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THE INFLUENCE OF FINANCIAL DISTRESS, FIRM SIZE, AND MARKET TO BOOK VALUE ON HEDGING DECISIONS

Safri Junaidi[1], Adam Zakaria[2], Ratna Anggraini[3]
mhs.unj.safri.junaidi@gmail.com
Universitas Negeri Jakarta

Abstract:
The Influence of Financial Distress, Firm Size, and Market to Book Value on Hedging Decisions. Faculty of Economics and Business, Universitas Negeri Jakarta, 2025. This study aims to analyze the influence of financial distress, firm size, and market to book value on hedging decisions in energy sector companies listed on the Indonesia Stock Exchange. The research sample was obtained using purposive sampling, with a total of 152 observational data points collected over the 2021–2024 period. The data used are secondary data sourced from company financial reports accessed through the official website of the Indonesia Stock Exchange (IDX) and several other supporting sources. Data analysis was performed using binary logistic regression with the assistance of SPSS version 29 software. The results show that firm size has a significant positive effect on hedging decisions, while financial distress and market to book value do not have a significant effect. These findings indicate that firm size is a key factor in determining risk management decisions through hedging strategies. This study implies that firm size plays an important role in hedging decisions and supports agency theory. The findings are useful for management in strengthening risk strategies, for investors as a basis for evaluating managerial capacity, and for regulators in promoting transparency in corporate hedging practices.

Keywords:
Financial Distress, Firm Size, Market To Book Value, Hedging Decision.

BACKGROUND

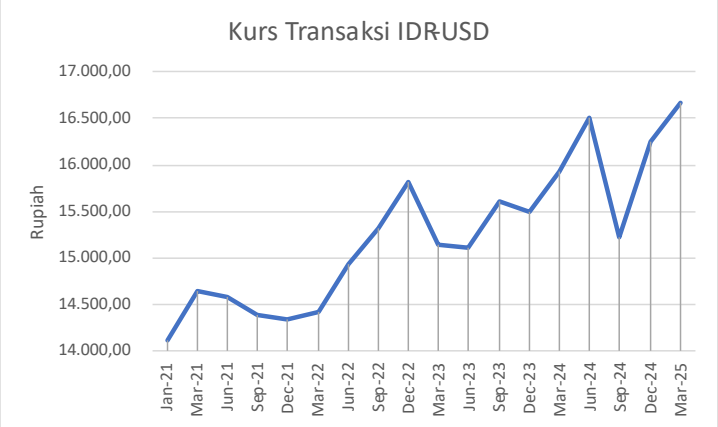
In recent years, geopolitical tensions and trade wars between major powers, particularly the United States and China, have triggered significant global economic instability. These conflicts have led to increased market uncertainty, particularly through exchange rate volatility, commodity price fluctuations, and global interest rate changes, which have in turn influenced corporate financial strategies, including those of companies in Indonesia. According to Rahatmawati & Muryantini (2020), the tariff war between the world's two largest economies disrupted global supply chains and increased exchange rate volatility in emerging markets, including Indonesia, which relies heavily on foreign trade and investment. Due to their dependence on global resources and openness to international financial markets, companies are increasingly exposed to external risks such as exchange rate, interest rate, and commodity price volatility, all of which significantly affect their financial performance (Susanto, 2018).

The energy sector, in particular, is highly vulnerable to such external shocks due to the nature of its dynamic business environment and exposure to fluctuating energy prices, foreign exchange rates, and interest rates. Zenever (2024) emphasizes that energy companies must actively manage risks related to inflation, exchange rates, global oil prices, and interest rates, as these factors significantly impact stock indices and long-term financial performance. Montel

(2024) highlights that hedging strategies are widely implemented by energy companies not only to protect receivables and payables but also to enhance financial stability and operational resilience amid global energy price volatility. Similarly, Heffron et al. (2022) argue that increasingly unpredictable energy price movements both domestically and globally necessitate the development of more integrated and comprehensive risk management strategies. Hedging is considered a key mechanism to stabilize revenues and minimize losses due to sharp price fluctuations.

