

The Effect Of Leverage, Liquidity, And Company Size On Hedging Decisions In Manufacturing Companies From 2021-2024

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Abstract

This study aims to obtain empirical evidence regarding the effects of leverage, liquidity, and firm size on hedging decisions among manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period. The research sample was selected using purposive sampling, resulting in 25 companies with a total of 100 observations. The research data were obtained from the companies' annual financial reports and analyzed using logistic regression. The results indicate that leverage has a positive and significant effect on hedging decisions, whereas liquidity and firm size do not have a significant effect on hedging decisions. The study concludes that companies with high debt levels tend to engage in hedging activities to minimize the risk of exchange rate fluctuations.

INTRODUCTION

The era of globalization has led to increasingly interconnected economies among nations, driving an increase in international trade. As a result, companies have broader opportunities to expand their businesses through exports, imports, investments, and foreign financing (Fadhila & Sumantyo, 2023). This development not only offers benefits in terms of improving the company's performance and growth, but also gives rise to various risks stemming from global economic uncertainty—particularly the risk of foreign exchange rate fluctuations, which are becoming increasingly complex as cross-border transactions increase (Indriyanti et al., 2025; Kusumah & Nurdin, 2025).

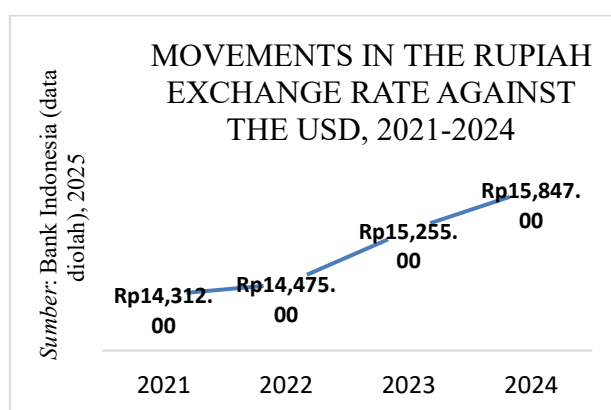


Figure 1. Movement of the Rupiah Exchange Rate Against the USD, 2021–2024

Source: Bank Indonesia (processed data), 2026

Figure 1 shows that the rupiah's exchange rate against the USD weakened during the 2021–2024 period. The rupiah's exchange rate rose from Rp14,312 in 2021 to Rp15,847 in 2024. The depreciation of the rupiah indicates that companies involved in international transactions face greater exposure to foreign exchange risk. Exchange rate fluctuations can affect the value of

transactions denominated in foreign currencies, including export revenues, import payments, foreign currency debt, and other international financial obligations. According to Madura (2018), exchange rate fluctuations can influence the financial condition of companies because changes in currency values affect the amount of domestic currency required to settle foreign currency transactions. Similarly, Eiteman et al. (2016) explain that companies involved in international transactions are exposed to transaction exposure, which arises from changes in the domestic currency value of contractual cash flows denominated in foreign currencies.

The Central Statistics Agency also released data indicating that the non-oil and gas processing sector, or manufacturing, dominates Indonesia's export structure, contributing approximately 70% to 75% of total national exports. Additionally, import activity is dominated by industrial raw materials, the majority of which are used by the manufacturing sector. This situation indicates that manufacturing companies are closely tied to export and import activities. The high involvement of manufacturing companies in international trade causes the sector to face considerable exposure to foreign exchange fluctuations. Companies that import raw materials may experience an increase in production costs when the rupiah depreciates, while companies with foreign currency liabilities may face an increase in the rupiah value of their obligations. On the other hand, exporters may benefit from a weaker rupiah when foreign currency revenues are converted into rupiah. Therefore, the impact of exchange rate fluctuations depends on the company's foreign currency exposure and the structure of its international transactions.

