

The Impact of Liquidity, Leverage, and Profitability Ratios on Financial Distress

Emelia Rahmadany Putri Gami^{a,*}, Dewi Rafiah Pakpahan^b, Amin Hou^b, & Angela Hecimovic^c

^aUniversitas Muslim Nusantara Al Washliyah Medan, Indonesia

^bUniversitas Mahkota Tricom Unggul Medan, Indonesia

^cUniversity of Sydney Business School, Australia

Abstract

This study investigates the impact of liquidity, leverage, and profitability on financial distress at PT. Jamu Nyonya Meneer, a leading traditional herbal medicine company in Indonesia. Employing a quantitative descriptive approach, the research utilizes secondary data from the company's financial statements analyzed through multiple regression, hypothesis testing, and correlation analysis. Three main financial ratios are examined: Current Ratio to measure liquidity, Debt to Equity Ratio (DER) to assess leverage, and Return on Assets (ROA) to evaluate profitability. The results demonstrate that liquidity, leverage, and profitability significantly influence financial distress. The regression equation obtained is $Y = 23.491 + 0.457X_1 + 0.482X_2 + 0.372X_3$. The F-test results (Sig. = 0.02 < 0.05) indicate that all variables jointly affect financial distress, while t-tests reveal significant partial effects for liquidity (Sig. = 0.000), leverage (Sig. = 0.001), and profitability (Sig. = 0.000). The coefficient of determination (R^2) shows that 61.5% of the variation in financial distress is explained by these three variables, while 38.5% is attributed to other factors. Unexpectedly, higher liquidity and profitability are associated with greater financial distress, reflecting complex operational dynamics in the herbal medicine industry. These findings provide valuable insights for predicting financial distress and guiding financial management strategies in similar companies.

Keywords: Financial Distress, Financial Performance, Herbal Medicine Industry

Received: 16 June 2025

Revised: 29 July 2025

Accepted: 10 August 2025

1. Introduction

Companies are organizations that aim to generate profit or gain, which is used to finance daily operational activities including paying employee salaries and managing capital (Jayathilaka, 2020). Every company presents financial statements to understand their financial performance. Financial performance measurement is conducted using financial ratios. Through these ratios, we can measure a company's ability to overcome short-term debt (liquidity ratio), long-term debt (leverage ratio), and the company's ability to generate profit (profitability ratio) (Anggraeni & Primasari, 2024).

Understanding a company's financial performance allows us to determine whether the company is financially healthy or experiencing financial distress (Savery et al., 2024). Based on this explanation, it can be stated that liquidity, leverage, and profitability have an influence on corporate financial distress.

Liquidity refers to a company's ability to pay or settle short-term obligations or debts that are due immediately. The ratio used in this study is the Current Ratio, calculated as Current Assets divided by Current Liabilities. Leverage represents a company's ability to meet all its obligations, both short-term and long-term. The ratio used is the Debt to Equity Ratio (DER), calculated as Total Debt divided by Total Equity. Profitability is a company's ability to generate profit or earnings (Cahyani et al., 2024). Profitability also reflects management effectiveness within a company and is measured using Return on Assets (ROA), calculated as Net Income divided by Total Assets.

* Corresponding author.

E-mail address: emeliarahmadany@umnaw.ac.id

One important aspect of financial statement analysis is its usefulness for predicting business continuity or company survival (Panchenko et al., 2024). Predicting company survival is crucial for management and company owners to understand the company's financial condition and anticipate conditions that may lead to potential bankruptcy.

Every company experiences phases of rising and declining performance, including financially. Financial distress is a term used to describe this declining performance condition. If the source is not immediately addressed, financial distress will lead to bankruptcy. Financial distress is an event of continuous decline in a company's financial performance over a certain period (Dirman, 2020). For companies, financial distress is one of the most common causes of bankruptcy, as unlike ordinary profit declines, losses from financial distress can be substantial enough to affect the company's operational continuity (Trisanti, 2020).

