

Predicting financial distress: The roles of liquidity, leverage, and sales growth in Indonesian Food and Beverage Companies

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Article Info:

Received: 2026-08-17
Revised: 2026-09-11
Accepted: 2026-10-08
Published: 2026-10-15

Abstract

This study examines the effects of liquidity and leverage on financial distress in Indonesian food and beverage companies and the moderating role of sales growth. The sample comprises 26 companies listed on the Indonesia Stock Exchange, yielding 104 observations. Data were analyzed using logistic regression and Moderated Regression Analysis (MRA). The results show that liquidity negatively affects financial distress, whereas leverage has a positive effect. Sales growth moderates both relationships, suggesting that companies with higher sales growth may be better positioned to meet their short-term and long-term obligations through increased revenues and financial resources. These findings highlight the importance of maintaining adequate liquidity and managing leverage effectively to mitigate financial distress. Sales growth may further strengthen companies' capacity to manage financial obligations and withstand financial pressure. This study contributes to the financial distress literature by examining sales growth as a moderating variable in the relationship between liquidity, leverage, and financial distress. The focus on Indonesia's food and beverage industry is relevant because its products are essential to society, making the financial sustainability of firms in this sector economically important. The inclusion of sales growth as a moderating factor provides an additional perspective on how internal financial conditions and business performance jointly influence financial distress risk.

Keywords:

Financial Distress; Financial Leverage;
Liquidity; Logistic Regression, Sales
Growth

ISSN (print): 2598-7763
ISSN (online): 2598-7771

Citation: Kartini., Yuniarti, S., Sunardi., Safriliana, R., & Sukanti, D. (2026). Predicting financial distress: The roles of liquidity, leverage, and sales growth in Indonesian Food and Beverage Companies. *AFRe (Accounting and Financial Review)*, 8(3), 137-147.

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JEL Classification: G02, G32, G34

DOI: <https://doi.org/10.26905/afr.v8i3.17880>

1. Introduction

The primary objective behind establishing a company is the generation of profits through its daily operations. The financial health of a company is determined by its capacity to fulfill its financial obligations promptly. Financial distress is a situation that arises when a company encounters difficulties in meeting these obligations, resulting in severe repercussions that can be highly detrimental. These consequences may encompass challenges in repaying debts, a shortage of essential funding for day-to-day operations, and an increased risk

of facing liquidation. As outlined by Platt & Platt (2002), financial distress signifies a period of financial adversity that occurs before a company enters bankruptcy or faces liquidation. According to Altman (1968) and Altman & Hotchkiss (2010), financial distress can be gauged by evaluating key financial ratios such as the debt-to-equity ratio, current ratio, and earnings before interest and taxes (EBIT) ratio. Company management relies on these ratios for periodic assessments of the financial well-being of the organization. When these ratios raise concerns, proactive measures, such as debt restructuring or enhancing operational efficiency, are taken to rectify

financial issues before they escalate to a level of financial distress that poses a threat to the company's viability.

One of the essential performance indicators for a company in avoiding the likelihood of financial distress is liquidity ratios. The higher a company's liquidity, the farther it is from the risk of financial distress (Cultrera & Brédart, 2016; Mselmi et al., 2017). A high level of liquidity ensures that current assets can cover current liabilities, reducing the potential for financial distress. Strong liquidity enables a company to easily settle short-term debts like bills, short-term loans, and trade payables. Poor liquidity, on the other hand, may lead to difficulties in paying these debts promptly, increasing the risk of financial distress (Ross et al., 2013). In cases of poor liquidity, companies might need to seek additional funding through loans, either from banks or the capital market. If a company relies too heavily on loans to maintain liquidity, the high interest costs can exacerbate financial distress.

However, research may be conducted within specific industries in Indonesia where liquidity may not be as relevant to the risk of financial distress. Some industries in Indonesia have characteristics that allow companies to operate with lower liquidity levels without experiencing significant financial distress risk, such as real estate companies (Saputri & Santoso, 2023), consumer goods companies (Sitorus et al., 2022), and insurance companies (Liahmad et al., 2021). The company's capital structure can play a crucial role in mitigating the risk of financial distress. Some companies may have a strong capital structure or external financial support that can compensate for liquidity shortages. In such situations, liquidity becomes less significant in influencing financial distress (Sugiarto & Mahanani, 2020).

In the context of companies in Indonesia, when faced with liquidity shortages, companies tend to resort to external sources of funding, such as debt, to cover their losses (Haron, 2016; Tan et al., 2021). The company's ability to pay off this debt is referred to as leverage, which is a ratio reflecting the company's debt level. High leverage levels indicate a greater risk or a higher likelihood of financial distress (Kalash, 2023). During economic downturns, companies with high leverage can be more vulnerable to changes in the business cycle. Declining revenues during tough economic periods can make it harder for highly leveraged companies to meet their debt obligations, increasing the risk of financial distress (Octavia & Arifin, 2021; Yusril et al., 2022).