Jorion (1990) explains that exchange rate exposure reflects the sensitivity of a company's value to changes in exchange rates. The magnitude of this exposure varies depending on the characteristics and international activities of each company. The volatility of the rupiah's exchange rate against foreign currencies results in foreign exchange losses that affect cash flow, operating costs, and corporate liabilities, particularly for manufacturing companies engaged in export-import activities and international financing (Yudha et al., 2023). This condition demonstrates that exchange rate fluctuations can create financial uncertainty for companies, particularly those with substantial foreign currency transactions and obligations.

An example of exchange rate risk can be seen in PT Krakatau Steel Tbk, which has foreign currency debt of approximately USD 1.7 billion. The weakening of the rupiah has increased the company's debt burden and resulted in foreign exchange losses, thereby weighing on its financial performance (Indo Premier Sekuritas, 2023). This condition indicates that companies with significant foreign currency debt are more vulnerable to exchange rate movements. The greater the foreign currency liabilities, the greater the potential increase in the rupiah value of debt when the domestic currency depreciates. This indicates that highly leveraged companies need sound hedging policies to manage and mitigate exchange rate risk (Alditia et al., 2025).

Hedging is one of the strategies that can be used by companies to reduce the potential negative impact of exchange rate fluctuations. According to Hull (2018), derivative instruments can be utilized as financial risk management tools because their value is associated with an underlying asset or variable, including foreign exchange rates. Therefore, implementing hedging strategies is crucial as a means of minimizing the negative impact of exchange rate fluctuations through the use of derivative instruments such as forwards, futures, options, and swaps (Hosama & Setyawan, 2022). Froot et al. (1993) also explain that corporate risk management can help companies reduce cash flow uncertainty and maintain sufficient internal funds for operational and investment activities. Thus, hedging is not only intended to reduce potential foreign exchange losses but can also support the stability of corporate cash flows.

From an accounting perspective, a company's decision to engage in hedging as a form of financial risk mitigation is related to the application of the principle of prudence. In the IFRS Conceptual Framework, this principle emphasizes that companies must adopt a prudent approach when making plans and decisions under conditions of uncertainty to avoid overestimating financial performance. In line with this, IFRS 9 explains that the use of derivative instruments in hedging activities is intended to reflect a company's risk management practices in its financial statements.

The application of the principle of prudence in financial risk management is also regulated, notably through Bank Indonesia Regulation No. 16/21/PBI/2014 on the Application of the Principle of Prudence in the Management of Foreign Debt by Non-Bank Corporations. This regulation emphasizes the importance of companies managing foreign exchange risk, including the use of hedging instruments to maintain financial stability and avoid potential losses resulting from exchange rate fluctuations.

A company's decision to engage in hedging is also influenced by various internal factors that reflect its financial condition. One such factor is leverage, which indicates the level of debt utilization. The higher the leverage, the greater the financial obligations that must be fulfilled by the company. Brigham and Houston (2019) explain that the use of debt creates financial leverage and increases the company's fixed financial obligations. This situation can encourage companies with high leverage to implement hedging strategies to reduce the potential impact of exchange rate fluctuations on their liabilities. Therefore, companies with higher leverage tend to have greater incentives to protect their financial position from foreign exchange risk (Rahmawati & Syahwildan, 2024; Ulfa et al., 2024).

The second factor is liquidity, which indicates a company's ability to meet its short-term obligations. According to Brigham and Houston (2019), liquidity reflects the company's ability to fulfill short-term financial obligations using its current assets. Companies with high liquidity generally have greater financial flexibility and may be more capable of absorbing the financial effects of exchange rate fluctuations. Conversely, companies with low liquidity may have greater incentives to protect their cash flows and financial obligations through hedging. This is consistent with Hilaliah and Hermanto (2024) and Zai and Mansur (2024), who explain that liquidity is related to a company's hedging decision, although the direction and significance of the relationship may vary depending on the company's characteristics.