Previous research has examined the relationship between financial ratios and financial distress. Elfreda (2021) found that liquidity, solvency, profitability, and activity ratios have a positive and significant effect on financial distress. Firasari Nukmaningtyas and Saparila Worokinasih (2018) conducted research on the use of profitability, liquidity, leverage, and cash flow ratios to predict financial distress in various industrial companies listed on the Indonesia Stock Exchange during 2013-2016. Profitability proxied by ROA has a negative significant effect on financial distress, indicating that higher profitability leads to lower financial distress (Sitompul et al., 2025). Meanwhile, liquidity (CR) and leverage (DER) have positive but non-significant effects, while cash flow has a negative but non-significant effect.

Based on the above explanation, liquidity, leverage, and profitability influence corporate financial distress. This research focuses on PT. Jamu Nyonya Meneer, a limited liability company operating in the traditional herbal medicine manufacturing sector in Semarang. PT. Jamu Nyonya Meneer is one of the largest herbal medicine companies in Semarang. In 2006, the company successfully expanded its herbal medicine marketing to Taiwan as part of its expansion to international markets, following previous successful entries into Malaysia, Brunei, Australia, the Netherlands, and the United States.

Therefore, this research is conducted as a scientific study to examine the influence of liquidity, leverage, and profitability on financial distress at PT. Jamu Nyonya Meneer. The results of this study are expected to serve as reference material for other herbal medicine company managers who are interested in implementing financial management ratios in their respective institutions.

2. Literature Review

Previous research findings are presented through theoretical studies that support the analysis of liquidity, leverage, and profitability ratios on financial distress, as shown in the Table 1.

2.1. Financial Distress

According to Fitri & Syamwil (2020), financial distress is a condition where a company experiences financial difficulties characterized by insufficient operating cash flow to settle current liabilities. Financial distress represents a state where a company experiences financial crisis or is in an unhealthy condition. This situation occurs before bankruptcy, necessitating the development of financial distress models. If companies can detect these financial difficulties early, turnaround actions or improvements can be immediately implemented to prevent bankruptcy.

Financial distress prediction attracts interest from various stakeholders. Parties utilizing these models include lenders, investors, regulators, government, auditors, and management. For lenders, understanding financial distress predictions enables decisions regarding loan approval, monitoring existing loans, or even withdrawing previously granted loans. Similarly, investors use financial distress prediction knowledge to evaluate the possibility of companies facing problems in repaying principal and interest on investments.

Regulators utilize financial distress predictions to assess companies' ability to pay debts and evaluate company stability. Financial distress prediction is also useful for government and antitrust regulation. For auditors, financial distress prediction becomes a beneficial tool in evaluating a company's going concern. Likewise, companies can avoid bankruptcy through improvement actions based on financial distress predictions.

Table 1. Previous Research Summary

Research	Title	Findings
Sekar Mayang Sari, Setyaningsih Sri Utami, and Dorothea Ririn Indriastuti (2021)	The Effect of Financial Ratios on Financial Distress	<ol style="list-style-type: none"> Liquidity ratio (current ratio) has a negative and significant effect on financial distress Leverage ratio (debt to equity ratio) has a positive and significant effect on financial distress Profitability ratio (return on assets) has a positive and significant effect on financial distress.
Amelia Fatmawati, Wahidahwati (2017)	The Effect of Good Corporate Governance, Operating Efficiency, Earnings Benefits, and Cash Flow on Financial Distress	<ol style="list-style-type: none"> Good corporate governance does not have a positive effect on financial distress Operating efficiency (total asset turnover) has a positive effect on financial distress Earnings benefits (return on assets) have a positive effect on financial distress. Cash flow from operating activities has a positive effect on financial distress.
Rahmadona Amelia Fitri, Syamwil (2020)	The Effect of Liquidity, Activity, Profitability and Leverage on Financial Distress	<ol style="list-style-type: none"> Liquidity ratio (current ratio) has no significant and positive effect on financial distress. Activity ratio (total asset turnover) has a significant and negative effect on financial distress. Profitability ratio (return on equity) has a significant and negative effect on financial distress. Leverage ratio (debt to equity ratio) has a significant and positive effect on financial distress.
Ayu Widuri Sucipto and Muazaroh (2017)	Financial Ratio Performance to Predict Financial Distress Conditions in Service Companies on the Indonesia Stock Exchange 2009-2014	<ol style="list-style-type: none"> Profitability ratio (return on assets) has a significant effect with a negative direction on financial distress. Debt to equity ratio, current ratio, and total asset turnover do not have a significant effect on financial distress.
Mohd Norfian Alifiah (2014)	Predicting Financial Distress Companies in the Trading and Services Sector in Malaysia Using Macroeconomic Variables	Financial ratios that can be used to predict financial distress include debt ratio, total asset turnover, working capital ratio, net income to total asset ratio, and base lending rate.