Hedging is essentially a corporate effort to mitigate losses from market fluctuations by using derivative instruments such as forwards, futures, swaps, and options. These instruments enable firms to lock in future transaction values to protect them from price movements. However, hedging also involves costs, complexity, and additional risks, which is why the decision to hedge is largely influenced by internal corporate characteristics and market exposure (Brigham & Ehrhardt, 2011). The inability to manage these risks may lead to increased income and cash flow volatility, ultimately disrupting capital structure, market valuation, and investor confidence.

Ainurrakhmah (2024) finds that energy companies without hedging strategies are more vulnerable to external shocks, particularly during times of global economic instability. This is supported by Yusupova et al. (2019), who explain that the absence of effective risk management, including hedging, may lead to declining investor trust, falling share prices, and even liquidity crises. According to Haryanto (2023) in Puspita and Novianty (2024), hedging contributes not only to loss protection but also to maintaining cash flow stability and strengthening corporate financial structure and reputation.



USD Transaction Exchange Rate Trends (2021–2025)

In Indonesia, the urgency of hedging is increasing amid significant fluctuations in the rupiah against the US dollar. Bank Indonesia (2025) reports that the rupiah depreciated from approximately IDR 14,000/USD in early 2021 to IDR 16,500/USD by March 2025 a 17.8% depreciation in four years. This trend has significant implications for companies with liabilities in foreign currencies. Without hedging, the exchange rate difference between the time of recognition and the time of settlement may result in substantial foreign exchange losses, weakening both net profit and cash flow.

Samsudin et al. (2023), in their study of PT Pertamina, confirm that without foreign exchange hedging, national energy companies are exposed to significant exchange rate risks, which may lead to currency losses and potential bankruptcy. Hedging thus becomes an essential tool for corporate sustainability during periods of high currency volatility. Savitri et al. (2020) further note that hedging decisions are not solely determined by risk exposure but also by firms' internal financial characteristics.

While previous studies have examined various factors influencing hedging decisions such as leverage, liquidity, profitability, investment growth, and institutional ownership there remains a lack of research focusing specifically on the effect of financial distress, firm size, and market to book value in Indonesia's energy sector.

Triasiwi & Priantilianingtiasari (2023) assert that financial distress encourages hedging as firms become more cautious in managing financial risk. In contrast, Atmojo et al. (2023) argue that financial distress has no significant effect, as it can be managed through interest burden control and profit optimization. Regarding firm size, Imelda et al. (2024) find a positive relationship with hedging, suggesting that larger firms are more involved in foreign transactions and thus more likely to hedge. However, Savitri & Asma (2024) contend that large firms have stronger capacity to withstand financial pressure and thus may not consider hedging necessary. Similarly, Dewi & Purnawati (2016) argue that a high market to book value (MTBV) indicates significant financing needs, prompting companies to use hedging to mitigate risks. On the other hand, Putri et al. (2024) claim that high MTBV reflects financial stability due to rising stock market valuations, reducing the perceived need for derivative-based risk management.

These contrasting findings indicate a research gap that warrants further investigation. Therefore, this study aims to analyze the effect of financial distress, firm size, and market to book value on hedging decisions among energy sector companies listed on the Indonesia Stock Exchange.

THEORETICAL FRAMEWORK

Agency Theory

Agency theory, developed by Jensen and Meckling (1976), describes the contractual relationship between principals (owners) and agents (managers), which often leads to conflicts of interest due to differing objectives. While principals aim to maximize firm value, agents tend to pursue personal interests. The information asymmetry between the two parties creates opportunities for opportunistic behavior by management. In the context of corporate finance, this theory emphasizes the importance of monitoring and control mechanisms, including the implementation of hedging strategies, to align the interests of managers with those of shareholders (Froot et al., 1993).