The final factor is company size, which indicates the scale of a company in relation to its operational complexity and level of exposure to exchange rate risk. Larger companies generally have broader business activities, greater access to financial resources, and more complex international transactions. According to Fama and French (1992), firm size is one of the characteristics that can distinguish companies in terms of their financial behavior and risk exposure. Larger companies also tend to have greater resources to implement formal risk management policies, including the use of derivative instruments. Therefore, larger companies tend to use hedging because they generally have greater international exposure and stronger financial capacity to implement risk management strategies (Condronegoro & Hasibuan, 2023).

Although there has been extensive research on hedging decisions, the results remain inconsistent. In this study, Fadhila and Sumantyo (2023) and Indriyanti et al. (2025) found that leverage has a positive effect on hedging decisions, whereas Condronegoro and Hasibuan (2023) indicates that leverage has no significant effect. Liquidity variables also show inconsistency, in that Mowata et al. (2023) and Hilaliah and Hermanto (2024) found a negative effect, while Rahmawati and Syahwildan (2024) indicated that there was no significant effect. Regarding the firm size variable, Pratama and Imronudin (2024) found a positive effect on hedging decisions, but Normalisa et al. (2021) showed insignificant results. These inconsistent findings indicate that the relationship between leverage, liquidity, firm size, and hedging decisions remains inconclusive and requires further examination.

Furthermore, most previous studies did not use the most recent observation period, so they do not fully reflect current economic conditions. Therefore, this study uses data from the 2021–2024 period, during which the rupiah's exchange rate against the USD has consistently depreciated, significantly affecting the manufacturing sector in foreign transactions. The selection of manufacturing companies is considered relevant because this sector has strong connections with export and import activities, foreign currency transactions, and international financing. Consequently, the researchers aim to re-examine the effects of leverage, liquidity, and firm size on hedging decisions. This study is expected to provide relevant empirical evidence regarding the

factors influencing hedging decisions in manufacturing companies under current economic conditions and contribute to the existing literature by addressing the inconsistent findings of previous studies.

HYPOTHESES

H1: Leverage has a positive effect on hedging decisions.

H2: Liquidity has a negative impact on hedging decisions.

H3: Company size has a positive effect on hedging decisions.

METHOD

This is a quantitative study using a causal-associative approach. The study was conducted at manufacturing companies listed on the Indonesia Stock Exchange (IDX). The observation period spans from 2021 to 2024. The data collected were sourced from the annual financial reports of manufacturing companies, which are accessible via the IDX website (www.idx.co.id) and the official websites of the respective companies. The focus of this study is on companies' decisions regarding hedging.

All manufacturing companies listed on the IDX from 2021 to 2024 constitute the population for this study. The sample was selected using purposive sampling, a technique classified as a nonprobability sampling method. The sample criteria were as follows: companies must be in the manufacturing sector and listed on the IDX; complete and consistent audited financial statements must be available; the companies must not have been delisted during the 2021–2024 period; engaged in foreign exchange transactions whether from export or import activities or from foreign currency-denominated receivables and payables and had complete data available for calculating leverage, liquidity, and firm size. Through this selection process, 25 companies that met all criteria were chosen. Since the observation period spanned 4 years, the total number of data points analyzed was 100 observations. This study uses two types of variables: the dependent variable, which is the hedging decision (Y), and the independent variables, which consist of leverage (X1), liquidity (X2), and firm size (X3).

The data analysis techniques used in this study included descriptive statistical tests, logistic regression, and hypothesis testing (Wald test). Prior to conducting the logistic regression, model suitability was assessed using the Hosmer and Lemeshow Goodness-of-Fit Test, and the overall model fit was evaluated by comparing the -2Log Likelihood values. Next, to determine the extent to which the independent variables explain the dependent variable, the Nagelkerke R-squared was used; to assess the accuracy of the model's predictions, a classification table was employed. This study also conducted a multicollinearity test to ensure there were no relationships among the independent variables, as well as an omnibus test to assess the overall significance of the model. By using logistic regression analysis, the data testing process does not require the assumption of normality in the data (Ghozali, 2016).

