134–147. <https://doi.org/10.28918/jief.v3i2.1764>

- Maximillian, N., & Septina, F. (2022). *The Effects of Profitability, Liquidity, and Solvency on Financial Distress of Textile and Garment Companies in Indonesia*. *Jurnal Ecodemica: Jurnal Ekonomi Manajemen Dan Bisnis*, 6(2), 150-161. <https://doi.org/10.31294/eco.v6i2.12933>
- Mulyadi, P. N., & Mulya, A. A. (2024). Pengaruh sales growth, likuiditas, leverage, profitabilitas dan aktivitas terhadap financial distress (Studi empiris pada perusahaan basic materials sub sektor metals & minerals yang terdaftar pada Bursa Efek Indonesia periode 2020-2023). *Prosiding Seminar Nasional Fakultas Ekonomi dan Bisnis*, 1(1), 541-554. <https://senafebi.budiluhur.ac.id/index.php/senafebi>
- Nabawi, M., & Efendi, D. (2018). Pengaruh Leverage , Profitabilitas, Aktivitas, Growth Firm Terhadap Kondisi Financial Distress. 2002. *Jurnal Ilmu dan Riset Akuntansi*.
- Oktaviani, G. D., & Zaretta, B. (2024). Pengaruh Profitabilitas, Leverage, Likuiditas, Firm Size, dan Sales Growth Terhadap Financial Distress. *Jurnal Manajemen Sosial Ekonomi (Dinamika)*, 4(1), 136-150. <http://journal.stiestekom.ac.id/index.php/dinamika>
- Permatasari, M., Nurcahyono, N., Bilqis, L. K., & Nugroho, W. S. (2023). *The Effects of Financial Ratios and Good Corporate Governance on Financial Distress: Independent Commissioners as a Moderating Variable* (Vol. 1). Atlantis Press International BV. https://doi.org/10.2991/978-94-6463-154-8_28
- Prasetya, A., & Hindasah, L. (2023). Pengaruh Rasio Keuangan dan Mekanisme Good Corporate Governance Terhadap Financial Distress. *Journal of Business Economics and Agribusiness*, 1(2), 1-16. <https://doi.org/10.47134/jbea.v1i2.97>
- Safitri, R. A., & Nurcahyono, N. (2024). The Effects of Corporate Social Responsibility and Financial Ratios on Financial Distress. *Economics and Business International Conference Proceeding*, 1(2), 473-489. <https://jurnalnew.unimus.ac.id/index.php/EBiC/article/view/459>
- Saidah, H., & Sulistiyo, H. (2024). Analisis pengaruh rasio keuangan terhadap *financial distress* pada perusahaan transportasi yang terdaftar di BEI periode 2020-2023. *Bilancia: Jurnal Ilmiah Akuntansi*, 8(4), 370-379. <https://doi.org/10.35145/bilancia.v8i4.4734>.
- Sari, I. (2023). The Influence of Agency Costs, Liquidity and Corporate Social Responsibility on Financial Distress: Empirical Study on Retail Companies Listed on the Indonesia Stock Exchange 2016-2020 Period. *Scientia*, 2(1), 63-75. <https://doi.org/10.51773/sssh.v2i1.134>

- Sihombing, J. J. A., & Angela, A. (2024). Pengaruh Profitabilitas, Financial Leverage dan Likuiditas terhadap Financial Distress pada Perusahaan Food and Beverage di Indonesia. *Journal of Accounting, Finance, Taxation, and Auditing (JAFTA)*, 6(1), 85–101.
<https://doi.org/10.28932/jafta.v6i1.9231>
- Yoyo, T. (2024). *The Influence of Return On Assets (ROA), Return On Equity (ROE), Currents Ratios (CR), Debt To Equity Ratios (DER), And Total Asset Turnover (TATO) On Financial Distress Conditions (Empirical Study on Food and Beverage Sub-Sector Companies Listed)*. 2, 1–11.