4.1. Financial Statements

According to Djumali and Hartono (2020), financial statements are defined as records related to financial information from a company that demonstrates the company's performance over a specific period and constitute part of the financial reporting process, serving as an important component for parties in need. Financial reporting provides useful information for investors, creditors, and other users in making investment, credit, and similar decisions rationally. This information must be comprehensive for those who have rational understanding of business and economic activities and possess the willingness to study information rationally.

5. Methods

5.1. Research Approach

This study employs a quantitative descriptive research method, which involves obtaining and analyzing data in numerical form, from data collection through data interpretation to the presentation of results. This approach is appropriate for examining the relationship between financial ratios and financial distress using statistical analysis.

5.2. Population and Sample

The population of this study consists of financial statements of companies in the trading sector. The sample for this research is the financial statements of PT. Jamu Nyonya Meneer, a traditional herbal medicine company. The selection

of this company as the sample was based on its significance in the herbal medicine industry and the availability of comprehensive financial data.

5.3. Data Source

The data obtained in this study uses secondary data. According to Sugiyono (2019), secondary data is data obtained through documentation studies from books, journals, and information from the internet to support research, where the research data sources are obtained through company financial statement publications. This approach ensures the reliability and validity of the financial information used in the analysis.

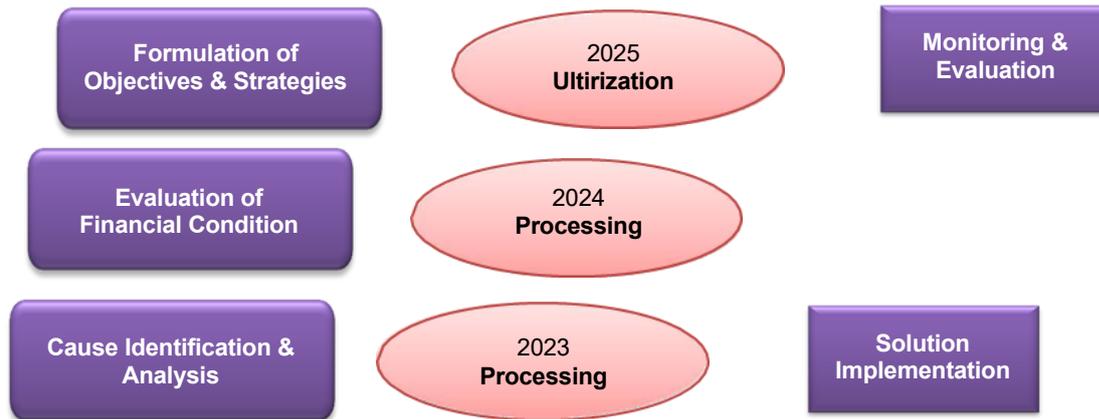


Figure 1. Road Map

5.4. Data Collection Technique

The data collection technique used in this study is literature study. Literature study research is conducted by studying and examining literature in the form of research journals, previous studies, reference books, information searches through electronic media (internet), and other sources related to the field being studied. The literature study conducted serves as supporting data for the bibliography to strengthen the research analysis.