The logistic regression equation used is:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1.X1 + \beta_2.X2 + \beta_3.X3$$

Notes :

$\ln\left(\frac{p}{1-p}\right)$ = Hedging Decision

β_0 = Constant

$\beta_1, \beta_2, \beta_3$ = Coefficients of each variable

X1 = Leverage

X2 = Liquidity

X3 = Firm Size

RESULT AND DISCUSSION

Descriptive statistics in this study were used to describe the characteristics of the research variables, namely leverage, liquidity, and firm size.

Table 1. Descriptive Statistics Results

Variable	N	Mi	Max	Mean	S.Dev
	n				
HEDGI	10	.00	1.00	.4900	.50242
NG	0				
DER	10	.13	3.22	.9292	.69673
	0				
CR	10	.42	7.68	2.2998	1.33302
	0				
FIRMSIZ	10	7.5	13.0	10.152	1.40609
E	0	1	7	8	

Source: Research data, 2026

Table 4.1 shows that the DER (X1) has a minimum value of 0.13 and a maximum value of 3.22. The mean value of the DER is 0.9292 with a standard deviation of 0.69673. The CR (X2) has a minimum value of 0.42 and a maximum value of 7.68. The average liquidity is 2.2998 with a standard deviation of 1.33302. Firm size (X3) has a minimum value of 7.51 and a maximum value of 13.07. The average firm size is 10.1528 with a standard deviation of 1.40609.

The hedging variable (Y) has a range of values between 0 and 1, where a value of 0 indicates that the firm does not engage in hedging activities, while a value of 1 indicates that the firm does engage in hedging activities. The observed average hedging activity is 0.4900, indicating that approximately 49% of the companies in the sample engage in hedging activities, while the remaining 51% do not. The standard deviation for this variable is 0.50242.

Table 2. Hosmer and Lemeshow Goodness-of-Fit Test

Step	Chi-square	df	Sig.
1	5.998	8	0.647

Source: Research data, 2026

Table 2 shows the results of the Hosmer and Lemeshow Goodness-of-Fit Test. The chi-square value is 5.998, with a p-value of 0.647. Since the p-value is greater than 0.05, H0 is accepted. This indicates that the model can be used for further analysis.

Table 3. Results of the Overall Test of the Block 0 Model: Beginning Block (Overall Model Fit)

Step	Iteration	-2 Log	Constant
Step	1		.040

Source: Research data, 2026

The results for Block 0: Beginning Block show a -2 Log Likelihood value of 138.589 with a constant term of 0.040. These values reflect the model's initial state before the variables of leverage, liquidity, and firm size were included in the analysis. This initial model serves as a baseline to determine whether adding independent variables can improve the model's ability to predict a firm's hedging decisions

Table 4. Overall Test Results for Model Block 1: Method = Enter (Overall Model Fit)

Itera	-2 Log	Const	DER	CR	FIR
1	115.386	-2.462	1.47	.19	.061
2	112.578	-3.266	2.19	.28	.067
3	112.366	-3.433	2.45	.31	.058

4	112.365	-3.441	2.47	.31	.057
5	112.365	-3.441	2.47	.31	.057

Source: Research data, 2026

The logistic regression iteration process converged on the 4th iteration with a final -2 Log Likelihood value of 112.365. This value is lower than that of the initial model in Block 0, which was 138.589, indicating a reduction of 26.224. This suggests that the model including the variables DER, CR, and FIRMSIZE has better predictive power in explaining hedging decisions than the model without these independent variables.

