

Financial Performance and Firm Size as Determinant of Hedging Decision in Indonesia Stock Exchange

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ABSTRACT: The research aims to determine and analyse the effect of leverage, liquidity, profitability, and firm size on hedging decisions. The population in this research is state-owned enterprise companies listed on the Indonesian Stock Exchange for 2019–2022. The sample was determined using a purposive sampling technique, so the sample obtained was 13 companies. The data used in this research is secondary data obtained from financial statements or the annual report on the official website of IDX and the relevant company website. The data analysis technique is logistic regression analysis with the IBM SPSS Statistics version 21 application. The results show that the leverage proxied by the debt-to-equity ratio (DER) has a significant positive effect on hedging decisions. Meanwhile, the liquidity proxied by the current ratio (CR), the profitability proxied by the return on assets (ROA), and the firm size proxied by total assets have no effect on hedging decisions.

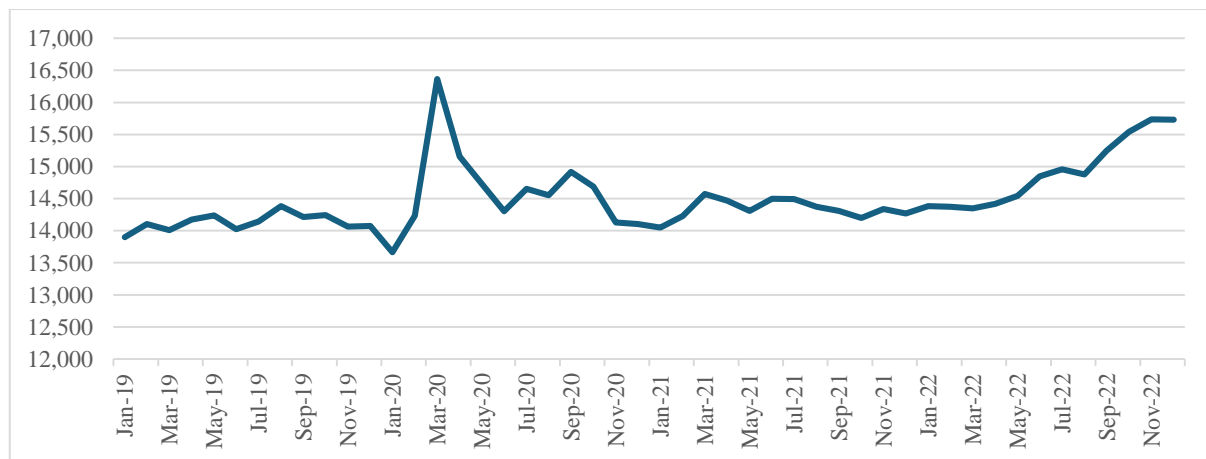
KEYWORDS: Hedging, Leverage, Liquidity, Profitability and Firm Size

1. INTRODUCTION

As a developing country, Indonesia uses a hedging strategy as an effective way that companies can use to minimize the negative impacts resulting from changes in currency exchange rate fluctuations. Fluctuations in foreign currency exchange rates are a market risk that can be minimized or reduced by risk management by hedging using derivative instruments such as *forward*, *future*, *swap* and *option* (Moningka et al., 2022).

Hedging activities are influenced by several external factors of the company. The exchange rate (exchange rate) is one of the factors that influences hedging activities. The following is a graph of fluctuations in the IDR or rupiah exchange rate against USD for 2019–2022.

Figure 1. Movement of the Rupiah Exchange Rate Against the Dollar 2019-2022



Source: www.satudatakemendag.go.id (Data processed, 2023)

Referring to the graph above, it is known that there was a very fluctuating movement in the IDR exchange rate against the USD throughout 2019 to 2022. The dollar (USD) reached its highest level of appreciation in March 2020. This caused the rupiah exchange rate to weaken by IDR 16,367 per USD dollar. This also coincided with the beginning of the COVID-19 disease outbreak, where the disease outbreak had a negative impact on various economic sectors, one of which was state-owned companies. Losses due to fluctuations in exchange rates have an impact on the activities carried out by state-owned companies, such as state-owned companies will have difficulty paying their obligations if the debt is in foreign currency because the company must provide more funds, this will have the potential to experience default if the state-owned company difficulty in paying off its obligations when they fall due. Apart from that, another impact that can be felt if exchange rate fluctuations occur is a decrease in company profits.

Apart from being influenced by external factors, hedging activities are also influenced by internal factors such as the company's financial performance. Good financial performance plays an important role in hedging activities because it allows companies to

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manage risks more effectively. This can minimize uncertainty and increase the predictability of the company's financial performance. Financial performance measures can be seen from financial ratios, for example, liquidity, leverage, profitability, and company size.