Grossman and Hart (1986) extended agency theory through the incomplete contract framework, which argues that residual control rights over assets become crucial when not all decisions and future contingencies can be addressed in formal contracts. In this regard, ownership structure plays a key role in minimizing agency conflicts, as parties with the greatest economic stake should hold strategic control over corporate assets. This control also influences managerial incentives in making decisions, including risk management policies such as hedging.

In this study, agency theory is particularly relevant in explaining how internal corporate characteristics such as financial distress, firm size, and market-to-book value affect managerial decisions regarding hedging. By examining these variables, this research aims to determine whether hedging decisions reflect managerial efforts to align their interests with those of the shareholders, as outlined in the agency theory framework.

Hedging

Hedging is a risk management strategy used by companies to protect themselves against fluctuations in prices, exchange rates, and other systematic risks that may affect cash flow or

asset value. This strategy is implemented through derivative instruments such as forwards, futures, options, and swaps Mayasari & Rahayu (2021). In the context of Islamic finance, hedging can also be applied using sharia-compliant instruments. The main goal of hedging is to neutralize market uncertainty so that companies can maintain financial stability and execute financial planning more effectively (Hasanah, 2023).

Proponents of hedging argue that it helps reduce cash flow volatility, safeguard debt repayment capacity, and support more measured investment decisions (Kieso et al., 2020). On the other hand, critics contend that hedging may impose additional costs without adding value to the firm, particularly since market risks are believed to be already factored into share prices by investors (Subramanyam, 2014). There is also concern regarding potential moral hazard, as managers having more internal information might use hedging to pursue their own interests.

According to Brigham & Houston (2019), basic derivatives include forward contracts, futures, options, and swaps, each with different characteristics and functions in managing financial risk. In practice, corporate hedging activities are typically disclosed in the Notes to the Financial Statements (CALK), and empirical studies often measure hedging decisions using a dummy variable coded as 1 if the company engages in hedging and 0 if it does not (Amanda et al., 2024).

In this study, hedging is proxied using a dummy variable: companies that engage in hedging activities through derivative instruments are assigned a value of 1, while those that do not are assigned a value of 0. This proxy is supported by previous studies by Safitri (2021), Rusadi, Sutarjo, & Putri (2023), and Putri et al. (2024).

Financial Distress

According to Adrian & Supriyanto (2024), financial distress refers to a condition in which a company fails to meet its debt obligations. Meanwhile, Mahesh et al. (2025) define financial distress as a systemic financial failure characterized by cash flow pressures, increasing interest expenses, and a high dependence on debt.

Based on these definitions, financial distress can be understood as a severe financial difficulty experienced by a company, marked by the inability to fulfill both short- and long-term financial obligations. This condition is generally triggered by imbalances in cash flow and weak operational performance, which may lead to rising debt burdens, sustained losses, and eventually, the risk of bankruptcy.

Wulandari & Fauzi (2022) indicate that financial distress can be measured using various predictive models, such as the Grover Model, Altman Z-Score, Springate, and Zmijewski models, each employing different indicators and approaches to assess a company's financial risk level.

In this study, financial distress is proxied using the Zmijewski model. According to Wulandari & Fauzi (2022), this model is advantageous because it includes the current ratio, reflecting a company's ability to meet short-term obligations, an aspect not considered in the Altman model. This proxy is supported by Wulansari & Nelvirita (2024) , who found that the Zmijewski model has one of the highest accuracy rates in predicting bankruptcy, particularly in mining sector companies.

Firm Size

According to Afifah & Immanuela (2021), firm size is defined as the total wealth of a company, which reflects its resource capacity to support operations and disclose information. Meanwhile, Jaya (2020) states that firm size serves as an indicator of a company's scale, typically measured by total assets, total sales, or number of employees, factors that indicate

operational capability and investor confidence. Similarly, Sunarto (2009) in Moningka (2022) emphasizes that firm size can be assessed based on equity value, sales, or total assets owned by the company.

From these definitions, it can be concluded that firm size represents the scale of a company, generally measured by total assets, sales, or average revenue. This indicator reflects the extent of a company's resources in supporting operational activities and corporate disclosure.