In contrast to previous research, we are interested in adding sales growth as a moderating variable. Sales growth is expected to strengthen its impact on financial distress. Sales growth measures a company's revenue growth by calculating the difference in sales value over a period (Eliu, 2014; Opler & Titman, 1994). When considering the relationship between liquidity and leverage on financial distress, positive sales growth can reduce the risk of financial distress. Strong sales growth can provide a larger cash flow to the company, enhancing liquidity and the company's ability to meet both short-term and long-term financial obligations. With increased sales, companies have better resources to fund their operations. In today's competitive business environment, many companies provide credit sales terms that limit the amount of cash flow coming in and increase the potential risk of unpaid customer obligations according to the provided payment terms.

Financial distress, liquidity, leverage, and sales growth are crucial aspects when evaluating a company's financial stability. Exploring how sales growth moderates the relationship between financial distress and liquidity or leverage offers valuable insights into how changes in sales performance impact a company's ability to handle financial challenges and debt obligations. If sales growth can alleviate the negative effects of financial distress on liquidity or leverage, it suggests that companies with strong sales growth might have a buffer against potential financial distress. This understanding aids investors, lenders, and managers in assessing risks and devising strategies to address them effectively. Furthermore, this study enhances strategic decision-making processes. Companies can utilize the findings to refine their sales strategies, enhance liquidity management, and structure leverage in ways that leverage the potential moderating effect of sales growth.

In the Indonesian context, an emerging market with its unique economic, regulatory, and business environment, studying the influence of sales growth on financial distress, liquidity, and leverage provides insights into these dynamics within diverse market conditions. Given the growing significance of emerging markets in the global economy, this research is particularly relevant. Moreover, insights gained from studies conducted in Indonesia can inform policy decisions at both national and international levels. Indonesian policymakers can utilize these insights to design targeted policies that support

businesses in managing financial distress while promoting sales growth. Additionally, knowledge from the Indonesian context contributes to broader discussions on financial regulation and economic development in emerging markets worldwide.

This study aims to examine the influence of liquidity and leverage on financial distress by adding sales growth as a moderating variable. The study is conducted on food and beverage companies in Indonesia, which face a likelihood of financial distress due to the global economic downturn caused by the Covid-19 pandemic, including the situation in Indonesia (Prasetyo & Faturohman, 2023).

2. Literature Review and Hypotheses Development

Financial Distress

Financial distress refers to a situation in which a company or an individual experiences significant difficulty in meeting its financial obligations. This condition is often characterized by an inability to pay off debts, cover operational costs, or fulfill other financial commitments (Farooq et al, 2012; Wruck, 1990). Financial distress can manifest in various forms, including a decline in profitability, liquidity challenges, and an increased risk of insolvency or bankruptcy. Key indicators of financial distress may include a company's inability to make timely debt payments, a deteriorating credit rating, a decline in asset values, or challenges in generating sufficient cash flow to sustain operations. Financial distress can result from a combination of internal and external factors, such as economic downturns, poor management decisions, high levels of debt, and industry-specific challenges (Gupta & Mahakud, 2023; Sri, 2016). Addressing financial distress typically requires strategic financial management, restructuring, and, in some cases, seeking external assistance or intervention. It is a critical concept in finance and business management, as recognizing and managing financial distress early can be crucial for preventing more severe financial problems and ensuring the long-term viability of a company or individual.

Financial distress in manufacturing companies refers to a situation where a company in the manufacturing sector faces significant challenges in meeting its financial obligations. This condition can arise due to various factors inherent to the industry. Financial distress may occur in manufacturing companies which often experience conditions

including sensitive to changes in demand for their products. Economic downturns or fluctuations in market demand can lead to decreased sales, lower revenue, and financial distress (Gilchrist et al, 2017). High operational costs, including raw materials, labor, and energy, can impact profit margins. If a manufacturing company struggles to control these costs or faces sudden increases, it may face financial difficulties (Gupta & Mahakud, 2023; Tron, 2021).

Liquidity Ratio and Financial Distress

Liquidity and financial distress are interconnected aspects of a company's financial health. Liquidity refers to the availability of cash or easily convertible assets that a company can use to meet its short-term obligations. Liquidity is essential for a company to meet its short-term obligations, such as paying bills, covering operating expenses, and servicing short-term debts. If a company lacks sufficient liquidity, it may struggle to fulfill these obligations, leading to financial distress. The effect of liquidity on financial distress is significant. Study by Chiaramonte & Casu (2017) indicate that the liquidity holdings increase, the likelihood of failure and distress reduces. Zhang et al. (2020) discovered that increased liquidity does not effectively lower the default risk for companies. This is because smaller firms, facing financial constraints, have insufficient cash to prevent financial distress. On the other hand, larger companies with substantial cash reserves can better manage their default risk due to their financial flexibility. Pindado & Rodrigues (2005) suggests that there is a negative correlation between distress costs and liquid assets, indicating that the advantages of having liquid assets outweigh the associated opportunity costs. Based on several studies, the initial hypothesis is formulated as H_1 .