Table 5. Multicollinearity Test Results

Variabel	B	Std	Bet	Sig.	Tole	VI
(Constt)	-.115	.39		.768		
DER	.368	.07	.51	<.00	.693	1.4
CR	.049	.04	.12	.246	.674	1.4
FIRMSI	.015	.03	.04	.645	.967	1.0

Source: Research data, 2026

Table 5 shows the results of the multicollinearity test on the coefficients table, where all independent variables have tolerance values above 0.10 and VIF values below 10. The DER variable has a tolerance value of 0.693 and a VIF of 1.442; the CR variable has a tolerance value of 0.674 and a VIF of 1.483; and the FIRMSIZE variable has a tolerance value of 0.967 and a VIF of 1.035. This indicates that the research model does not exhibit multicollinearity, so the independent variables can be used in the logistic regression analysis.

Table 6. Omnibus Test of Model Coefficients

Step		Chi-square	df	Sig.
Step	Step	26.225	3	<.001
	Block	26.225	3	<.001
	Model	26.225	3	<.001

Source: Research data, 2026

Table 6 shows the results of the Omnibus Test of Model Coefficients, with a significance level of <0.001 that is, less than 0.05. This indicates that the variables of leverage, liquidity, and firm size simultaneously influence hedging decisions. Thus, the logistic regression model used is statistically significant overall and suitable for further analysis.

Table 7. Nagelkerke R-Square

Step	-2 Log	Cox &	Nagelkerke
1	112.365	.231	.308

Source: Research data, 2026

Table 7 shows a Cox and Snell R-squared value of 0.231 and a Nagelkerke R-squared value of 0.308. This indicates that the independent variables leverage, liquidity, and firm size explain 30.8% of the variation in hedging decisions, while the remaining 69.2% is explained by other variables outside the research model. These values indicate that the model is reasonably effective in explaining companies' hedging decisions.

Table 8. Classification Table

Observed	Predicted	Predicted	Percentage
0	39	12	76.5
1	21	28	57.1
Overall			67.0
Percentage			

Source: Research data, 2026

Table 8 shows that the logistic regression model is able to predict which companies do not engage in hedging with an accuracy rate of 76.5%, while the model's ability to predict which companies do engage in hedging is 57.1%. Overall, the model's classification accuracy is 67.0%, indicating that the model has fairly good predictive power in explaining companies' hedging decisions.

Table 9. Hypothesis Testing (Wald Test)

Variabel	B	S.E.	Wald	df	Sig.
DER	2.476	.659	14.104	1	<.001
CR	.317	.209	2.313	1	.128
FIRMSIZE	.057	.168	0.115	1	.734
Constant	-	2.026	2.884	1	.089

Source: Research data, 2026

Based on the results of the logistic regression analysis, the equation for the regression model derived from the table is as follows: $\text{Ln}\left(\frac{p}{1-p}\right) = -3,441 + 2,476\text{DER} + 0,317\text{CR} + 0,057\text{FIRMSIZE}$

A constant value of -3.441 indicates that when leverage, liquidity, and firm size are held constant, the probability or propensity of firms to engage in hedging is relatively low. The negative constant suggests that in the absence of changes in the independent variables, the tendency of manufacturing companies to make hedging decisions is not particularly high. However, the constant value should not be interpreted separately from the independent variables because hedging decisions are influenced by various financial and operational considerations that may not be included in the regression model.

The leverage variable has a positive coefficient of 2.476 with a significance level of <0.001, indicating that leverage has a significant positive effect on hedging decisions. The positive coefficient means that an increase in leverage is associated with an increase in the probability of a company engaging in hedging. The significance level of <0.001, which is lower than 0.05, demonstrates that the relationship between leverage and hedging decisions is statistically significant. Therefore, H1 is accepted. This result indicates that leverage is an important financial characteristic in determining the hedging decisions of manufacturing companies during the 2021–2024 period.

