

The Effect of Financial Ratios on Financial Distress With Institutional Ownership is a Moderating Variable

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Keywords:	Abstract
financials ratio; financial distress; institutional ownership	Post-pandemic economic pressures, including market uncertainty, supply chain disruptions, and rising operating costs, have heightened the risk of financial distress, particularly among consumer non-cyclical companies operating in essential sectors. This study aimed to examine the effects of financial ratios, including profitability, liquidity, solvency, and activity ratios, on financial distress, with institutional ownership as a moderating variable. The research population consisted of consumer non-cyclical companies listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. The sample was selected using purposive sampling, resulting in 84 observations from a population of 132 companies. This study employed a quantitative approach using secondary data. Data were analyzed using EViews 12 through multiple regression analysis and Moderated Regression Analysis (MRA). The results showed that profitability, liquidity, and activity ratios had significant negative effects on financial distress, whereas solvency had no significant effect. Institutional ownership weakened the effects of liquidity and solvency on financial distress but did not moderate the relationships between profitability and financial distress or between activity ratios and financial distress. These findings highlight the importance of strengthening financial structures and enhancing corporate governance mechanisms to reduce the risk of financial distress among companies in essential sectors during the post-pandemic period

INTRODUCTION

Financial statements serve as a crucial tool for evaluating a company's performance and financial condition (Anglina et al., 2025; Barman, 2023; Osadchy et al., 2018; Purnama et al., 2020). A key component of these statements is financial ratios, which are used to assess financial health and detect potential issues such as financial distress. Post-pandemic global economic pressures, including market uncertainty, supply chain disruptions, and rising operating costs, have heightened the risk of financial distress, particularly when such pressures are not mitigated through sound financial management. Financial distress arises when a company struggles to meet its financial obligations due to imbalances in liquidity, profitability, and debt levels (Altman et al., 2019; Ayinaddis & Tegegne, 2023; Muchsidin et al., 2025; Sari et al., 2025). Early detection of this condition is vital because it enables companies to take preventive measures and provides investors with signals that can inform their decision-making (Veren & Ignatius, 2022). Beyond financial ratios, corporate governance mechanisms, such as

institutional ownership, also influence the risk of financial distress. Institutional investors are believed to strengthen oversight and enhance the quality of managerial decision-making (Destriwanti et al., 2022; Maghfiroh et al., 2022).

Financial distress is a condition in which a company struggles to meet its financial obligations due to imbalances in liquidity, profitability, and debt levels (Eldin et al., 2025; Michalkova & Ponisciakova, 2025; Phothong et al., 2026; Ramzan, 2025). Early detection of this condition is vital because it enables companies to take preventive measures and provides investors with signals that can inform their decision-making (Veren & Ignatius, 2022). Financial statements serve as a crucial tool for evaluating a company's financial condition, while financial ratios—profitability, liquidity, solvency, and activity—are key indicators used to assess financial health. Profitability reflects a company's ability to generate earnings from its operations (Hastiarto, 2021), liquidity indicates its capacity to meet short-term obligations (Faqiha et al., 2024), solvency measures its ability to meet long-term financial obligations (Wulandari & Wibowo, 2021), and activity ratios reflect the efficiency with which a company utilizes its assets (Agustini & Wirawati, 2019). These ratios provide early warning signals that can help identify potential financial distress before it becomes critical (Rachmawati, 2022; Safitri & Purwaningsih, 2022).

Beyond financial ratios, corporate governance mechanisms—particularly institutional ownership—also influence the risk of financial distress. Institutional investors, such as mutual funds, pension funds, and insurance companies, are believed to strengthen oversight and enhance the quality of managerial decision-making (Destriwanti et al., 2022; Maghfiroh et al., 2023). Their presence can reduce information asymmetry between management and shareholders because they possess the resources and expertise required to monitor management more effectively (Guizani, 2018). However, the effectiveness of institutional ownership as a governance mechanism depends on the extent of investors' active involvement in monitoring rather than on passive portfolio investment. While some studies suggest that institutional ownership reduces financial distress (Maghfiroh et al., 2023), others find that passive institutional investors, particularly foreign investors with limited access to information, are less effective in monitoring management behavior and may even weaken the protective role of financial ratios against financial distress (Putri, 2018; Pivin & Yagil, 2024).