H_1 : Liquidity has a negative effect on financial distress.

Leverage and Financial Distress

Leverage, which refers to the use of debt to finance a company's operations and investments, can have a significant impact on financial distress. The effect of leverage on financial distress is complex and involves various factors. One of the most direct effects of leverage on financial distress is the obligation to service debt. Companies with high levels of debt must regularly make interest payments and, in some cases, repay principal amounts. If a company struggles to meet these debt obligations,

it may face financial distress. Charalambakis et al. (2008) discover that excluding leverage dynamics, the estimated likelihood of financial distress shows a positive correlation with leverage. In other words, as the probability of financial distress increases, so does the level of leverage. Kalash (2023) discloses that financial leverage exerts a substantial negative impact on financial performance, and this impact is more pronounced for companies with an elevated risk of financial distress. Based on several studies, the second hypothesis is formulated as H₂.

H₂: Leverage has a positive effect on financial distress.

Sales Growth as Moderating

Sales growth refers to the increase or growth in a company's sales from one period to the next. Moderation, in a general sense, is a concept in statistical analysis that indicates the extent to which one variable can influence or strengthen the relationship between two other variables. As a moderator, sales growth can moderate the relationship between liquidity and financial distress. Sales growth as a moderator in the relationship between liquidity and financial distress means that sales growth plays a role in influencing the extent to which a company's liquidity can moderate financial risks that may lead to financial distress. In this context, sales growth can serve as a factor affecting how effectively liquidity can prevent financial distress. Strong sales growth might provide sufficient cash flow to cover financial obligations, reducing the risk of financial distress, especially when a company faces challenging liquidity situations. If a company has low liquidity but sees substantial sales growth, it may possess adequate resources to mitigate the risk of financial distress. Conversely, when liquidity is low and sales growth is slow or negative, the risk of financial distress may rise. Based on several studies, the third hypothesis is formulated as H₃.

H₃: Sales growth moderates the interaction between liquidity and financial distress.

Sales growth as a moderator in the relationship between leverage and financial distress indicates that the growth in sales plays a role in moderating or altering the influence of leverage on a company's financial distress risk. Leverage refers to the use of debt to finance a company's operations or investments. Financial distress occurs when a company struggles to meet its financial obligations, such as debt payments. Sales growth represents the

rate of growth or increase in a company's sales from one period to the next. As a moderator, sales growth influences the extent to which leverage affects the risk of financial distress.

Sales growth can moderate the relationship between leverage and financial distress by influencing the company's ability to manage its debt burden. Strong sales growth can provide sufficient cash flow to meet debt obligations and reduce the risk of financial distress, especially when leverage is high. Companies with high leverage may be more vulnerable to the risk of financial distress when sales growth is low or negative. However, if sales growth is high, the company may have enough income to cover its debt burden.

H₄: Sales growth moderates the interaction between leverage and financial distress.

3. Methodology

Design, Population and sample

To characterize the available data, the researcher employed descriptive quantitative techniques. This study also applied causal research to explore the cause-and-effect relationships between liquidity, leverage, sales growth, and financial distress. The research population consisted of 30 companies in the food and beverage sector listed on the Indonesia Stock Exchange. The sampling method applied was purposive sampling, with the criteria that the sample companies had complete information and Annual Reports. Based on these criteria, 26 companies were selected as samples, resulting in 104 observations, comprising 19 sample companies that experienced financial distress and 85 sample companies that did not face financial distress.

Data Sources

Financial distress

The interest coverage ratio is a financial metric that assesses a company's ability to meet its interest obligations on outstanding debt. It is calculated by dividing a company's earnings before interest and taxes (EBIT) by its interest expenses. The formula is in Equation 1 (Eq. 1).

$$\text{Interest Coverage Ratio} = \frac{\text{EBITDA}}{\text{Interest Expense}} \quad (\text{Eq. 1})$$

This ratio indicates the number of times a company can cover its interest expenses with its operating earnings. A higher interest coverage ratio

suggests a better capacity to fulfill interest payments and implies lower financial risk. Conversely, a lower ratio may indicate potential financial distress, as the company might struggle to meet its interest obligations (Igan et al., 2023; Wang, 2023). A company is said to be experiencing financial distress whenever has an interest coverage ratio of less than 1.

Liquidity

Liquidity is the company's ability to meet short-term debt. Liquidity in this study is proxied by the current ratio (CR) which is formulated in Equation 2 (Eq. 2)

$$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}} \times 100\% \quad (\text{Eq. 2})$$

The current ratio is a ratio showing how much current assets are available to cover current liabilities. If the value is more than 1, it indicates the ability to fulfill obligations promptly.