The liquidity variable has a positive coefficient of 0.317 with a significance level of 0.128. Because the significance value is greater than 0.05, liquidity does not have a statistically significant effect on hedging decisions. Although the coefficient is positive, the direction of the coefficient does not indicate a significant relationship because the statistical test does not provide sufficient evidence to conclude that changes in liquidity influence the decision to engage in hedging. Therefore, H2 is rejected. Meanwhile, the firm size variable has a positive coefficient of 0.057 with a significance level of 0.734. Since the significance level is considerably higher than 0.05, firm size does not significantly influence hedging decisions. Thus, H3 is rejected. The positive coefficient only indicates the direction of the relationship in the estimated model and cannot be interpreted as evidence of a meaningful effect.

Overall, the logistic regression model in this study is quite effective in explaining hedging decisions, as evidenced by the Nagelkerke R-squared value of 0.308. This value indicates that leverage, liquidity, and firm size jointly explain approximately 30.8% of the variation in hedging decisions. The remaining 69.2% is explained by other factors that are not included in the research model. These factors may include foreign currency exposure, foreign currency debt, growth opportunities, profitability, interest rate risk, managerial considerations, derivative transaction costs, and the company's overall risk management policy. Therefore, although the model provides meaningful information regarding hedging decisions, hedging behavior cannot be fully explained only by leverage, liquidity, and firm size.

Furthermore, the classification accuracy rate of 67.0% indicates that the model is capable of correctly classifying approximately 67% of the observed companies into the hedging and non-hedging categories. This result suggests that the model has a reasonable predictive ability, although it is not capable of predicting all hedging decisions accurately. The classification accuracy also reinforces that there are other factors outside the model that contribute to differences in hedging decisions among manufacturing companies. Consequently, the regression model can be considered sufficiently appropriate for examining the relationship between the selected financial characteristics and corporate hedging decisions during the research period.

The results of the study indicate that leverage has a positive and significant effect on hedging decisions in manufacturing companies during the 2021–2024 period. This finding is consistent with the research by Windari and Purnawati (2019), Jayanti and Yadnya (2020), Rahmawati and Syahwildan (2024), and Ulfa et al. (2024), which states that the higher a company's leverage, the more likely the company is to engage in hedging. The consistency of these findings indicates that debt levels are an important consideration in corporate risk management, particularly for companies exposed to foreign currency fluctuations.

High leverage indicates that a larger proportion of a company's assets or operational activities is financed through debt. Debt creates contractual obligations in the form of principal and interest payments, which must be fulfilled regardless of changes in the company's operating performance. When part of these liabilities is denominated in foreign currencies, depreciation of the rupiah may increase the rupiah-equivalent value of the company's liabilities. This condition can increase financial pressure and create greater uncertainty regarding future cash flows. Therefore, companies with high leverage have stronger incentives to reduce potential losses arising from exchange rate fluctuations through hedging.

The positive and significant effect of leverage can be explained through the trade-off theory. According to this theory, companies attempt to balance the benefits obtained from debt financing against the financial risks associated with excessive debt. Debt can provide benefits, such as tax advantages, but excessive debt can increase the probability of financial distress. In this context, hedging can function as a mechanism for reducing the additional risk created by foreign exchange fluctuations. By reducing uncertainty in future cash flows, hedging can help highly leveraged companies maintain their ability to fulfill debt obligations and reduce the possibility that adverse exchange rate movements will worsen their financial condition.

This finding is also consistent with the concept of financial risk management. Companies with high leverage generally face greater financial obligations than companies with low leverage. Consequently, management has a stronger incentive to protect cash flows from factors that may increase the company's financial burden. In manufacturing companies, this issue becomes increasingly important because foreign currency exposure can arise not only from foreign debt but also from the import of raw materials, export transactions, and other international activities. Therefore, the significant positive effect of leverage suggests that debt exposure is one of the main considerations in determining whether a manufacturing company implements a hedging strategy.

The research findings indicate that liquidity does not have a significant effect on hedging decisions among manufacturing firms during the 2021–2024 period. This finding aligns with Rahmawati and Syahwildan (2024), Safitri et al. (2024), and Yudha et al. (2023), who state that liquidity is not a primary factor in determining a company's hedging decisions. The result indicates that differences in a company's ability to meet short-term obligations do not necessarily lead to differences in its decision to use hedging instruments.

