

## The Effect of Operating Cash Flow, Liquidity, and Leverage on Financial Distress in Manufacturing Companies

Marcia Audrey Baskoro<sup>1</sup>, Yovita Ariani<sup>2</sup>

<sup>1</sup>Accounting, Pradita University, marcia.audrey@student.pradita.ac.id

<sup>2</sup> Accounting, Pradita University, yovita.ariani@pradita.ac.id

---

### Article Info

---

---

### Abstract

---

---

#### Keywords:

*operating cash flow, liquidity, leverage, financial distress*

*This study aims to obtain empirical evidence and analyze the partial and simultaneous effects of operating cash flow, liquidity proxied by the current ratio, and leverage proxied by the debt to asset ratio on financial distress. The population consists of manufacturing companies in the Basic Materials, Consumer Cyclical, and Consumer Non-Cyclicals sectors listed on the Indonesia Stock Exchange in 2024. The sample was selected using purposive sampling and comprised thirty one companies. Multiple regression analysis was employed using EViews thirteen. The results show that operating cash flow, liquidity, and leverage simultaneously affect financial distress. Partially, operating cash flow and liquidity have positive effects on financial distress, whereas leverage has a negative effect on financial distress during the observed research period.*

---

## INTRODUCTION

The economic competition in Indonesia has become more dynamic due to technological advances and increasing consumer demands, creating a more challenging business environment. Companies must offer innovative products to attract investors and stay competitive. To survive, they need to maintain stable operations and maximize their revenue [1]. When companies fail to compete, they must reduce operational costs to maintain business continuity [2]. If they are unable to adapt, the results can include employee layoffs, declining cash flow, business closure, and eventually financial difficulties.

During the 2021–2023 period, several manufacturing companies experienced a decline in profitability. Previously, these companies were grouped under the Jakarta Stock Industrial Classification (JASICA), but starting in 2021, this system was replaced by the Indonesia Stock Exchange Industrial

Classification (IDX-IC), which divides manufacturing into three subsectors: consumer cyclicals, consumer non-cyclicals, and basic materials. This change aims to improve transparency for investors. According to Anggela [3], based on an interview with Indah Anggoro Putri, Director General for Industrial Relations and Social Security, layoffs in the manufacturing sector have increased because many companies are unable to remain competitive.

Financial distress refers to a condition where a company cannot meet its financial obligations [4]. Companies often respond by reducing costs, including layoffs. Signs of financial distress can be identified through declining financial performance or repeated losses, which can be analyzed using the Z-Score model [5]. In 2024, Indonesia recorded 77,965 layoffs, with the highest number in Jakarta. These figures show the financial pressure faced by companies, especially in the manufacturing sector [6].

Financial distress is closely connected to Signalling Theory, which explains how companies send information to investors [7]. If financial distress is not handled properly, it may serve as an early warning of potential bankruptcy. According to Platt & Platt [8], financial distress occurs when a company's cash flow is not enough to cover its financial obligations. Imbalance between income and expenses reflects weak financial performance [9]. Several factors may influence financial distress, including operating cash flow, liquidity, and leverage.

Operating cash flow shows a company's ability to generate cash from its normal business activities [10]. Some studies, such as Setyawan & Aryati [11] and Wijaya & Suhendah [12], state that higher operating cash flow reduces financial distress. However, other studies Ismiyati et al. [5] and Nabil et al. [13] found no significant effect, as companies may use other financing sources such as capital injections.

Liquidity, often measured using the Current Ratio (CR), reflects a company's ability to meet short-term liabilities [14]. Studies by Syuhada et al. [15] and Wulandari & Jaeni [16] found that liquidity influences financial distress, while others Afgani et al. [17] and Putri & Kautsar [18] argue it has no significant effect, because companies may use other resources to pay their obligations.

Leverage shows how well a company can meet its obligations using its assets [18]. Higher leverage means more debt, which increases the risk of financial distress [16], [19]. On the other hand, some studies Sariroh [20] and

Mutmainnah & Huda [21] found no significant effect of leverage on financial distress, suggesting companies may rely on internal resources to meet debt payments.

**METHODS**

This study uses a quantitative causal approach to analyze how operating cash flow, liquidity, and leverage affect financial distress [22]. The population consists of manufacturing companies listed on the Indonesia Stock Exchange in 2024, including those in the consumer cyclicals, consumer noncyclicals, and basic materials sectors. Purposive sampling was used to select companies that published complete financial statements, did not go through IPO, suspension, or delisting, and recorded negative net income for three consecutive years (2022–2024). The study uses secondary data taken from financial statements, annual reports, and the IDX database. Liquidity is measured with the Current Ratio (CR), leverage with the Debt to Asset Ratio (DAR), and financial distress with the Altman Z-Score. Multiple linear regression is applied to test the relationships, after conducting classical assumption tests such as normality, multicollinearity, heteroscedasticity, and autocorrelation. Data were analyzed using E-Views 13, and all information used in this research is publicly available.