There are several funding options for companies to improve their performance, one of which is by using debt, but using high debt can make a company experience extreme debt or what is known as extreme leverage, that is, the company is in debt that is too high so that it has difficulty paying it off. The debt-to ratio is used as a measure of the company's leverage level. Leverage, also referred to as the solvency ratio, is a debt ratio that indicates how much of a firm is backed by debt and how well it can meet its short- and long-term financial obligations. When company conditions are favourable, high leverage will improve returns, and vice versa.

For businesses with a high leverage ratio, hedging is particularly helpful as it helps to stabilize cash flow and lower expenses associated with underinvestment, financial difficulty, and other cash flow-related issues. The debt-to-equity ratio (DER) is a useful tool for calculating leverage. The Debt-to-Equity Ratio (DER) is a financial metric that indicates how debt and equity are allocated to a company's funding and indicates the company's capacity to meet its financial obligations. Previous research (Jayanti & Yadnya, 2020), (Mahasari & Rahyuda, 2020) and (Sudiarta & Setyawan, 2022) found that leverage positively influences hedging decisions.

The liquidity ratio can be proxied through the current ratio, where the company's current assets must be greater than its current liabilities so that the company is always in a liquid condition. The more liquid the company, the smaller the risk of the company's failure to pay off its short-term debt when it matures; thus, the risk of financial difficulties experienced by the company will also be smaller, resulting in a decrease in the company's hedging activities (Rahmadina et al., 2023). Previous research from (Hosama, 2022), (Setiyono et al., 2021), (Mahasari & Rahyuda, 2020), (Jayanti & Yadnya, 2020), and (Rachmat & Kustina, 2019) shows that liquidity has a negative effect on hedging decision.

The measure of profitability indicates how well a business uses its resources to generate profits through return on assets. Profitable businesses typically grow faster, therefore those who conduct big transactions run the danger of losing money on even the smallest adjustments. Thus, the more profitable a company is, the more likely it is to encourage other companies to grow their networks, which is why businesses typically hedge against potential dangers. This explanation is supported by research (Sudiarta & Setyawan, 2022) and (Wanda, et al., 2024), shows that profitability positively influences hedging decisions.

The term company size is defined as the size of a company, which can be seen from the size of the company's total assets. The bigger the company grows, the more its activities become not just domestic trade transactions but also international trade transactions. This indicates that the larger the company, the bigger the risk faced by the company, especially related to changes in the exchange rates for international transactions (Yudha et al., 2023).

Larger companies engage in more hedging activities than smaller ones do in order to protect their assets from the risk of fluctuations in currency exchange rates. This is because larger companies are more likely to conduct transactions in multiple countries, which naturally involve a variety of foreign currencies. Previous research conducted by (Dharmiyanti & Darmayanti, 2020), (Rachmat & Kustina, 2019), (Primayudha et al., 2023), (Vural-Yavas, 2016), and (Pujana et al., 2022) provided results showing company size has a positive influence on hedging decisions.

2. RESEARCH METHODS

Quantitative research is used within the scope of this research. Furthermore, the type of research used is associative, using casual relationships. The research population consists of state-owned companies listed on the BEI, or Indonesian Stock Exchange, namely 24 companies. The sample in the study was taken using a purposive sampling technique. The sampling criteria were: (1) state-owned enterprises (BUMN) that did not carry out hedging activities during the 2019–2022 period, so a sample of 13 companies was obtained. Data is collected using documentation techniques; thus, the data obtained is secondary data, which can be accessed on the official IDX website, or the official website of the company concerned. This research data analysis uses logistic regression analysis techniques. Research data processing uses SPSS version 21 software.

3. RESULTS

3.1. Overall model fit test results

The first step taken was to assess the overall model fit of the data. This research was conducted to find out whether the model fits the data after the independent variables are included. This test is carried out by comparing the -2LogL value at the beginning (block number = 0) with the -2LogL value at the end (block number = 1). If there is a decrease in the number from -2 log likelihood (block number = 0) to -2 log likelihood (block number = 1), then overall the regression model shows a good model or a model that is hypothesized to fit the data (Ghozali, 2021). The -2 -log likelihood value at the beginning (block number = 0) and the -2 log likelihood value at the end (block number = 1) are shown in the following table:

Table 1. Result -2 Log Likelihood (block number = 0)

Iteration		-2 Log likelihood	Coefficients Constant
Step 0	1	60,638	0,923
	2	60,579	0,997
	3	60,579	0,999
	4	60,579	0,999