Leverage

Leverage is a ratio to see the company's ability to pay obligations, both short-term debt and long-term debt. Leverage is proxied by the debt to equity ratio (DER) with Equation 3 (Eq. 3).

$$DER = \frac{\text{Total Debt}}{\text{Total Shareholders Equity}} \times 100\% \quad (\text{Eq. 3})$$

If this ratio is low, it indicates that the company relies more on its equity capital than debt, which can be considered a sign of financial security. If this ratio is high, it suggests that the company uses more debt to finance its operations or investments, which can increase financial risk.

Sales growth

Sales growth represents a company's success from one period to another and can serve as a predictor of future growth. The formulation of sales growth is in Equation 4 (Eq. 4).

$$\text{Sales growth rate} = \frac{\text{Current Period Sales} - \text{Previous Period Sales}}{\text{Previous Period Sales}} \times 100\% \quad (\text{Eq. 4})$$

A positive sales growth rate implies an increase in revenue, reflecting business expansion or improved performance. A negative growth rate suggests a decline in sales, which might indicate challenges or a contraction in the business.

Data Analysis Techniques

To ensure the impact of all independent variables on the dependent variable, overall model fit is used. Overall model fit is employed to evaluate how well the regression model can explain the relationship between independent and dependent variables. Likelihood, or log likelihood, measures how well the model fits the observed data. For hypothesis testing, the log likelihood value is transformed into -2log likelihood. In this context, the testing involves comparing the initial -2log likelihood with the subsequent ones. According to Ghazali (2018), a regression model is considered better if the value of -2log likelihood for block number = 0 is greater than the value of -2log likelihood for block number = 1. This aids in evaluating the significance and contribution of each block of variables to the regression model.

Logistic regression analysis is used in this research to assess whether the independent variables can predict the likelihood of the dependent variable, which is Financial distress. Logistic regression provides a non-linear equation because the dependent variable is categorical. In this case, logistic regression is suitable because the dependent variable is a dummy variable (financial distress = 1 and non-financial distress = 0), resulting in binary values such as 0 and 1 from its base categories. This model helps identify how well the independent variables can provide predictive indications regarding the likelihood of financial distress occurring.

The Logistic Regression Equation with Moderated Regression Analysis (MRA) is in Equation 5 (Eq. 5).

$$\ln \frac{p}{1-p} = \alpha + \beta_1 LIQ + \beta_2 LEV + \beta_3 LIQ * GROWTH + \beta_4 LEV * GROWTH + e \quad (\text{Eq. 5})$$

Where, $\ln \frac{p}{1-p}$ = financial distress probability (dummy variables, 1 if undergoing financial distress, 0 if undergoing non-financial distress); α = constant; $\beta_{1,2,3,4}$ = regression coefficient; LIQ = liquidity; LEV = leverage; LIQ * GROWTH = Interaction between liquidity and sales growth; LEV * GROWTH = Interaction between leverage dan sales growth; e = error

Partial testing (t-test) in this study employs the Wald Test, which essentially measures the extent to which the influence of independent variables, individually, can explain the dependent variable. To determine the Wald test value (t-test), the significance

Table 1. Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation
Financial Distress (ICR)	0.00	1.00	0.18	0.39
Liquidity (LIQ)	1.15	9863.43	409.77	1131.83
Leverage (LEV)	-1503.40	9089.15	205.26	953.09
Sales Growth (GROWTH)	-91.94	438.99	9.91	52.59
Valid N (listwise)	104			

level is set at 5 percent. The decision criteria are as follows: if the p-value > 0.05, then H0 is accepted, indicating that one of the independent variables does not have a significant effect on the dependent variable. If the p-value < 0.05, then H0 is rejected, showing that one of the independent variables has a significant influence on the dependent variable.

The Omnibus Tests of Model Coefficients are used to test the simultaneous influence of independent variables on the dependent variable. The significance level is set at 5 percent, so the decision criteria are as follows: if the p-value < 0.05, H0 is rejected, indicating that the independent variables collectively affect the dependent variable. Conversely, if the p-value > 0.05, H0 is accepted, signifying that the independent variables do not collectively influence the dependent variable.

4. Results

Descriptive Statistics

Descriptive analysis helps in describing the main characteristics of the data, such as the minimum, maximum, average (mean) and standard deviation values of the variables during the research period which are presented in Table 1.

From Table 1, the average level of financial distress in the sample is 0.18, indicating a relatively low position on a scale from 0 to 1. This means that the majority of companies in the sample have stable financial conditions and a low risk of financial distress. This is good news for stakeholders such as shareholders, employees, and creditors, as the overall risk of financial distress tends to be low.

The liquidity values in the sample range from 1.15 to 9,863.43 percent, with an average of 409.77 percent. This range reflects significant variation, indicating the companies' ability to meet short-term obligations. A high average liquidity of 409.77 percent suggests that the companies in the sample have a strong ability to maintain liquidity levels. This provides extra protection when facing short-term obligations, financial surprises, or market instability.