5.5. Data Analysis Technique

The data analysis techniques employed include Multiple Regression Analysis, hypothesis testing, and Correlation and Determination Coefficients. These statistical methods allow for comprehensive examination of the relationships between independent variables (liquidity, leverage, and profitability) and the dependent variable (financial distress).

6. Result and Discussions

6.1. Result

6.1.1. Simple Regression Coefficients

Simple Linear Regression Analysis examines the linear relationship between one independent variable (X) and the dependent variable (Y). This analysis determines the direction of the relationship between variables. The regression output results are as follows:

Table 2. Simple Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	23.491	2.916			4.149
Liquidity	.457	.184	.354		2.753
Leverage	.482	.116	.330		2.891
Profitability	.372	.121	.342		4.165

The simple regression coefficient table show the regression equation obtained is $Y = 23.491 + 0.457X_1 + 0.482X_2 + 0.372X_3$. Based on the above equation, the constant value is 23.491. Mathematically, this constant value indicates that when liquidity, leverage, and profitability are 0, financial distress has a value of 23.491. Furthermore, the positive value of each variable in the regression coefficient of independent variables illustrates that the direction of the relationship between independent variables and the dependent variable is unidirectional, where every one-unit increase in the liquidity variable will cause an increase in financial distress of 0.457, leverage will cause an increase in financial distress of 0.482, and profitability will cause an increase in financial distress of 0.372.

6.1.2. Simultaneous Test Results (F-test)

The F-test is used to determine the effect of independent variables on the dependent variable simultaneously. The F-test aims to determine the effect of liquidity (X_1), leverage (X_2), and profitability (X_3) variables on financial distress (Y). The output results are as follows:

Table 3. Simultaneous Test (F-test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	131.898	1	246.949	15.075	.002 ^a
Residual	417.912	29	23.883		
Total	251.875	18			

The significance test table above is used to determine the level of significance or linearity of the regression. The criteria can be determined based on the significance value (Sig) test, with the provision that if the Sig value < 0.05 . Based on table, the Sig value = 0.02 is obtained, meaning Sig. $<$ the significant criteria (0.05). Thus, the regression equation model based on research data is significant, or the regression equation model meets the criteria.

6.1.3. Partial Test Results (t-test)

The t-test results indicate that each independent variable has a significant effect on the dependent variable. Based on the coefficients table presented earlier, all variables show significance values below 0.05. Specifically, Liquidity (X_1) has a t-value of 2.753 with a significance value of 0.000, Leverage (X_2) has a t-value of 2.891 with a significance value of 0.001, and Profitability (X_3) has a t-value of 4.165 with a significance value of 0.000. Since all significance values are less than 0.05, these results confirm that each independent variable significantly influences the dependent variable. Therefore, it can be concluded that there is a significant effect of Liquidity, Leverage, and Profitability on Financial Distress at PT. Jamu Nyonya Meneer.

6.1.4. Coefficient of Determination (R^2)

Table 4. Coefficient of Determination

Model	R	R ²	Adjusted	Std. Error of the Estimate
1	.615 ^a	.128	.356	13.302

From the calculation results above, it can be concluded that there is an influence of variable X on Y of 61.5%, while the remaining 38.5% is influenced by other factors. This indicates that liquidity, leverage, and profitability together explain 61.5% of the variance in financial distress at PT. Jamu Nyonya Meneer, while other factors not included in this study account for the remaining 38.5% of the variance.

6.2. Discussion

The findings of this study reveal important insights about the relationship between financial ratios and financial distress at PT. Jamu Nyonya Meneer. The results demonstrate that liquidity, leverage, and profitability collectively explain 61.5% of the variation in financial distress, suggesting these three financial indicators are crucial determinants of the company's financial health.