Source: SPSS 21 Output Results (Data processed, 2024)

Table 2. Result -2 Log Likelihood (block number = 1)

Iteration		-2 Log likelihood	Coefficients				
			Contant	DER	CR	ROA	LnFS
Step 1	1	52,214	-3,849	0,169	0,739	-0,002	0,111
	2	50,423	-5,780	0,274	0,964	-0,003	0,162
	3	50,267	-6,562	0,319	1,037	-0,004	0,182
	4	50,265	-6,668	0,325	1,048	-0,004	0,184
	5	50,265	-6,669	0,325	1,048	-0,004	0,184
	6	50,265	-6,669	0,325	1,048	-0,004	0,184

Source: SPSS 21 Output Results (Data processed, 2024)

Referring to the table above at -2 Log likelihood at the end (block number = 1), we get the number -2 Log likelihood is 50.265, which means there is a decrease of 10.323 (60.579 – 50.265). This shows that adding independent variables, namely leverage, liquidity, profitability, and company size, to the model improves model fit (the model that is hypothesized to fit the data) and shows a better regression model.

3.2. Coefficient of determination test results

Nagelkerke's square value can be interpreted like the R2 value in multiple regression. The coefficient of determination is used to measure how far the model's ability is to explain variations in the dependent variable (Hair et al., 2007) The results of the Nagelkerke's Square calculation can be seen in the following table:

Table 3. Coefficient of Determination Results

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke Square	R
1	50,265 ^a	0,180	0,261	

Source: SPSS 21 Output Results (Data processed, 2024)

Based on Table 3, it shows that the Cox & Snell R square value is 0.180 and the Nagelkerke's square value is 0.261, which means that the variability of the dependent variable, namely hedging, can be explained by the variability of the independent variables, namely leverage, liquidity, profitability, and company size, of 26.1% . , while the remaining 73.9% is explained by other variables not tested in this study.

3.3. Hosmer and Lemeshow's Goodness of Fit Test

This test is used to test Ho that the empirical data is appropriate or fits the model. If the Hosmer and Lemeshow's Goodness of Fit Test value is <0.05, it means that H0 is rejected, so there is a significant difference between the observation value and the model. On the other hand, if the Hosmer and Lemeshow's Goodness of Fit Test value is > 0.05, it means that H0 is accepted or not rejected, which means the model can predict or predict the observed value (Ghozali, 2021). To find out whether a model is accepted or not, you can see the following table:

Table 4. Results of Hosmer and Lemeshow

Step	Chi-square	df	Sig.
1	12,274	8	0,139

Source: SPSS 21 Output Results (Data processed, 2024)

Based on table 4, it is known that the test results obtained are the Hosmer and Lemeshow's Goodness of Fit Test value, namely 12.274, with a significance level of 0.139 or > 0.05. Therefore, it can be concluded that the model can predict observation values and is suitable for use in the next stage of testing.

3.4. Logistic regression coefficient test results

Table 5. Logistic Regression Coefficient Test Results

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	DER	0,325	0,145	5,034	1	0,025	1,385
	CR	1,048	0,764	1,883	1	0,170	2,852
	ROA	-0,004	0,030	0,020	1	0,886	0,996
	LnFS	0,184	0,133	1,912	1	0,167	1,203
	Constant	-6,669	4,484	2,213	1	0,137	0,001

Source: SPSS 21 Output Results (Data processed, 2024)

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From the testing with logistic regression above, the following logistic equation is obtained:

$$\text{Ln} \frac{P}{1-P} = -6,669 + 0,325\text{DER} + 1,048\text{CR} - 0,004\text{ROA} + 0,184\text{LnFS}$$

1. Sig value. Leverage as measured by the debt-to-equity ratio is 0.025, where this value is < sig value 0.05 (5%). This proves that H1 is accepted, which means there is an influence.
2. Sig value. Liquidity is proxied by a current ratio of 0.170 > sig level 0.05 (5%), so it can be concluded that H2 is rejected. This proves that there is no significant influence.
3. Sig value. Profitability is proxied by a return on assets of 0.886 > the sig level value of 0.05 (5%), so it can be concluded that H3 is rejected. This proves that there is no significant influence.
4. Sig value. Company size as proxied by total assets is 0.167 > sig level value 0.05 (5%), so it can be concluded that H4 is rejected. This proves that there is no significant influence.

3.5. Discussion

Referring to research results, it can be explained that debt is a funding option that companies can use to improve company performance. However, using debt that is too high can cause a company to experience extreme leverage or extreme debt, where the company is trapped in debt that is too high and has difficulty paying it. So, the higher the leverage, the higher the risk of financial difficulties that the company will bear because the company's debt is greater than the amount of capital available. Therefore, the implementation of hedging decisions in a company will increase. This is done with the aim of reducing or minimizing the risks caused by exchange rate fluctuations.