**Table 1. Measurement of the variables**

Variable	Measurement	Scale
Financial Distress (Y)	$Z\text{-Score} = 1.2 X_1 + 1.4 X_2 + 3.3X_3 + 0.6X_4 + 1X_5$ Description: $X_1 = \text{Working capital} / \text{Total assets}$ $X_2 = \text{Retained earning} / \text{Total assets}$ $X_3 = \text{Earning before interest and taxes} / \text{Total assets}$ $X_4 = \text{Market value of equity} / \text{Book value of total liabilities}$ $X_5 = \text{Sales} / \text{Total assets}$ $Z = \text{Overall Index}$ $WC = \text{Current assets} - \text{Current liabilities}$ $\text{Market Value of Equity} = \text{Market price per share} \times \text{Total outstanding shares}$ Indicator: a. $Z\text{-score} \geq 2,99$ , indicates non financial distress b. $Z\text{-score } 1.81 < Z < 2.99$ , indicates a grey area c. $Z\text{-score} \leq 1,81$ , indicates non financial distress  Source: Altman [23]; Setyawan & Aryati [11]	Ratio
Operating Cash Flow (X <sub>1</sub> )	$\text{Operating Cash Flow} = \text{Cash Flow Operating} / \text{Total Asset}$  Source: Setyawan & Aryati [11]	Ratio
Liquidity (X <sub>2</sub> )	$\text{Current Ratio} = \text{Current Asset} / \text{Current Liability}$  Source: Adzroo & Suryaningrum [14]; Kieso et al. [24]	Ratio

Leverage ( $X_3$ )	$Debt\ to\ Asset\ Ratio = Total\ Liability / Total\ Assets$ Source: Adzroo & Suryaningrum [14]; Kieso et al. [24]	Ratio
--------------------	--	-------

## RESULTS AND DISCUSSION

The research focuses on manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2024. The following table presents the details of the research sample selection:

**Table 2. Details of Research Sample Selection**

No	Sample Criteria	Total
1	Companies in the Basic Materials, Consumer Cyclical, and Consumer Non-Cyclical sectors listed on the Indonesia Stock Exchange (IDX) in 2024	375
2	Companies that did not publish financial statements and annual reports, or experienced IPO, suspension, or delisting during 2022–2024	(80)
3	Companies with positive net income consecutively during 2022–2024	(251)
Total Sampled Companies		44
Number of Outliers		(13)
<b>Total Sample Observations for 2022–2024 (3 Years)</b>		<b>93</b>

The final sample used in this study was reduced to 31 companies during the observation period 2022–2024, resulting in a total of 93 observations.

**Table 3. Descriptive Statistics**

	FD	OPC	LIQ	LEV
Mean	0.0723	0.0245	3.7319	0.7643
Median	0.2816	0.0163	0.9080	0.7033
Maximum	3.0571	0.2268	163.1571	4.7560
Minimum	-7.6107	-0.2367	0.0745	0.1467
Std. Dev.	1.6999	0.0732	18.7809	0.6849
Observations	93	93	93	93

Source: Data Processed Using Eviews 13 (2025)

Based on Table 3, there are 93 observations from 31 companies. The financial distress variable (Y), measured by the Z-Score, has a mean of 0.0723 and a standard deviation of 1.6999, indicating high data variation ([25]). The operating cash flow variable (X1) has a mean of 0.0245 and a standard deviation of 0.0732, also showing high variation. The liquidity variable (X2), measured by the current ratio (CR), has a mean of 3.7319 and a standard deviation of 18.7809, which shows very wide data dispersion. Meanwhile, the leverage variable (X3), measured by the debt to asset ratio (DAR), has a mean of 0.7643 and a standard

deviation of 0.6849, indicating lower variation compared to the other variables.

**Table 4. Estimation Model Test**

Test	Probability	Decision
Chow	0.0000 < 0.05	FE MODEL
Hausman	0.0968 > 0.05	RE MODEL
Lagrange Multiplier	0.0000 < 0.05	RE MODEL
<b>Result</b>		<b>RE MODEL</b>

Source: Data Processed Using Eviews 13 (2025)

Based on table 4 the model estimation results, it can be concluded that the most appropriate regression model for this study is the RE Model.