Leverage values for food and beverage companies range from -1,503.40 to 9,089.15 percent, with an average of 205.26 percent. The wide range signifies significant variation within the industry. Leverage indicates the use of borrowed capital in the financial structure. Positive values indicate more debt than equity, while negative values indicate the opposite. An average of 205.26 percent suggests a tendency to use more borrowed capital. This can benefit shareholders but also increases financial risk and interest obligations.

The range of sales growth values for food and beverage companies varies from -91.94 to 439.99 percent, with an average of 9.91 percent. Significant variation is observed in the sales performance of companies in this industry. Sales growth represents the percentage change in a company's revenue from one period to the next. An average of 9.91 percent indicates positive sales growth, reflecting stability in the food and beverage industry. High growth rates (439.99 percent) indicate successful marketing strategies and product innovation, while negative growth (-91.94 percent) may signify challenges faced by some companies..

Statistical Analysis

Overall Model Fit is carried out by comparing the initial -2log likelihood and -2log likelihood in the next step. If the -2log likelihood value for block number = 0 is greater than the -2log likelihood value for block number = 1, it indicates that the decrease in -2log likelihood indicates that this regression model is superior. The test results are presented in Table 2.

Table 2. Overall model fit

Step	-2Log Likelihood
0	97.267
1	49.322

Based on Table 2, at step 0, testing only with constants produces a -2log likelihood of 97.267. In step 1 (involving independent variables), we

Table 3. Goodness of fit and coefficient of determination testing

Hosmer and Lemeshow's Test			
Step	Chi-Square	df	Sig.
1	3.597	8	.892
Nagelkerke's R Square			
Step	-2Log Likelihood	Cox and Snell R Square	Nagelkerke's R Square
1	49.322 ^a	.379	.618

Table 4. Classification matrix

Step		Observed	Predicted		Percentage Correct
			ICR		
			Non-Financial Distress	Financial Distress	
1	ICR	Non-Financial Distress	46	39	45.88
		Financial Distress	2	17	89.47
	Overall Percentage				53.84

Table 5. Moderated logistic regression test results (Wald test)

Variable	B	SE	Wald	Sig.
LIQ	-0.015	0.004	12.427	0.000
LEV	0.011	0.003	12.541	0.000
GROWTH	0.009	0.009	0.956	0.328
LIQ_GROWTH	-0.001	0.000	13.059	0.000
LEV_GROWTH	0.0003	0.000	10.191	0.001
Constant	-1.137	0.400	8.066	0.005

Dependent Variable: ICR

obtained a -2log likelihood of 49.322, smaller than 97.267. This means that there is a decrease of -2log likelihood, indicating that the regression model is adequate.

Based on Table 3, the chi-square value is 3.259 with a significance level of 0.892 (greater than $\alpha=0.05$). H_0 is accepted, indicating that the model fits to explain the research variables: liquidity, leverage, and sales growth concerning the financial distress condition in food and beverage companies for the years 2019-2022. The Cox and Snell's R Square value of 0.379 and Nagelkerke's R Square value of 0.618 indicate that 61.8 percent of the variability in financial distress can be explained by liquidity, leverage, and sales growth, while 38.2 percent may be influenced by other financial fundamentals of the company.

Table 4 shows a classification matrix with the explanation that of the 85 non-financial distress companies, 39 companies have the potential to experience financial distress, while 46 companies are proven not to experience financial distress. In terms of companies experiencing financial distress, it shows that of the 19 companies proven to be experiencing financial distress, 17 companies are found to be experiencing financial distress, while 2 companies have the potential for non-financial distress. Overall,

there are 56 companies experiencing potential financial distress or 53.84 percent.

Logistic Regression Equation Analysis

The results of regression testing with liquidity and leverage as independent variables and financial distress as the dependent variable and sales growth as moderation are presented in Table 5.

Table 5 presents the results of the Wald Test for liquidity with a significance value of 0.000 ($<\alpha=0.05$) and a beta coefficient of -0.015, indicating a significant negative influence on financial distress. The first hypothesis is statistically supported. The Wald Test for leverage shows a significance value of 0.000 ($<\alpha=0.05$) and a beta coefficient of 0.011, indicating a significant positive influence on financial distress. The second hypothesis is statistically confirmed. However, the Wald Test for sales growth, with a significance value of 0.328 ($>\alpha=0.05$) and a beta coefficient of 0.009, demonstrates that sales growth does not have a significant effect on financial distress.

The results of the Wald Test for LIQ*GROWTH show a significance value of 0.000 ($<\alpha=0.05$) and a beta coefficient of -0.001, indicating that sales growth strengthens the relationship between liquidity and

financial distress. The third hypothesis is statistically supported. The Wald Test for $LEV \times GROWTH$, with a significance value of 0.001 ($\alpha=0.05$) and a beta coefficient of 0.0003, suggests that sales growth enhances the relationship between leverage and financial distress. The fourth hypothesis is statistically validated.