The theoretical framework of this study is grounded in two key theories: signaling theory and agency theory. According to signaling theory (Spence, 1973), financial ratios serve as signals that convey information about a company's financial health to investors and other stakeholders. High profitability, strong liquidity, and efficient asset utilization send positive signals, reducing information asymmetry and lowering the perceived risk of financial distress. Conversely, weak financial performance signals potential difficulties, prompting investors and creditors to reassess the company's financial condition. Agency theory (Jensen & Meckling, 1976), on the other hand, addresses conflicts of interest between principals (shareholders) and agents (management) arising from the separation of ownership and control. Institutional ownership is expected to mitigate agency problems by strengthening the monitoring of management, thereby reducing opportunistic behavior that could contribute to financial distress. When institutional investors actively monitor management, they may promote more prudent financial decision-making and reduce the likelihood of excessive risk-taking or managerial actions that could result in financial distress. Thus, agency theory provides a

theoretical foundation for understanding why institutional ownership may moderate the relationship between financial ratios and financial distress.

Several previous studies have examined the relationship between financial ratios and financial distress. Hastiarto (2021) and Agustini and Wirawati (2019) found that profitability significantly reduces financial distress. Faqiha et al. (2024) and Maghfiroh et al. (2022) reported that liquidity negatively affects financial distress. Wulandari and Wibowo (2021) found that solvency has no significant effect on financial distress, suggesting that high debt levels do not necessarily lead to financial distress when supported by adequate assets and income. Wijaya and Maria (2024) and Anisa et al. (2023) reported that greater activity efficiency reduces the risk of financial distress. However, previous findings remain inconsistent, particularly regarding the moderating role of institutional ownership. Maghfiroh et al. (2023) found that corporate governance weakens the effect of financial ratios on financial distress, whereas Masita and Purwohandoko (2020) concluded that institutional ownership is ineffective as a control mechanism for reducing financial risk.

Although financial distress has been extensively studied, previous research findings remain inconsistent, particularly regarding the effects of financial ratios and the role of institutional ownership as a moderating variable. This inconsistency warrants further investigation, especially within Indonesia's consumer non-cyclical sector. Despite relatively stable demand, companies in this sector faced financial pressures during the 2022–2024 economic recovery period. Consequently, this study aims to examine the effects of financial ratios on financial distress, with institutional ownership serving as a moderating variable. The study is expected not only to enrich the academic literature on the relationship between financial ratios, corporate governance, and financial distress but also to provide practical implications for corporate management and institutional investors. These findings may assist stakeholders in developing more effective monitoring strategies and financial decision-making processes to support operational sustainability amid evolving economic conditions.

METHOD

This study employed a descriptive quantitative approach using secondary data obtained from the annual financial reports of companies in the consumer non-cyclicals sector listed on the Indonesia Stock Exchange (IDX) during the 2022–2024 period. The sample was selected using purposive sampling based on the following criteria: (1) companies were listed on the IDX throughout 2022–2024; (2) complete annual financial reports were available for the observation period; (3) the financial year ended on December 31; (4) the financial reports were presented in Indonesian rupiah; and (5) the required research data were available. Based on these criteria, 84 companies were included in the sample.

The operational definitions and measurement of the research variables are presented below.

Table 1. Variable Operationalization

Variable Type	Variable	Measurement	Scale	Source
Dependent Variable	<i>Financial Distress</i>	<i>Altman Z-Score:</i> - Distress ($Z < 1.81$) - Non-distress ($Z > 2.99$)	Altman Z-Score Method	(Imelda & Alodia, 2017)
Independent Variable	<i>Profitability</i>	$ROA = \frac{\text{Net income}}{\text{Total assets}}$	Ratio	(Maghfiroh et al., 2023)

	Liquidity	$QR = \frac{\text{Current Asset} - \text{Inventory}}{\text{Current Liabilities}}$	Ratio	(Maghfiroh <i>et al.</i> , 2023)
	Solvability	$DAR = \frac{\text{Total Debt}}{\text{Total assets}}$	Ratio	(Maghfiroh <i>et al.</i> , 2023)
	Activity	$TATO = \frac{\text{Sales}}{\text{Total assets}}$	Ratio	(Maghfiroh <i>et al.</i> , 2023)
Moderating Variable	Institutional Ownership	$IO = \frac{\text{Saham yang dimiliki}}{\text{Saham yang beredar}}$		(Maghfiroh <i>et al.</i> , 2023)

Source: Author's compilation based on Imelda & Alodia (2017) and Maghfiroh *et al.* (2023)

Statistical Test Results

Classical Assumption Test

The classical assumption tests in this study include tests for normality, multicollinearity, heteroskedasticity, and autocorrelation. The normality test result shows a probability value of 0.3073, which exceeds the 0.05 threshold, so it can be concluded that the data is normally distributed. In the multicollinearity test, all independent variables have correlation coefficients below 0.8, indicating no multicollinearity problem. Next, the heteroskedasticity test produces a Prob. Chi-Square value of 0.1631, which is greater than 0.05, indicating no heteroskedasticity. Finally, the autocorrelation test produces a Durbin-Watson value of 1.617142, which falls within the interval between -2 and 2 ($-2 < 1.560714 < 2$), leading to the conclusion that there is no autocorrelation symptom in this research model.