In this study, firm size is proxied using total assets, a common approach in empirical research in Indonesia. This method is considered effective in proportionally representing the company's scale and is preferred for its ease of interpretation and statistical processing. The use of this proxy is supported by previous studies by Imelda et al. (2024), Savitri & Asma (2024), and Hidayat et al., (2024).

Furthermore, the firm's total assets will be measured using the natural logarithm (Ln) to minimize the impact of extreme values in the dataset and reduce excessive fluctuations. This measurement technique is also applied in previous studies by Imelda et al. (2024), Savitri & Asma (2024), and Hidayat et al., (2024).

Market To Book Value

According to Gumilang & Putra (2023), market to book value (MTBV) is the ratio between a company's stock market price and its book value per share, reflecting the market's perception of the company's real value. Ridha (2023) further explain that this ratio indicates how effectively a company manages and allocates its capital to achieve its operational goals.

From these explanations, it can be concluded that MTBV serves as an indicator of how the market values a company's performance and prospects. It is also used to measure growth potential and investment opportunities by comparing the market value to the book value per share.

In this study, MTBV is proxied by comparing the market price per share to the book value per share, following the approach used in previous research by Dewi & Purnawati (2016), Diana & Sriyono (2021), and Ridha (2023).

The market price used in this proxy is the annual average of the stock's closing prices, as it better reflects the fair market value compared to the price at the time of financial reporting (Innocent et al., 2020). This is supported by Pangestu & Suryana (2020), who state that stock prices fluctuate daily due to supply and demand, making the average price a more representative measure.

METHOD

This study analyzes energy sector companies listed on the Indonesia Stock Exchange. A quantitative approach is employed using numerical data from financial statements to test hypotheses. The data is sourced from official websites such as www.idx.co.id and other credible company sources.

This study uses a population of 71 energy sector companies consistently listed on the Indonesia Stock Exchange (IDX), with accessible financial statement data from 2021 to 2024.

This study employs purposive sampling, a technique where samples are selected based on the researcher's judgment in line with the study's objectives (Jailani et al., 2024). The selected samples meet specific relevant characteristics. The criteria include:

1. Companies that consistently publish financial statements from 2021 to 2024.
2. Companies that report their financial statements in US dollars (USD) for the 2021–2023 period.

No.	Keterangan	Jumlah
Popu-lation	Energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period.	71
1.	Companies whose financial statements are inaccessible or inconsistent throughout the consecutive years 2021–2024.	(11)
2.	Companies that do not present their financial statements in United States dollars (USD).	(22)
	Number of samples	38
	Total observations (4 years)	152

Based on the established criteria, a total of 38 companies were selected as the research sample with an observation period from 2021 to 2024, resulting in 152 sample data points. The analytical techniques used in this study include descriptive statistical analysis, classical assumption tests, and logistic regression analysis.

RESULT

Descriptive Statistical Analysis Test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Hedging	152	0	1	0,29	0,455
FD	152	-5,90830	2,04977	-2,1271034	1,61940963
FS	152	32.884.333	10.782.307.000	1.448.878.199,78	2.188.011.046,411
Ln_FS	152	17,30851	23,10117	20,0787115	1,48365940
MTBV	152	0,16794	20,56515	1,4722281	2,26020230
Valid N (listwise)	152				

The table above presents the results of the descriptive statistical analysis of 152 sample data points. The hedging variable has a minimum value of 0 and a maximum of 1, with a mean of 0.29 and a standard deviation of 0.455. This indicates a low level of variation in hedging practices, as only 44 companies from the total sample engaged in hedging activities. This reflects that hedging is still not widely adopted by energy sector companies in managing their financial risks.

The descriptive statistical analysis of the financial distress (FD) variable for energy sector companies listed on the Indonesia Stock Exchange from 2021 to 2024 shows a minimum value of -5.90830 and a maximum of 2.04977. The average FD value was -2.1271034, lower than the standard deviation of 1.61940963, indicating considerable variability among companies. Only 17 out of 152 company samples were found to be in financial distress, suggesting that most companies in the sample were in healthy financial condition.