Based on the classification of moderating variables (Solimun, 2002), sales growth falls under pure moderation. As an independent variable, sales growth does not have a significant influence on financial distress. However, as a moderating variable, sales growth significantly strengthens the relationships between liquidity and leverage with financial distress. In other words, the role of sales growth as an enhancer becomes evident when considering the impact of liquidity and leverage on financial distress.

5. Discussion

The Effect of Liquidity on Financial Distress

The finding that liquidity has a negative effect on financial distress indicates that as liquidity levels increase, the potential for financial distress decreases. This research suggests that financial distress in the food and beverage companies is influenced by the level of liquidity. Companies in this sector with good liquidity tend to have a lower risk of financial distress. Although companies can maintain liquidity through borrowing or asset sales, these strategies do not address fundamental financial issues. Optimizing cash flow by increasing income beyond expenses can be an effective step for food and beverage companies.

Specifically, in the food and beverage sector in Indonesia, liquidity plays a crucial role in preventing potential financial distress. Due to the characteristics of this industry, which tends to rely on stable and fluctuating raw material supplies, companies in this sector need to maintain liquidity levels to address challenges such as fluctuating raw material prices, changes in consumer demand, or even economic uncertainty. With sufficient liquidity, companies can respond quickly to market changes, maintain operational smoothness, and avoid the risk of financial distress that may arise due to an inability to meet financial obligations.

This research aligns with the study conducted by El-Chaarani et al. (2023), which demonstrated that liquidity has a positive impact on financial distress in the banking sector post-COVID-19 pandemic. Research by Diyanto (2020) also showed that liquidity

has a positive effect on the potential financial distress of manufacturing companies in Indonesia.

The Effect of Leverage on Financial Distress

The research results indicate that leverage has a positive impact on financial distress, suggesting that the higher a company's debt level, the greater the risk of financial distress it faces. The implication for food and beverage companies is the need to control their level of leverage. The higher the debt, the greater the potential for financial distress (Eliu, 2014; Octavia & Arifin, 2021). Companies can manage this risk by increasing sales, maintaining liquidity through cash flow optimization, improving expenditure efficiency, and strengthening profitability and capital.

In the context of food and beverage companies in Indonesia, the effect of leverage on financial distress is particularly significant. When these companies carry a higher level of debt in their capital structure, they become more vulnerable to financial distress. This is due to the increased financial obligations and interest payments associated with higher leverage. In the dynamic and competitive landscape of the food and beverages industry, where profit margins can be sensitive, excessive debt can amplify the impact of market fluctuations or unexpected events. If a company faces challenges in generating enough profits to cover its debt obligations, it may lead to a situation of financial distress.

This research aligns with the study conducted by Mselmi et al. (2017), which states that companies experiencing financial distress have high leverage and low payment capacity. Research by Liang et al. (2016) has also demonstrated that a company's financial ratios, including capital structure, are important features in predicting financial distress.

Sales Growth Moderates the Effect of Liquidity on Financial Distress

Sales growth can moderate the impact of liquidity on financial distress. When considering the relationship between liquidity and financial distress, positive sales growth can reduce the risk of financial distress caused by liquidity issues. Strong sales growth can provide a larger cash flow to the company, enhancing liquidity and the company's ability to meet short-term financial obligations. The implication for food and beverage companies is that with increased sales, they have better resources to pay off debt, fund operations, and address liquidity issues. Therefore, sales growth can be a critical factor

in reducing the risk of financial distress. Food and beverage companies with high sales growth will be better equipped to pay their short-term liabilities, even if their liquidity is low.

Furthermore, the relationship between liquidity, sales growth, and financial distress can be influenced by the specific context and factors of the company. Therefore, food and beverage companies need to conduct comprehensive analyses of these factors and develop robust financial strategies to mitigate the risk of financial distress.

Sales Growth Moderates the Effect of Leverage on Financial Distress

Sales growth has the potential to moderate the impact of leverage on the likelihood of financial distress. Robust sales growth enables companies to generate higher revenue, increase profits, and reduce the risk of financial distress caused by high leverage levels. With strong sales growth, a company with additional resources to fulfill financial obligations, pay off debt, and fund operations. This can help alleviate financial pressure resulting from high leverage. However, when sales growth is low or negative, the risk of financial distress can increase if the company has high leverage levels. If a company cannot meet its debt payment obligations, it can lead to financial distress. Therefore, prudent management of leverage and effective handling of sales growth are essential for food and beverage companies to minimize the risk of financial distress. Additionally, strategic debt management and diversified funding sources can further mitigate the adverse impact of leverage on financial distress.