The absence of a significant effect may occur because liquidity primarily reflects a company's ability to fulfill short-term obligations, whereas hedging decisions are more directly related to the company's exposure to financial risks, particularly foreign exchange risk. A company may have a high level of liquidity but still decide to undertake hedging if it has significant foreign currency exposure. Conversely, a company with relatively low liquidity may not necessarily use derivative

instruments if its foreign currency exposure is limited or if it applies alternative risk management strategies.

The 2021–2024 period was characterized by considerable movements in the rupiah exchange rate against the U.S. dollar. These conditions may have caused companies to place greater emphasis on the nature and magnitude of their foreign exchange exposure rather than their liquidity position alone. Manufacturing companies with international transactions may prioritize managing foreign currency liabilities, import costs, and export-related cash flows when determining whether hedging is necessary. Consequently, liquidity may not become the primary consideration in the hedging decision.

This result also indicates that the pecking order theory is less relevant in explaining the relationship between liquidity and hedging decisions in this study. The pecking order theory primarily explains corporate financing preferences based on the availability of internal funds, debt, and external equity. However, hedging decisions have a different objective because they are primarily concerned with managing financial risks. Therefore, the availability of liquid assets does not necessarily determine whether a company needs to protect itself from exchange rate fluctuations. In this study, the decision to hedge appears to be more closely associated with foreign exchange exposure and debt-related risk than with liquidity capacity alone.

The results of this study indicate that firm size does not have a significant effect on hedging decisions among manufacturing firms during the 2021–2024 period. These findings are consistent with the research by Kusumah and Nurdin (2025) and Hosama and Setyawan (2022), which concluded that firm size does not have a significant effect on hedging decisions. The result demonstrates that the scale of a company, as measured by its size, is not necessarily the main determinant of whether a company decides to implement a hedging strategy.

In general, larger companies tend to have greater financial resources, broader business activities, and more complex transactions. These characteristics could theoretically encourage large companies to use hedging instruments because they may have greater access to financial markets and greater capacity to bear the costs associated with derivative transactions. However, the insignificant result in this study indicates that these advantages do not automatically translate into a higher probability of hedging. Hedging decisions depend more on the actual level and characteristics of a company's foreign currency exposure than merely on the size of the company.

During the 2021–2024 period, fluctuations in the rupiah against the U.S. dollar affected manufacturing companies across different scales. Large companies were not necessarily the only companies exposed to exchange rate risk, because smaller manufacturing companies could also conduct import and export transactions involving foreign currencies. As a result, exchange rate risk could become a common concern across companies regardless of their size. This condition may explain why firm size does not show a significant effect on hedging decisions.

From the perspective of Portfolio Theory, companies seek to manage risk by diversifying their investments and financial exposures. Hedging can be viewed as one of the instruments available to reduce the potential impact of unfavorable changes in financial variables. However, the implementation of hedging does not depend solely on the size of the company. Companies may choose different approaches to managing risk according to their exposure, financial strategy, and operational characteristics. Therefore, companies of different sizes may arrive at similar hedging decisions when they face comparable foreign exchange exposures.

Furthermore, large companies may have alternative mechanisms for managing exchange rate risk. These mechanisms may include natural hedging, operational diversification, matching foreign currency revenues with foreign currency expenses, maintaining foreign currency cash balances, or structuring financing in accordance with the currency of their cash flows. Natural hedging can reduce the need for derivative instruments because companies can offset foreign currency inflows and outflows through their normal business activities. Consequently, a large company does not necessarily have a greater probability of using derivative-based hedging simply because it has greater assets or sales.

Conversely, smaller companies may also implement hedging when they face substantial foreign currency exposure. The need to protect cash flows from unfavorable exchange rate movements may encourage smaller companies to use appropriate hedging instruments even though their financial resources are more limited. This situation suggests that the decision to hedge is determined more by the company's exposure and risk management needs than by its size alone.