The descriptive statistical analysis of the firm size (FS) variable for energy sector companies listed on the Indonesia Stock Exchange during the 2021–2024 period shows a minimum value of 17.30851 and a maximum of 23.10117. The average firm size was

20.0787115, higher than the standard deviation of 1.48365940. This suggests that most companies in the sample are large-scale enterprises with relatively low size variation. This is supported by the Indonesian Ministry of Trade (2009), which classifies large businesses as those with net assets exceeding Rp10 billion. The relatively narrow spread around the mean indicates that most firms have comparable total asset levels.

The descriptive statistical analysis of the market to book value (MTBV) variable for energy sector companies listed on the Indonesia Stock Exchange from 2021 to 2024 shows a minimum value of 0.16794 and a maximum of 20.56515. The average MTBV is 1.4722281, which is lower than the standard deviation of 2.26020230. This suggests that, in general, most companies in the sample are valued by the market above their book value, indicating good growth potential. However, the high standard deviation reflects considerable variation in how the market perceives the value of different companies.

Classical Assumption Test (Multicollinearity Test)

Coefficients[a]

Model		Collinearity Statistics		Conclusion
		Tolerance	VIF	
1	FD	0,966	1,035	Passed the multicollinearity test.
	FS	0,976	1,025	Passed the multicollinearity test.
	MTBV	0,953	1,049	Passed the multicollinearity test.

a. Dependent Variable: Hedging

The table above presents the results of the multicollinearity test with hedging as the dependent variable. All independent variables, financial distress (FD), firm size (FS), and market to book value (MTBV), have tolerance values greater than 0.10 and VIF values below 10. Specifically, FD has a tolerance of 0.966 and VIF of 1.035; FS has 0.976 and 1.025; and MTBV has 0.953 and 1.049. These findings indicate that there is no multicollinearity issue in the regression model.

Model Feasibility Test (F-Test)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	43,689	3	<,001
	Block	43,689	3	<,001
	Model	43,689	3	<,001

Based on table above, the chi-square value of 43.689 with 3 degrees of freedom and a significance level of < 0.001 indicates that the logistic regression model is statistically feasible. The significance value below 0.05 shows that the independent variables, financial distress, firm size, and market to book value, simultaneously have a significant effect on the company's hedging decisions. Therefore, the model is appropriate for further analysis.

Model Feasibility Test (Hosmer and Lemeshow's Goodness-of-Fit Test)

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8,073	8	0,426

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Based on the table above, the chi-square value is 8.073 with a significance level of 0.426, which is greater than 0.05. This indicates that the null hypothesis (H_0) is accepted, meaning there is no significant difference between the model and the actual data. Thus, the logistic regression model is considered appropriate and fit for further analysis.

Overall Model Fit Test

(*Block 0: Beginning Block*)

Iteration History[a,b,c]

Iteration		-2 Log likelihood	Coefficients Constant
Step 0	1	183,009	-0,842
	2	182,911	-0,897
	3	182,911	-0,898

(*Block 1: Method = Enter*)

Iteration History[a,b,c,d]

Iteration		-2 Log likelihood	Coefficients Constant	FD	FS	MTBV
Step 1	1	144,442	-12,651	0,094	0,593	0,071
	2	139,443	-17,605	0,140	0,828	0,094
	3	139,223	-18,890	0,155	0,889	0,100
	4	139,222	-18,965	0,156	0,892	0,101
	5	139,222	-18,965	0,156	0,892	0,101

This test is conducted to assess the model's fit with the data. The Block 0 table shows the initial model with a -2 log likelihood value of 183.009, while the Block 1 table shows a reduced value of 139.222 after including the independent variables (FD, FS, and MTBV). This decrease indicates that the regression model is appropriate and fits the data well.