After obtaining the best panel data model, namely the *common effect* model, and having satisfied the classical assumption tests, multiple linear regression analysis was then performed. The results of the analysis are presented in Table 3.

Table 2. Multiple Linear Regression Analysis Results and Hypothesis Testing

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.733900	0.811886	0.903945	0.3669
ROA	7.415819	1.832018	4.047895	0.0001
QR	0.872614	0.212336	4.109600	0.0001
DAR	0.646060	1.220140	0.529497	0.5969
TATO	1.219068	0.259063	4.705687	0.0000
ROA*IO	-1.607503	0.889886	-1.806414	0.0721
QR*IO	-0.305762	0.088041	-3.472942	0.0006
DAR*IO	-1.442286	0.402566	-3.582731	0.0004
TATO*IO	-0.074332	0.053370	-1.392753	0.1650

Source: Processed with EViews 12

Based on Table 3, the regression equation formula applied in this study is as follows.

$$Z\text{-Score} = 0.733900 + 7.415819\text{ROA} + 0.872614\text{QR} + 0.646060\text{DAR} + 1.219068\text{TATO} - 1.607503\text{ROA*IO} - 0.305762\text{QR*IO} - 1.442286\text{DAR*IO} - 0.074332\text{TATO*IO} + \varepsilon$$

Coefficient of Determination Test (Adjusted R²)

An adjusted R-squared value of 0.283071 was obtained. This shows that the independent variables — profitability, liquidity, solvability, and activity — together with the interaction variables, are able to explain 28.30% of the dependent variable, financial distress, while the remaining 79.70% is explained by other variables not examined in this study.

Overall Significance Test (F-Test)

An F-statistic probability value of 0.000000 was obtained, which is smaller than 0.05. It can therefore be concluded that the independent variables — profitability, liquidity, solvability, and activity — together with the interaction variables, jointly have a significant effect on the dependent variable, financial distress.

Hypothesis Test (t-Test)

The t-test is used to determine whether the independent variables partially affect the dependent variable in the linear regression equation. The coefficient and probability values for each variable are shown in Table 3. The results show that profitability (ROA) has a significant effect on financial distress, with a coefficient of 7.415819 and a probability of 0.0001. The positive coefficient indicates that an increase in ROA raises the Z-Score value, reflecting a healthier financial condition and a lower risk of financial distress, so H1 is accepted. Liquidity (QR) also has a significant effect, with a coefficient of 0.872614 and a probability of 0.0001, indicating that higher liquidity raises the Z-Score and lowers the risk of distress, so H2 is accepted. In contrast, solvability (DAR) has no significant effect on financial distress, with a coefficient of 0.646060 and a probability of 0.5969, so H3 is rejected. Activity (TATO) has a significant effect on financial distress, with a coefficient of 1.219068 and a probability of 0.0000, where activity efficiency raises the Z-Score and lowers the risk of distress, so H4 is accepted. In the moderation test, the ROA*IO interaction produces a coefficient of -1.607503 ($p = 0.0721$), and TATO*IO produces -0.074332 ($p = 0.1650$), both of which are not significant, so H5 and H8 are rejected. Meanwhile, the QR*IO interaction (coefficient -0.305762; $p = 0.0006$) and the DAR*IO interaction (coefficient -1.442286; $p = 0.0004$) are significant, but the direction of the effect is negative, indicating that institutional ownership actually weakens the effect of liquidity and solvability on financial distress, so H6 and H7 are also rejected.

RESULTS AND DISCUSSION

The research results show that profitability has a negative and significant effect on financial distress. The higher the profitability, the healthier a company's financial condition. This finding supports *signaling theory*, in which high profitability sends a positive signal about financial performance and lowers the risk of financial distress. This result is consistent with Hastiarto (2021) and Agustini & Wirawati (2019).

The liquidity variable has a negative and significant effect on financial distress. The higher the liquidity, the healthier a company's financial condition. This finding is consistent with *signaling theory*, as high liquidity signals a company's ability to meet short-term obligations, which contributes to a lower risk of financial distress. This finding is consistent with Faqiha & Femmy (2024) and Maghfiroh et al. (2022).