6. Conclusion

Liquidity has a negative impact on financial distress. The higher a company's liquidity, the higher the risk of financial distress. Leverage has a positive impact on financial distress. The higher the leverage, the higher the risk of financial distress. Sales growth can moderate the impact of liquidity on financial distress. Companies with high sales growth will be better able to pay their short-term obligations. This is because companies with high sales growth will have higher income, which can be used to meet their short-term obligations. Sales growth can also moderate the impact of leverage on financial distress. Companies with high sales growth will be better able to pay both short-term and long-term obligations because they have better resources to meet these obligations and fund their operations.

Companies can reduce the risk of financial distress by maintaining their liquidity and leverage within safe limits. To control liquidity and leverage within safe limits, companies must be able to increase resources, use their existing resources effectively, and improve their risk management. Companies can maintain their liquidity by carefully managing their assets and liabilities. They can increase liquidity by boosting income, optimizing cash inflows, and controlling cash outflows. Managing leverage is also important. Leverage refers to the level of debt a company uses to finance its operations. Companies can manage debt wisely and diversify their sources of funding to control their leverage levels. Sales growth can help companies increase their revenue. The high cash inflow from increased sales growth can be used to pay all the company's obligations. Companies can enhance sales growth through various strategies, such as developing new products, entering new markets, or improving customer service.

References

- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589-609. <https://doi.org/10.2307/2978933>
- Altman, E. I., & Hotchkiss, E. (2010). *Corporate financial distress and bankruptcy: Predict and avoid bankruptcy, analyze and invest in distressed debt* (Vol. 289). John Wiley & Sons. <https://doi.org/10.1002/9781118267806>
- Charalambakis, E., Espenlaub, S., & Garrett, I. (2008). Leverage dynamics, the endogeneity of corporate tax status and financial distress costs, and capital structure. *Corporate Finance: Capital Structure & Payout Policies eJournal*. <https://doi.org/10.2139/ssrn.1102168>
- Chiaromonte, L., & Casu, B. (2017). Capital and liquidity ratios and financial distress. Evidence from the European banking industry. *The British Accounting Review*, 49(2), 138-161. <https://doi.org/10.1016/j.bar.2016.04.001>
- Cultrera, L., & Brédart, X. (2016). Bankruptcy prediction: the case of Belgian SMEs. *Review of Accounting and Finance*, 15(1), 101-119. <https://doi.org/10.1108/RAF-06-2014-0059>
- Diyanto, V. (2020). The effect of liquidity, leverage and profitability on financial distress. *Indonesian Journal of Economics, Social, and Humanities*, 2(2), 127-133. <https://doi.org/10.31258/ijesh.2.2.127-133>