**Table 5. Classical Assumption Test**

Test	Probability	Decision
Normality	0.567221 < 0.05	Passed
Multicollinearity	-0.1446; 0.7572; -0.2636 > 0.90	Passed
Autocorrelation	1.5031 < dU (1.7295)	Not Passed
Heteroscedasticity	0.6487 < 0.05	Passed

Source: Data Processed Using Eviews 13 (2025)

Based on the classical assumption tests in Table 5, the normality test shows a probability value of 0.567221, which is higher than 0.05, indicating that the residuals are normally distributed. The multicollinearity test also shows that the correlation values between the independent variables (-0.1446; 0.7572; -0.2636) are below the 0.90 limit, meaning that multicollinearity is not a problem in this model. The heteroscedasticity test reports a probability value of 0.6487, suggesting that the residuals have constant variance. Although the Durbin-Watson statistic (1.5031) is lower than the upper critical value (dU), which indicates the possibility of positive autocorrelation. Algifari [26] explains that autocorrelation testing is not required for micro panel data, which have many cross-sectional units (large N) and only a few time periods (small T). Therefore, based on this explanation, autocorrelation is not considered an issue in this study and is ignored.

**Table 6. Coefficient of Determination (R<sup>2</sup>) Test**

	Weighted Statistics		
R-squared	0.5747	Mean dependent var	0.0238
Adjusted R-squared	0.5604	S.D. dependent var	0.8282
S.E. of regression	0.5491	Sum squared resid	26.836
F-statistic	40.086	Durbin-Watson stat	1.5031
Prob(F-statistic)	0.0000		

Source: Data Processed Using Eviews 13 (2025)

Based on Table 6, the adjusted coefficient of determination (R<sup>2</sup>) is 0.5604, or 56.04%. This indicates that operating cash flow (X1), liquidity (X2)

represented by the Current Ratio (CR), and leverage (X3) represented by the Debt to Asset Ratio (DAR) collectively explain 56.04% of the variation in financial distress (Y). The remaining 43.96% is influenced by other variables that were not included in this research model.

**Table 7. Hypothesis Test**

Variable	Coefficient	Prob.
C	1.8041	0.0000
OPC	2.8180	0.0314
LIQ	0.0113	0.0402
LEV	-2.4115	0.0000
Prob(F-statistic)		0.0000

Source: Data Processed Using Eviews 13 (2025)

Based on the statistical results presented in Table 7, the regression coefficient and probability t-statistic values indicate the significance of each variable. The operating cash flow variable (X1) has a regression coefficient of 2.8180 and a probability value of 0.0314, which is lower than the significance level ( $\alpha = 0.05$ ). This shows that operating cash flow (X1) has a positive and significant effect on financial distress (Y). This finding is consistent with Oktasari et al. [27], who state that higher cash flow increases the Z-Score and reduces the likelihood of financial distress.

The liquidity variable (X2), measured by the Current Ratio (CR), has a regression coefficient of 0.0113 and a probability value of 0.0402, which is also below the 0.05 threshold. This indicates that liquidity has a positive and significant effect on financial distress. The result suggests that liquidity moves in the same direction as the Z-Score: an increase in liquidity improves the Z-Score and lowers financial distress, while a decrease worsens the company's ability to meet short-term obligations. This aligns with Afriyani and Nurhayati [19], who argue that inadequate management of current assets, such as inventory or receivables, increases financial distress risk.

The leverage variable (X3), measured by the Debt to Asset Ratio (DAR), has a regression coefficient of  $-2.4115$  with a probability value of 0.0000, indicating a negative and significant impact on financial distress (Y). This is in line with Syuhada et al. [15] and Wijaya and Suhendah [12], who explain that higher leverage reduces the Z-Score, increases debt burden, and heightens the

likelihood of financial distress.

Furthermore, the Probability F-Statistic value of 0.00000, which is lower than the 0.05 significance level, indicates that all independent variables collectively influence financial distress. Thus, the research model is considered fit and appropriate for explaining the dependent variable.

## CONCLUSION

The findings of this study show that operating cash flow has a positive and significant effect on financial distress, liquidity measured by the current ratio also has a positive and significant effect, and leverage measured by the debt-to-asset ratio has a negative and significant effect on financial distress in manufacturing companies during 2022–2024. Together, these variables influence financial distress, and the model is considered fit because the independent variables provide sufficient explanatory power for the dependent variable.