The research results show that solvability has no significant effect on financial distress, due to its relatively static characteristics, which do not adequately reflect a company's actual financial condition. High total debt does not necessarily create financial pressure if it is supported by adequate assets and income (Wulandari & Wibowo, 2021). In addition, debt in companies with high solvability is often used productively to support operations and investment (Rahma & Efendi, 2023). This finding is consistent with previous research by Loan

et al. (2019), Ngawa (2025), and Rachmawati (2022), which showed that liquidity and profitability ratios are more sensitive in predicting financial distress than the solvability ratio.

Meanwhile, activity has a negative and significant effect on financial distress. This shows that the higher a company's activity, the lower its risk of financial distress. In line with *signaling theory*, activity efficiency reflects a company's ability to manage assets optimally, which sends a positive signal about the company's financial health. This finding is consistent with Agustini & Wirawati (2019), but differs from Wijaya & Maria (2024) and Anisa et al. (2023).

The test results show that institutional ownership does not significantly moderate the relationship between profitability (ROA*IO) and activity (TATO*IO) and financial distress. This is due to the passive role of institutional ownership, in which many investors act merely as portfolio owners without being directly involved in operational oversight or strategic decision-making. This condition is worsened by the dominance of foreign investors, who face limited access to information and regulatory constraints, thereby limiting their influence on management. This finding is consistent with research by Masita & Purwohandoko (2020) and Maghfiroh et al. (2022), which state that institutional ownership is not effective as a control mechanism in reducing a company's financial risk.

Meanwhile, the results of testing the interaction between liquidity (QR*IO) and solvability (DAR*IO) with institutional ownership are significant. However, the negative coefficients indicate that institutional ownership actually weakens the effect of liquidity and solvability on financial distress. This result can be explained by the non-independent nature of institutional ownership, most of which originates from business groups affiliated with the company itself, so that its oversight of management tends to be weak. This closeness makes institutional owners passive in controlling financial policy, including liquidity, which weakens liquidity's role in preventing financial distress (Putri, 2018). Furthermore, in the context of solvability, institutional investors tend to be reactive rather than preventive, choosing to divest their holdings when risk increases rather than intervening. As a result, their presence is not effective as a distress-control mechanism. This finding is supported by Maghfiroh et al. (2022) and Pivin & Yagil (2024), who highlight the weak role of institutional ownership as a control mechanism against a company's financial risk.

CONCLUSION

This study concluded that profitability, liquidity, and activity ratios played significant roles in reducing the risk of financial distress, reflecting a company's fundamental financial strength. In contrast, solvency had no significant effect, indicating that a high level of debt did not necessarily increase financial distress when it was managed effectively. Institutional ownership did not moderate the relationship between financial ratios and financial distress. This limited moderating effect may have been associated with the relatively passive role of institutional investors, particularly foreign institutional investors, in monitoring management.

The limitations of this study included the relatively short observation period of 2022–2024, the limited number of variables examined, and the focus on companies in the consumer non-cyclicals sector. Future studies should extend the observation period, incorporate additional relevant variables, and examine other industry sectors to provide more comprehensive findings. Corporate management should strengthen financial performance by improving profitability, liquidity, and asset utilization. Institutional investors should take a more active role in monitoring managerial decisions rather than functioning solely as passive

portfolio holders. Policymakers may also consider governance mechanisms that encourage more active institutional participation in corporate oversight.