6.2.1. Liquidity and Financial Distress

The positive relationship between liquidity and financial distress appears counterintuitive at first glance, as higher liquidity typically indicates better financial health. This finding differs from Sari et al. (2021) who found that current ratio has a negative and significant effect on financial distress, but aligns with Fitri & Syamwil (2020) who reported that liquidity ratio has no significant effect on financial distress. However, this finding can be explained through the

context of PT. Jamu Nyonya Meneer's operational characteristics, considering that as noted by Savery et al. (2024), understanding financial performance helps determine whether a company is financially healthy or experiencing distress. When a company maintains excessive liquid assets, it may indicate inefficient asset utilization or management's lack of confidence in profitable investment opportunities. This excessive liquidity could signal underlying operational problems or market difficulties that management anticipates, leading to a defensive cash position that paradoxically increases financial distress risk.

Furthermore, in the herbal medicine industry where PT. Jamu Nyonya Meneer operates, maintaining high liquidity might reflect challenges in inventory turnover or difficulties in expanding market reach. The company's international expansion to multiple countries including Taiwan, Malaysia, and Australia requires significant working capital, and excessive liquidity might indicate problems in executing these expansion plans effectively. Consistent with prior findings, Sagita and Nugraha (2022) highlighted that both liquidity and profitability serve as strong predictors of financial distress in Indonesian manufacturing firms, reinforcing the results of this study.

6.2.2. *Leverage Impact on Financial Distress*

The positive effect of leverage on financial distress aligns with financial theory and confirms findings from previous research by Sari et al. (2021) and Fitri & Syamwil (2020). This finding is consistent with the theoretical framework established by Dirman (2020) who described financial distress as a continuous decline in financial performance. Higher leverage increases financial risk by creating fixed financial obligations that must be met regardless of the company's operating performance, as noted by Trisanti (2020) who emphasized that financial distress can substantially affect operational continuity. For PT. Jamu Nyonya Meneer, increased debt levels create pressure on cash flows, particularly given the competitive nature of the herbal medicine market and the substantial investments required for international expansion. Das (2022) found that leverage significantly increased the likelihood of financial distress, while higher liquidity and profitability reduced distress risks in the textile industry of Bangladesh. This supports the evidence from PT. Jamu Nyonya Meneer.

The debt-to-equity ratio's significant positive effect suggests that as the company takes on more debt relative to its equity base, the probability of financial distress increases substantially. This finding is particularly relevant for manufacturing companies like PT. Jamu Nyonya Meneer, which require continuous capital investment in production facilities, research and development, and market expansion activities.

6.2.3. *Profitability Paradox*

The positive relationship between profitability and financial distress presents an unexpected finding that contradicts conventional wisdom and differs from previous studies by Sitompul et al. (2025) who found that higher profitability leads to lower financial distress. This finding also contrasts with Sucipto and Muazaroh (2017) who demonstrated that ROA has a significant negative effect on financial distress. Typically, higher profitability should reduce financial distress risk as suggested by Cahyani et al. (2024) who noted that profitability reflects management effectiveness. However, this counterintuitive result may be explained by several factors specific to PT. Jamu Nyonya Meneer's situation.

First, the company's profitability might be achieved through unsustainable practices such as excessive cost-cutting that compromises long-term competitiveness, or through accounting manipulations that inflate reported earnings without improving actual cash flows. Second, in the herbal medicine industry, higher profitability might require increased investment in marketing, research, and international expansion, which can strain cash flows and increase financial risk in the short term. Dirman (2020) emphasized that profitability, liquidity, and leverage, together with firm size and free cash flow, play a decisive role in shaping financial distress outcomes, underscoring the multifactorial nature of financial health. Additionally, the company's focus on international markets may create a situation where higher profitability is accompanied by increased operational complexity and financial risk. Managing operations across multiple countries with different regulatory requirements, currency exposures, and market conditions can create hidden financial vulnerabilities that increase distress risk despite higher reported profits.

6.2.4. *Implications for Financial Management*

The combined effect of these three variables suggests that PT. Jamu Nyonya Meneer faces a complex financial management challenge. The company must balance liquidity management to avoid both excessive cash holdings and insufficient working capital. Leverage management becomes critical to maintain growth financing while avoiding excessive financial risk. Most importantly, profitability strategies must be evaluated not just for their impact on earnings, but also for their effect on overall financial stability.