- El-Chaarani, H., EL-Abiad, Z., & Jafar, S. H. (2023). The impact of liquidity on the financial performance of banks during the post-Covid-19. *Reference Module in Social Sciences*, 4. <https://doi.org/10.1016/B978-0-44-313776-1.00111-2>
- Eliu, V. (2014). Pengaruh financial leverage dan firm growth terhadap financial distress. *Jurnal Finesta*, 2(2), 6-11.
- Farooq, U., Nazir, M. S., & Nawaz, M. M. (2012). Operating or financial distress? How much costly these are. *American Journal of Scientific Research*, 55(3), 96-108.
- Gilchrist, S., Schoenle, R., Sim, J., & Zakrajšek, E. (2017). Inflation dynamics during the financial crisis. *American Economic Review*, 107(3), 785-823. <https://doi.org/10.1257/aer.20150248>
- Gupta, G., & Mahakud, J. (2023). Impact of financial distress on investment-cash flow sensitivity: Evidence from emerging economy. *International Journal of Managerial Finance*, 19(4), 713-743. <https://doi.org/10.1108/IJMF-03-2022-0102>
- Haron, R. (2016). Do Indonesian firms practice target capital structure? A dynamic approach. *Journal of Asia Business Studies*, 10(3), 318-334. <https://doi.org/10.1108/JABS-07-2015-0100>
- Igan, D., Mirzaei, A., & Moore, T. (2023). A shot in the arm: Economic support packages and firm performance during COVID-19. *Journal of Corporate Finance*, 78, 102340. <https://doi.org/10.1016/j.jcorpfin.2022.102340>
- Kalash, I. (2023). The financial leverage-financial performance relationship in the emerging market of Turkey: The role of financial distress risk and currency crisis. *EuroMed Journal of Business*, 18(1), 1-20. <https://doi.org/10.1108/EMJB-04-2021-0056>
- Liahmad, K. R., Utami, Y. P., & Sitompul, S. (2021). Financial factors and non-financial to financial distress insurance companies that listed in Indonesia Stock Exchange. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 4(1), 1305-1312. <https://doi.org/10.33258/birci.v4i1.1757>
- Liang, D., Lu, C. C., Tsai, C. F., & Shih, G. A. (2016). Financial ratios and corporate governance indicators in bankruptcy prediction: A comprehensive study. *European Journal of Operational Research*, 252(2), 561-572. <https://doi.org/10.1016/j.ejor.2016.01.012>
- Mselmi, N., Lahiani, A., & Hamza, T. (2017). Financial distress prediction: The case of French small and medium-sized firms. *International Review of Financial Analysis*, 50, 67-80. <https://doi.org/10.1016/j.irfa.2017.02.004>
- Octavia, N. P. W., & Arifin, A. (2021). Pengaruh likuiditas, leverage, kepemilikan institusional, dan sales growth terhadap financial distress (Studi empiris pada perusahaan property dan real estate yang terdaftar pada Bursa Efek Indonesia periode 2016-2019). *Doctoral Dissertation*. Universitas Muhammadiyah Surakarta.
- Opler, T. C., & Titman, S. (1994). Financial distress and corporate performance. *The Journal of Finance*, 49(3), 1015-1040. <https://doi.org/10.2307/2329214>
- Pindado, J., & Rodrigues, L. (2005). Determinants of financial distress costs. *Financial Markets and Portfolio Management*, 19(4), 343-359. <https://doi.org/10.1007/s11408-005-6456-4>
- Platt, H. D., & Platt, M. B. (2002). Predicting corporate financial distress: Reflections on choice-based sample bias. *Journal of economics and finance*, 26(2), 184-199. <https://doi.org/10.1007/BF02755985>
- Prasetyo, A., & Fatur Rahman, T. (2023). Financial distress and financial performance analysis of highway companies before and during the COVID-19 pandemic: Evidence from Indonesia Stock Exchange. In *Comparative Analysis of Trade and Finance in Emerging Economies* (pp. 151-165). Emerald Publishing Limited. <https://doi.org/10.1108/S1571-038620230000031021>
- Ross, S. A., Westerfield, R., Jaffe, J. F., & Education-Europe, M. H. (2013). *Solutions manual for corporate finance*. McGraw-Hill/Irwin.
- Saputri, N. A., & Santoso, P. R. (2023). The influence of profitability, RETA, liquidity, leverage, company size, and corporate governance on financial distress. *Research of Accounting and Governance*, 1(1), 1-12. <https://doi.org/10.58777/rag.v1i1.6>
- Sitorus, F. D., Hernandy, F., Triskietanto, W., & Angela, A. (2022). Pengaruh likuiditas, leverage, profitabilitas dan ukuran perusahaan terhadap financial distress pada perusahaan barang konsumsi yang terdaftar di BEI tahun 2016-2020. *Owner: Riset dan Jurnal Akuntansi*, 6(1), 85-98. <https://doi.org/10.33395/owner.v6i1.530>
- Solimun, M. S. (2002). Multivariate analysis Structural Equation Modelling (SEM) Lisrel dan Amos. *Fakultas MIPA, Universitas Brawijaya, Malang*.
- Sri, P. M. (2016). The role of external and internal factors in the accuracy of predicting financial

- distress. *European Journal of Business and Management*, 8(13), 68-73.
- Sugiarto, S., & Mahanani, S. (2020). Effect of profitability, leverage, liquidity and activity against financial distress conditions. *EkBis: Jurnal Ekonomi dan Bisnis*, 4(2), 456-468. <https://doi.org/10.14421/EkBis.2020.4.2.1275>
- Tan, B., Igan, D., Peria, M. S. M., Pierri, N., & Presbitero, A. F. (2021). Government intervention and bank markups: Lessons from the global financial crisis for the COVID-19 crisis. *Journal of Banking & Finance*, 133, 106320. <https://doi.org/10.1016/j.jbankfin.2021.106320>
- Tron, A. (2021). Corporate distress and financial equilibrium: genesis and prognosis. *Corporate Financial Distress*, 1-23. Emerald Publishing Limited, Bingley. <https://doi.org/10.1108/9781839829802>
- Wang, X. (2023). Discussion of "The asymmetric impact of COVID-19: a novel approach to quantifying financial distress across industries". *European Economic Review*, 157, 104501. <https://doi.org/10.1016/j.euroecorev.2023.104501>
- Wruck, K. H. (1990). Financial distress, reorganization, and organizational efficiency. *Journal of Financial Economics*, 27(2), 419-444. [https://doi.org/10.1016/0304-405X\(90\)90063-6](https://doi.org/10.1016/0304-405X(90)90063-6)
- Yusril, Y., Hardiana, C. D., & Suparyati, S. (2022). The effect of sales growth, profitability, leverage and liquidity on financial distress conditions at transportation sub-sector companies listed in Indonesia Stock Exchange (IDX). *Kontigensi: Jurnal Ilmiah Manajemen*, 10(2), 194-207. <https://doi.org/10.56457/jimk.v10i2.289>
- Zhang, X., Ouyang, R., Liu, D., & Xu, L. (2020). Determinants of corporate default risk in China: The role of financial constraints. *Economic Modelling*, 92, 87-98. <https://doi.org/10.1016/j.econmod.2020.07.005>