Coefficient of Determination Test (Nagelkerke's R^2)

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	139,222[a]	0,250	0,357

The coefficient of determination test using Nagelkerke's R Square measures how well the independent variables explain variation in the dependent variable. The result shows a Nagelkerke's R^2 value of 0.357, indicating that financial distress, firm size, and market to book value explain 35.7% of the variation in hedging decisions. The remaining 64.3% is influenced by other factors outside the model, such as leverage, liquidity, risk management policy, or corporate governance.

Logistic Regression Analysis

The table below presents the results of hypothesis testing used to construct the logistic regression equation as the basis for model interpretation.

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Variables in the Equation

		B
Step 1[a]	FD	0,156
	FS	0,892
	MTBV	0,101
	Constant	-18,965

Logistic Regression Analysis Equation:

$$Ln\frac{hedging}{(1-hedging)} = -18{,}965 + 0{,}156\ FD + 0{,}892\ FS + 0{,}101\ MTBV$$

The regression results show that the constant (α) value of -18.965 indicates the baseline tendency of companies to engage in hedging when all independent variables are zero. All independent variables—financial distress, firm size, and market to book value—have positive coefficients (B), indicating a positive relationship with hedging decisions. In other words, the higher the level of financial distress, company size, and MTBV, the greater the likelihood that a company will engage in hedging.

Hypothesis Testing (Wald T-Test)

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	FD	0,156	0,132	1,378	1	0,240	1,168
	FS	0,892	0,167	28,468	1	<0,001	2,441
	MTBV	0,101	0,106	0,913	1	0,339	1,106
	Constant	-18,965	3,463	29,990	1	<0,001	0,000

The first hypothesis test shows that the financial distress variable has a positive regression coefficient of 0.156 and a significance value of 0.240, which exceeds the α threshold of 0.05. This indicates that H1 is rejected, meaning financial distress does not significantly influence a company's decision to engage in hedging, although a one-unit increase in financial distress increases the odds of hedging by 1.168 times.

For the second hypothesis, firm size is found to have a positive and significant effect on hedging decisions. With a regression coefficient of 0.892 and a significance level of < 0.001, H2 is accepted. This implies that larger companies are more likely to engage in hedging, with every one-unit increase in firm size raising the odds of hedging by 2.441 times.

In the third hypothesis, market to book value has a positive regression coefficient of 0.101 but a significance value of 0.339, which exceeds the 0.05 threshold. Therefore, H3 is rejected, indicating that market to book value does not significantly influence hedging decisions. Although a one-unit increase in MTBV raises the odds of hedging by 1.160 times, the effect is not statistically significant.

DISCUSSION

The Effect of Financial Distress on Hedging Decisions

The study reveals that financial distress does not have a significant effect on hedging decisions among energy sector companies listed on the Indonesia Stock Exchange. This indicates that financial pressure does not necessarily drive management to adopt hedging as a risk management strategy. For instance, PT Buana Lintas Lautan Tbk and PT Atlas Resources

Tbk, despite having high financial distress scores, opted not to hedge but instead managed risk by aligning cash flows in the same currency.

These findings do not fully align with agency theory, which suggests that managers facing financial distress should hedge to minimize bankruptcy risk and protect shareholder interests. Instead, companies may prioritize restoring operational performance and liquidity. This is supported by Wahyuningsih & Purba (2025) and Nuzul & Lautania (2015), who explain that limited resources and high transaction costs often prevent distressed firms from implementing hedging strategies.

The Effect of Firm Size on Hedging Decisions

The study reveals that firm size has a positive and significant effect on hedging decisions among energy sector companies listed on the Indonesia Stock Exchange. Larger companies are more likely to engage in hedging due to their broader operational scale and more complex risk exposures. This is exemplified by PT Alamtri Resources Indonesia Tbk, which had a high firm size score in 2022 (23.10117) and implemented both fair value and cash flow hedges as a governance tool to mitigate potential agency conflicts between management and shareholders.