The regression equation indicates that leverage has the strongest impact on financial distress (coefficient = 0.482), followed by liquidity and profitability. This suggests that debt management should be the primary focus for reducing financial distress risk, followed by optimizing liquidity management and ensuring that profitability strategies align with long-term financial stability objectives.

6.2.5. Study Limitations and Future Research

The unexplained variation in financial distress suggests that other factors not included in this study significantly influence the company's financial health. These may include macroeconomic conditions, industry-specific factors, management quality, or operational efficiency measures. Future research should consider incorporating these additional variables to provide a more comprehensive understanding of financial distress predictors in the herbal medicine industry.

The findings also highlight the importance of industry-specific analysis, as the relationships between financial ratios and distress may vary significantly across different sectors. The herbal medicine industry's unique characteristics, including regulatory requirements, international market dynamics, and consumer behavior patterns, may create different risk profiles compared to other manufacturing industries. Similarly, Susanti and Samara (2021) revealed that profitability was the dominant factor in predicting financial distress among firms in the chemical sub-sector, aligning with this study's finding of profitability's significant role. In line with this, Tannia, Pratama, and Wibowo (2024) demonstrated that liquidity, activity, profitability, and leverage simultaneously influenced financial distress in infrastructure companies, highlighting industry-specific dynamics.

7. Conclusions

This study successfully demonstrates that liquidity, leverage, and profitability significantly influence financial distress at PT. Jamu Nyonya Meneer. The research findings reveal that all three financial ratios have positive relationships with financial distress, indicating that increases in these ratios are associated with higher levels of financial distress in the company. Both simultaneous and individual testing confirm the significant impact of these variables on the company's financial health.

The analysis shows that liquidity, leverage, and profitability collectively explain a substantial portion of the variation in financial distress, while the remaining variation is attributed to other factors not examined in this study. This finding suggests that while traditional financial ratios remain important predictors of financial distress, other operational, market, or external factors also play crucial roles in determining a company's financial stability.

The counterintuitive positive relationships between these financial ratios and financial distress highlight the complexity of financial management in the herbal medicine industry. These findings suggest that conventional interpretations of financial ratios may not always apply universally across different industries and business contexts. For PT. Jamu Nyonya Meneer and similar companies in the traditional medicine sector, financial managers must adopt more nuanced approaches to financial analysis that consider industry-specific dynamics and operational characteristics.

The study contributes valuable insights for practitioners and researchers in understanding financial distress prediction, particularly in specialized industries. The results emphasize the importance of comprehensive financial analysis that goes beyond traditional ratio interpretation and considers the unique operational context of each business sector.

References

- Agfianto, I., Hartono, S., & Djumali, D. (2019). Pengaruh budaya organisasi, kedisiplinan, dan motivasi terhadap kinerja pegawai Rumah Sakit Umum Daerah (RSUD) Dr. Soediran Mangun Sumarso Wonogiri. *Jurnal Ilmiah Edunomika*, 3(1), 220–224.
- Alifiah, M. N. (2014). Prediction of financial distress companies in the trading and services sector in Malaysia using macroeconomic variables. *International Conference on Innovation, Management and Technology Research*, 129, 90–98.
- Anggraeni, N. A. A., & Primasari, N. S. (2024). Analysis of liquidity, leverage, and profitability ratios on financial distress. Dalam *Proceeding Accounting, Management, Economics Uniska*, 1(1), 118–125.