REFERENCES

- Agustini, N. W., & Wirawati, N. G. P. (2019). Pengaruh rasio keuangan pada financial distress perusahaan ritel yang terdaftar di Bursa Efek Indonesia (BEI). *E-Jurnal Akuntansi*.
- Altman, E. I., Hotchkiss, E., & Wang, W. (2019). *Corporate financial distress, restructuring, and bankruptcy: Analyze leveraged finance, distressed debt, and bankruptcy*. John Wiley & Sons.
- Anglina, E. R., Maduwu, W., & Raja, E. A. L. (2025). Assessment of financial performance using financial statement analysis: Evidence from PT Astra Internasional Tbk. *International Journal of Social Science and Business*, 9(2), 432–442.
- Anistasya, V., & Setyawan, I. R. (2022). Pengaruh profitabilitas, likuiditas dan leverage terhadap financial distress. *Jurnal Manajerial dan Kewirausahaan*, 4(3), 786–795.
- Ayinaddis, S. G., & Tegegne, H. G. (2023). Uncovering financial distress conditions and its determinant factors on insurance companies in Ethiopia. *PLoS ONE*, 18(10), e0292973.
- Barman, R. D. (2023). Financial statement: A tool to evaluate business performance. *Business Management and Economics Engineering*, 21(2), 819–835.
- Destriwanti, O., Sintha, L., Bertuah, E., & Munandar, A. (2022). Analyzing the impact of good corporate governance and financial performance on predicting financial distress using the modified Altman Z-score model. *American International Journal of Business Management (AIJBM)*, 5(2), 27–36.
- Eldin, R. E., Ismail, L., Mohamed, A., Tharwat, A., Aly, H., & Michael, M. (2025). The effect of financial distress on financial performance: An empirical study on the Egyptian companies. *Journal of Advances in Economics and Business Studies (JAEBS)*, 2(1), 1–26.
- Faqiha, A. Z., Suhono, S., & Effendy, F. (2024). Pengaruh rasio likuiditas, aktivitas, profitabilitas, dan leverage terhadap financial distress pada perusahaan tekstil dan garment yang terdaftar di Bursa Efek Indonesia (BEI) periode 2017–2022. *Jurnal Inovasi Manajemen dan Bisnis Nusantara*, 1(1), 57–77.
- Guizani, M. (2018). The mediating effect of dividend payout on the relationship between internal governance and free cash flow. *Corporate Governance*, 18(4), 748–770.
- Hastiarto, O. (2021). The effect of liquidity, leverage, and profitability on financial distress with audit committee as a moderating variable. *International Journal of Current Science Research and Review*, 4(10), 1304–1315.
- Imelda, E., & Alodia, I. (2017). The analysis of Altman model and Ohlson model in predicting financial distress of manufacturing companies in the Indonesia Stock Exchange. *Indian-Pacific Journal of Accounting and Finance*, 1(1), 51–63.
- Maghfiroh, R. D., Asandimitra, N., & Hartono, U. (2023). Moderation analysis of good corporate governance on the effect of financial ratio and market ratio on financial distress. *International Journal of Professional Business Review*, 8, 115.
- Michalkova, L., & Ponisciakova, O. (2025). Bankruptcy prediction, financial distress and corporate life cycle: Case study of Central European enterprises. *Administrative Sciences*, 15(2), 63.
- Muchsidin, F. F., Ramlah, R., Samalam, A. G., Wahab, A., & Lawalata, I. L. D. (2025). Evaluation of liquidity, capital structure, and risk management challenges in maintaining company financial stability. *Advances in Management & Financial Reporting*, 3(3), 681–696.
- Ngawa, A. D. (2025). Pengaruh likuiditas, profitabilitas, leverage dan kepemilikan institusional terhadap financial distress. *Jurnal Ekonomi Trisakti*, 5(1), 13–22.

- Osadchy, E. A., Akhmetshin, E. M., Amirova, E. F., Bochkareva, T. N., Gazizyanova, Y. Y., & Yumashev, A. V. (2018). *Financial statements of a company as an information base for decision-making in a transforming economy*.
- Phothong, L., Sukprasert, A., Boonlua, S., Chubsuwan, P., Seetha, N., & Kunsrison, R. (2026). An explainable voting ensemble framework for early-warning forecasting of corporate financial distress. *Forecasting*, 8(1), 10.
- Purnama, O., Hanitha, V., & Angreni, T. A. (2020). Financial statement analysis to assess company financial performance. *ECo-Fin*, 2(3), 168–174.
- Putri, Y. A. S. (2023). Pengaruh rasio keuangan terhadap financial distress perusahaan pariwisata yang terdaftar di BEL. *Al-Kharaj: Jurnal Ekonomi, Keuangan & Bisnis Syariah*, 6(3), 3162–3175.
- Rachmawati, D. (2022). Forecasting financial distress of airline company: The impact of financial performance. *Journal of International Conference Proceedings*, 85–95.
- Ramzan, S. (2025). The impact of artificial intelligence on financial ratios indicating financial distress: Evidence from NYSE-listed companies. *International Journal of Management and Data Analytics (IJMADA)*, 5(1), 47–59.
- Safitri, I., & Purwaningsih, E. (2022). The effect of profitability, liquidity, leverage, cash flow ratio and company size on financial distress. *JAE: Jurnal Akuntansi dan Ekonomi*.
- Sari, D. N., Purwidiyanti, W., Tubastuvi, N., & Santoso, S. B. (2025). Determinants of financial distress: Analysis of financial ratio, market, and macroeconomic factors. *Jurnal Akademi Akuntansi*, 8(3), 458–477.
- Wijaya, F. D., Lasmana, A., & Melani, M. M. (2024). The effect of liquidity, profitability, leverage and activity on financial distress.