This finding theoretically supports the agency theory proposed by Jensen & Meckling (1976), which argues that larger firms face higher risks of agency conflict due to the clearer separation between ownership and control. Consequently, large firms tend to use hedging not only as financial protection but also as a governance mechanism to enhance accountability and investor trust. These results are consistent with previous studies by Widjaja & Santoso (2018) and Wahyuningsih & Purba (2025), which emphasize that large-scale firms often operate internationally and are thus more exposed to foreign exchange risk, making hedging a preferred strategy to mitigate currency fluctuations.

The Effect of Market to Book Value on Hedging Decisions

The research findings indicate that market to book value (MTBV) does not have a significant effect on hedging decisions among energy sector companies listed on the Indonesia Stock Exchange. This suggests that the ratio reflecting market perception relative to a firm's book value does not directly influence managerial decisions to implement hedging strategies. For instance, PT Golden Energy Mines Tbk, despite having a high MTBV score, opted not to use hedging instruments, instead managing financial risk through a mix of fixed and floating interest rate loans.

This result does not fully support agency theory, which posits that firms with high market value and thus higher growth potential and uncertainty, should be more inclined to hedge to reduce risk and preserve investor confidence (Jensen & Meckling, 1976). However, the findings suggest that management in energy firms may prioritize internal financial conditions, market risk exposure, or corporate policies over MTBV in hedging decisions.

These findings align with previous studies by Putri et al. (2024) and Safitri (2021), which argue that firms with high MTBV typically possess sufficient financial resources to manage currency risk without the need for hedging. Conversely, firms with low MTBV have limited growth prospects and face lower exchange rate risks, making hedging less necessary.

CONCLUSION

This study aims to analyze the effect of financial distress, firm size, and market to book value on corporate decisions to use derivative instruments as a hedging strategy. The research employs logistic regression analysis with a total of 152 observational data obtained from the

financial statements of energy sector companies listed on the Indonesia Stock Exchange (IDX) during the 2021–2024 period. The conclusions are as follows:

1. The results show that financial distress has no significant effect on hedging decisions in Indonesia's energy sector. Although agency theory suggests that financial pressure encourages management to hedge, companies in distress tend to prioritize operational recovery, improving liquidity, and managing debt efficiency. Additionally, limited resources and the high cost of hedging transactions become further obstacles. Thus, financial distress is not yet a primary factor influencing hedging policy in this sector.
2. Firm size has a positive and significant effect on hedging decisions. Larger firms tend to face more complex risk exposures and have broader operational scales, making them more likely to adopt hedging strategies to maintain financial stability and long-term performance. This finding is consistent with agency theory and previous studies, which state that large firms are more likely to use hedging as part of responsible risk management and corporate governance.
3. Market to book value does not significantly affect hedging decisions. This indicates that MBV reflecting the market's perception relative to a firm's book value, is not a major determinant in hedging policies. Although agency theory argues that high-MBV firms have greater incentives to hedge in order to sustain investor confidence, in practice, energy firms tend to base hedging decisions on internal financial structures and risk management policies rather than market valuation.

Research Limitations

This study has several limitations that should be acknowledged:

1. The research object is limited to energy sector companies listed on the Indonesia Stock Exchange, which restricts the generalizability of the findings to other sectors with different risk characteristics and operational structures.
2. The coefficient of determination test (Nagelkerke's R^2) indicates that only 35.7% of the variation in hedging decisions is explained by the variables used in this model, while the remaining 64.3% is influenced by other factors not included in this study.
3. The variables financial distress and market to book value did not show a significant effect on hedging decisions in energy sector companies. This may be due to differing management perceptions of market value or the lack of direct use of market indicators in risk management decision-making.

Recommendations

Given the limitations of this study, several recommendations are proposed for future research:

1. Future studies are encouraged to expand the scope of research beyond the energy sector to include other industries with different risk characteristics, such as manufacturing or infrastructure, in order to obtain more comprehensive and generalizable results.
2. It is also advisable to consider incorporating additional variables such as leverage, liquidity, risk management policy, or corporate governance to provide a more complete understanding of the factors influencing hedging decisions.

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