- Annisa, E. A. L., & Nurfitriani. (2021). Analisis pencatatan dan penilaian persediaan barang dagang berdasarkan PSAK No. 14 pada PT. United Dico Citas Samarinda. *Jurnal Ekonomia*, 14, 1–9.
- Cahyani, F. I., Santoso, S. B., Hariyanto, E., & Setyadi, E. J. (2024). The effect of liquidity and leverage on financial performance with company size as a moderating variable: A study on companies listed in Jakarta Islamic Index 30. *Journal of Islamic Economics Lariba*, 10(1), 23–44. <https://doi.org/10.20885/jielariba.vol10.iss1.art2>
- Das, D. C. (2022). Assessing financial distress and its association with leverage, liquidity, and profitability: Evidence from the textile industry of Bangladesh (2011–2021). *International Journal of Research and Review*, 9(11), 123–132. <https://doi.org/10.52403/ijrr.20221116>
- Dirman, A. (2020). Financial distress: The impacts of profitability, liquidity, leverage, firm size, and free cash flow. *International Journal of Business, Economics and Law*, 22(1)
- Fatmawati, A. (2017). Faktor-faktor yang mempengaruhi financial distress (Studi pada perusahaan manufaktur di BEI). *Jurnal Ilmu dan Riset Akuntansi*, 6(10).
- Fitri, R. A., & Syamwil. (2020). Pengaruh likuiditas, aktivitas, profitabilitas dan leverage terhadap financial distress (Studi kasus pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia periode 2014–2018). *Jurnal EcoGen*, 3(1), 134–143.
- Jayathilaka, A. (2020). Operating profit and net profit: Measurements of profitability. *OALib*, 7, 1–11. <https://doi.org/10.4236/oalib.1107011>
- Panchenko, O., Balaziuk, O., Portovaras, T., Andrieieva, V., & Kotkovskyy, V. (2024). Analysis of financial statements as a business management tool. *AD ALTA: Journal of Interdisciplinary Research*, 14, 157–161. <https://doi.org/10.33543/140139157161>
- Sagita, B., & Nugraha, N. (2022). Liquidity and profitability as predictors of financial distress: Evidence from manufacturing firms listed on the Indonesia Stock Exchange. *Advances in Economics, Business and Management Research*, 220, 45–52. <https://doi.org/10.2991/aebmr.k.220304>
- Savery, Y., Haninun, H., & Riswan, R. (2024). Financial performance to determine financial distress conditions. *Marginal: Journal of Management, Accounting, General Finance and International Economic Issues*, 3(2), 598–611. <https://doi.org/10.55047/marginal.v3i2.1077>
- Setyaningsih, S., & Indriastuti, I. (2021). Pengaruh rasio keuangan terhadap financial distress pada perusahaan telekomunikasi. *Jurnal Ekonomi Universitas Slamet Riyadi*, 21(1).
- Sitompul, T., Lim, J., & Wong, J. J. (2025). The effect of profitability towards financial distress. *AKUA: Jurnal Akuntansi dan Keuangan*, 4(2), 171–180. <https://doi.org/10.54259/akua.v4i2.4287>
- Sucipto, A. W., & Muazaroh. (2016). Kinerja rasio keuangan untuk memprediksi kondisi financial distress pada perusahaan jasa di Bursa Efek Indonesia periode 2009–2014. *Journal of Business and Banking*, 6(1), 81–98. <https://doi.org/10.14414/jbb.v6i1.627>
- Sugiyono. (2019). *Metode penelitian kuantitatif, kualitatif dan R&D*. Bandung: Alfabeta.
- Susanti, M., & Samara, A. (2021). Profitability, leverage, liquidity, and activity in predicting financial distress: Evidence from the Indonesian chemical sub-sector industry. *Journal of Business and Banking*, 11(2), 89–102. <https://doi.org/10.14414/jbb.v11i2.627>
- Tannia, J., Pratama, A., & Wibowo, R. (2024). The effect of liquidity, activity, profitability, and leverage on financial distress in infrastructure companies listed on the Indonesia Stock Exchange (2019–2022). *International Journal of Science and Society*, 6(2), 145–160. <https://doi.org/10.54783/ijsoc.v6i2.2159>
- Trisanti, T. (2020). Analysis of factors that lead to financial distress for property and real estate companies in Indonesia. *INOBIS: Jurnal Inovasi Bisnis dan Manajemen Indonesia*, 3(3).