This study has several limitations, including an adjusted  $R^2$  of 0.5604, indicating that 43.96% of the variation in financial distress is explained by factors not included in the model. The dataset also required outlier treatment, and the autocorrelation test was omitted due to the use of micro panel data. Future research is recommended to include additional variables and consider examining other sectors to obtain broader and more comprehensive results.

## REFERENCES

- [1] E. D. Meisyta, A. A. Yusuf, and L. D. Martika, “Pengaruh Profitabilitas, Struktur Aktiva dan Ukuran Perusahaan Terhadap Struktur Modal,” *Jurnal Riset Keuangan dan Akuntansi*, vol. 7, no. 1, Jun. 2021, doi: 10.25134/jrka.v7i1.4450.
- [2] D. R. O. Putri, W. I. Mursalini, and R. Nasrah, “Analisis Prediksi Kebangkrutan Menggunakan Model Springate (S-Score) Pada Perusahaan Sub Sektor Ritel Di Bursa Efek Indonesia 2016-2020,” *GEMILANG: Jurnal Manajemen dan Akuntansi*, vol. 3, no. 1, pp. 1–20, Dec. 2022, doi: 10.56910/gemilang.v3i1.297.
- [3] N. L. Anggela, “Capai 45 ribu, Kemnaker jelaskan beberapa faktor penyebab PHK,” *Bisnis.com*, Apr. 2025, Accessed: May 01, 2025. [Online]. Available: <https://ekonomi.bisnis.com/read/20250410/12/1868113/duh-korban-phk-naik-5-kali-lipat-mayoritas-dari-sektor-manufaktur>
- [4] E. A. Lau, “Financial Distress dan Faktor-Faktor Prediksinya,” *Exchall: Economic Challenge*, vol. 3, no. 2, pp. 1–17, Aug. 2021, doi: 10.47685/exchall.v3i2.202.
- [5] Ismiyati, A. R. Tantra, and B. A. Indarto, “Pengaruh Corporate Governance, Financial Ratio dan Cash Flow Terhadap Financial Distress

- Studi Empiris pada Perusahaan Transportasi yang Terdaftar di BEI Tahun 2020-2022,” *Jurnal Ekonomi, Manajemen dan Akuntansi (JEMA)*, vol. 5, no. 1, pp. 21–32, Jan. 2024.
- [6] N. Safitri, F. Amalia, and M. Wahyudi, “Analisis Biaya Dan Implikasi Etis Dalam Keputusan Pengurangan Tenaga Kerja Pada PT. AirAsia Indonesia Tbk Tahun 2020,” *Jurnal Manajemen Akuntansi (JUMSI)*, vol. 4, no. 4, pp. 853–859, Oct. 2024, doi: 10.36987/jumsi.v4i4.6751.
- [7] M. Spence, “Job Market Signaling,” *Q J Econ*, vol. 87, no. 3, p. 355, Aug. 1973, doi: 10.2307/1882010.
- [8] H. D. Platt and M. B. Platt, “Predicting corporate financial distress: Reflections on choice-based sample bias,” *Journal of Economics and Finance*, vol. 26, no. 2, pp. 184–199, Jun. 2002, doi: 10.1007/BF02755985.
- [9] E. F. Brigham and J. F. Houston, *Fundamentals of Financial Management*, Fifteenth edition. Cengage Learning, 2019.
- [10] H. A. Bayz, D. J. Ali, and H. A. Hamad, “The role of the cash flow statement to provide accounting information for the financial decision-making process,” *Qalaai Zanist Scientific Journal*, vol. 6, no. 2, Jun. 2021, doi: 10.25212/lfu.qzj.6.2.30.
- [11] N. K. Setyawan and T. Aryati, “Pengaruh Corporate Governance, Cash Flow, dan Biaya Agensi Manajerial Terhadap Financial Distress,” *Jurnal Ekonomi Trisakti*, vol. 3, no. 2, pp. 2693–2702, Aug. 2023, doi: 10.25105/jet.v3i2.17692.
- [12] J. Wijaya and R. Suhendah, “Pengaruh Likuiditas, Leverage, Dan Arus Kas Terhadap Financial Distress,” *Jurnal Ekonomi*, vol. 28, no. 2, pp. 177–196, Jul. 2023, doi: 10.24912/je.v28i2.1468.
- [13] St. N. Q. Z. Nabil S, Sahade, and H. Idris, “Pengaruh Rasio Arus Kas Operasi, Profitabilitas dan Leverage Terhadap Financial Distress pada Perusahaan Sub Sektor Logistik dan Pengantaran yang Terdaftar di Bursa Efek Indonesia,” *Future Academia : The Journal of Multidisciplinary Research on Scientific and Advanced*, vol. 2, no. 4, pp. 502–513, Aug. 2024, doi: 10.61579/future.v2i4.183.
- [14] N. U. Adzroo and D. H. Suryaningrum, “Pengaruh Leverage, Likuiditas, Profitabilitas, Sales Growth, Good Corporate Governance Dan Corporate Social Responsibility Terhadap Financial Distress Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode 2015-2019,” *Jurnal Wahana Akuntansi*, vol. 18, no. 1, pp. 128–150, Jul. 2023, doi: 10.21009/10.21009/wahana.18.018.
- [15] P. Syuhada, I. Muda, and Rujiman, “Pengaruh Kinerja Keuangan dan Ukuran Perusahaan Terhadap Financial Distress pada Perusahaan Property dan Real Estate di Bursa Efek Indonesi,” *Jurnal Riset Akuntansi dan Keuangan*, vol. 8, no. 2, pp. 319–336, 2020.
- [16] E. W. Wulandari and J. Jaeni, “Faktor-Faktor Yang Mempengaruhi Financial Distress,” *Jurnal Ilmiah Universitas Batanghari Jambi*, vol. 21, no. 2, p. 734, Jul. 2021, doi: 10.33087/jiubj.v21i2.1495.
- [17] K. F. Afgani, A. K. Rivanda, R. Purbayati, and M. M. Marzuki, “The Effect of Liquidity, Leverage, Operating Capacity, Profitability, and Sales Growth as Predictors of Financial Distress : (Property, Real Estate, and Construction Services Companies Listed on the IDX),” *Journal Integration of Management Studies*, vol. 1, no. 1, pp. 13–21, Jul. 2023, doi: 10.58229/jims.v1i1.15.