Overall, the results of this study demonstrate that leverage is the only variable among the three independent variables that has a significant effect on hedging decisions. This finding emphasizes the importance of debt-related financial risk in determining corporate hedging behavior. Companies with higher leverage have greater incentives to protect their financial position because fluctuations in exchange rates can increase the burden associated with foreign currency liabilities. Meanwhile, liquidity and firm size do not significantly affect hedging decisions, indicating that the ability to meet short-term obligations and the scale of company operations are not sufficient to explain differences in hedging behavior among manufacturing companies.

These findings also reinforce the importance of considering other variables in future research. The Nagelkerke R-squared value of 30.8% indicates that a substantial proportion of the variation in hedging decisions remains unexplained by the variables examined in this study. Future research could therefore consider variables such as foreign currency debt, foreign exchange exposure, growth opportunity, profitability, interest rate risk, managerial ownership, institutional ownership, and the use of natural hedging. The inclusion of these variables may provide a more comprehensive explanation of the factors influencing corporate hedging decisions, particularly in manufacturing companies that are highly involved in international transactions.

CONCLUSION

The conclusion of this study states that leverage has a positive and significant effect on hedging decisions among manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period, whereas liquidity and firm size do not have a significant effect on hedging decisions. These results indicate that companies with high debt levels tend to be motivated to engage in hedging to mitigate exchange rate fluctuation risks and maintain financial stability; the higher a company's debt level particularly liabilities denominated in foreign currencies the greater its exposure to exchange rate risk, which can increase liability burdens and undermine financial performance. This supports the trade-off theory, which states that companies seek to balance the benefits of using debt against the resulting financial risks. Meanwhile, companies with both high and low liquidity exhibit a relatively similar pattern in their hedging activities, meaning that the risk of exchange rate fluctuations is considered serious enough to warrant hedging to protect the value of their assets and liabilities, regardless of whether the company has high or low liquidity. This situation is linked to the weakening of the rupiah against the USD during the 2021–2024 period, which affected nearly all manufacturing firms, causing them to focus more on managing exchange rate risk than on their internal liquidity. Consequently, the pecking order theory is less relevant in this context, as it posits that firms with high liquidity tend not to engage in hedging because they are deemed to have sufficient internal funds. These results also indicate that company size does not significantly influence hedging decisions during the study period; thus, neither large nor small companies can necessarily determine the firm's decision to hedge. These findings are inconsistent with portfolio theory, which states that large companies with diverse assets and operational activities tend to diversify risk through hedging. During this period, the rupiah weakened, leading to exchange rate fluctuation risks that affected nearly all manufacturing firms both large and small due to their foreign activities, such as exports and imports. However, some large firms actually engaged in natural hedging as an alternative risk management strategy, indicating that firm size is not the primary factor in determining a firm's hedging decisions. The results of this study are expected to serve as a consideration for company management, particularly in formulating more effective risk management policies. By examining debt levels—especially foreign debt—companies should consider using derivative instruments to protect their liabilities from exchange rate

fluctuations. For regulators, these findings can provide input and serve as a basis for formulating policies that encourage companies to manage exchange rate risks to maintain national economic stability. Overall, the research model explains 30.8% of hedging decisions, indicating that there are still other factors outside the scope of this study that may influence a company's hedging decisions. Additionally, this study is limited to manufacturing sector companies from 2021 to 2024, using variables such as leverage, liquidity, and firm size; consequently, the findings are limited in their ability to fully capture the factors influencing hedging decisions. Future research is expected to expand the scope of the study, extend the observation period, and incorporate additional variables such as profitability, growth opportunities, cash flow volatility, exchange rates, financial distress, institutional ownership, and foreign ownership structure. This will ensure that the research findings are more comprehensive and provide a more complete picture of the factors influencing companies' hedging decisions in the future.

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