- [18] M. Putri and A. Kautsar, "Pengaruh kepemilikan institusional, kepemilikan manajerial, CEO duality, profitabilitas, likuiditas, leverage, sales growth, dan ukuran perusahaan terhadap financial distress pada perusahaan sektor agrikulturyang terdaftar di Bursa Efek Indonesia periode 2017-2021," *Jurnal Ilmu Manajemen*, vol. 11, no. 1, pp. 170–186, Mar. 2023, doi: 10.26740/jim.v11n1.p170-186.
- [19] F. Afriyani and Nurhayati, "Pengaruh Rasio Likuiditas, Leverage, Aktivitas dan Profitabilitas terhadap Financial Distress pada Perusahaan F&B," *Jurnal Riset Akuntansi*, vol. 3, no. 1, pp. 23–30, Jul. 2023, doi: 10.29313/jra.v3i1.1766.
- [20] H. Sariroh, "Pengaruh Likuiditas, Leverage, Profitabilitas, dan Ukuran Perusahaan terhadap Financial Distress di Sektor Trade, Service, and Invesment," *Jurnal Ilmu Manajemen*, vol. 9, no. 3, pp. 1227–1240, 2021.
- [21] M. Mutmainnah and N. Huda, "Pengaruh Rasio Likuiditas, Leverage, Operating Capacity, dan Sales Growth Terhadap Financial Distress pada PT Krakatau Steel (Persero) Tbk," *Jurnal Manajemen dan Penelitian Akuntansi*, vol. 15, no. 1, pp. 20–28, Jun. 2022, doi: 10.58431/jumpa.v15i1.191.
- [22] Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta, 2023.
- [23] E. I. Altman, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," *J Finance*, vol. 23, no. 4, pp. 589–609, Sep. 1968, doi: 10.2307/2978933.
- [24] D. E. Kieso, P. D. Kimmel, and J. J. Weygand, *Financial Accounting with International Financial Reporting Standards*, Fourth Edition. John Wiley & Sons, 2019.
- [25] I. Ghozali, *Aplikasi Analisis Multivariate dengan Program IBM SPSS 26*, 10th ed. Semarang: Badan Penerbit Universitas Diponegoro, 2021.
- [26] Algifari, *Pengolahan Data Panel untuk Penelitian Bisnis dan Ekonomi dengan Eviews 11*, Pertama. Yogyakarta: UPP STIM YKPN, 2021.
- [27] E. Oktasari, R. Widyastuti, and Z. Astri, "Pengaruh Laba Bersih dan Arus Kas Terhadap Financial Distress," *Journal of Social Research*, vol. 1, no. 7, pp. 717–728, Jul. 2022, doi: 10.55324/josr.v1i7.138.