Referring to research results, it is known that leverage influences hedging decisions in state-owned companies listed on the IDX for the 2019–2022 period. These results are in line with the results of research conducted by (Sudiarta & Setyawan, 2022), (Jayanti & Yadnya, 2020), and (Rachmat & Kustina, 2019) which show that leverage has a positive influence on hedging decisions.

Based on the research results, it shows that the average liquidity of state-owned companies has increased during the research period. This increase causes companies not to hedge because the company has a high level of liquidity and is considered capable of paying its short-term obligations at maturity with available reserve funds. The risk of default and financial difficulties can be avoided. In this research, liquidity has no effect on hedging decisions in state-owned enterprises (BUMN) listed on the Indonesia Stock Exchange for the 2019–2022 period. This is supported by the results of research conducted by (Dharmiyanti & Darmayanti, 2020), (Wanda et al., 2024) and (Yudha et al., 2023) which show that liquidity has no effect on hedging decisions.

Based on the research results, it is known that the average profitability of state-owned companies fluctuated greatly during the research period. In 2022, profitability will increase significantly from the previous year. This is because the high level of profitability reflects the company's management's ability to gain profits from each of its operational activities. Managing assets efficiently and effectively can reduce costs incurred by the company. The company's low expenses indicate that the company can save expenses. Additionally, less spending suggests that the business has enough money to run its activities, reducing the likelihood that it may run into financial issues. The company's hedging operations will be reduced as a result of this low risk.

This research shows that profitability has no influence on hedging in state-owned companies listed on the IDX for the 2019–2022 period. This is supported by the results of research conducted by (Pujana et al., 2022) and (Yossy Aria Primayudha et al., 2023), which show that profitability has no effect on hedging decisions.

The overall assets of the sample companies are significantly greater than the total debt, according to statistics on company size and total assets. This demonstrates that a firm's asset size indicates its capacity to meet its financial obligations. As a result, the corporation is able to weather a variety of potential financial difficulties and has not adopted a hedging policy.

Referring to the results obtained by the research, it is known that company size does not influence hedging decisions in BUMN companies listed on the IDX for the 2019–2022 period. These results are supported by research results conducted by (Wanda et al., 2024), which show that company size does not influence hedging decisions.

4. CONCLUSION

The research results show that the hedging decisions of state-owned companies in Indonesia are influenced by leverage, which is measured by the debt-to-equity ratio (DER). This shows that the company's decision to increase debt has an impact on increasing the risks that it will face. To reduce the magnitude of risk due to funding decisions through debt, companies can carry out hedging activities.

REFERENCES

- 1) Dharmiyanti, D., & Darmayanti, A. (2020). The influence of liquidity, growth opportunities, and firm size on non-finance companies' hedging policy in Indonesia Stock Exchange. *American Journal of Humanities and Social Sciences Research*, 4(1), 129–135. www.ajhssr.com
- 2) Ghozali, I. (2021). *Multivariate Analysis Application with IBM SPSS 26 Program*. Badan Penerbit Universitas Diponegoro.
- 3) Hair, J. F., Money, A. H., Samouel, P., & Page, M. (2007). *Research Methods for Business. Education + Training*, 49(4), 336–337. <https://doi.org/10.1108/et.2007.49.4.336.2>
- 4) Hosama, E., & Roni Setyawan, I. (2022). Determinants of Hedging Decisions in State-Owned and Private Manufacturing Firms on the IDX. *Journal of Economics, Finance and Management Studies*, 05(11), 3157–3164. <https://doi.org/10.47191/jefms/v5-i11-05>

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- 5) Jayanti, D. A. N., & Yadnya, I. P. (2020). The Effect of Leverage, Liquidity and Growth Opportunity on Hedging Decision Making in Mining Companies at Indonesia Stock Exchange. *American Journal of Humanities and Social Sciences Research*, 4(12), 251–257. www.ajhssr.com
- 6) Mahasari, A. A. K., & Rahyuda, H. (2020). The Effect of Firm Size, Leverage, and Liquidity on Hedging Decisions of Consumer Goods Industry on the Indonesia Stock Exchange. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 4(10), 106–113. www.ajhssr.com
- 7) Moningka, R. S., Tulung, J. E., & Wangke, S. J. C. (2022). Factors that Influence Hedging Decisions in Mining Companies Listed on the Indonesian Stock Exchange for the 2016-2020 Period. *Jurnal LPPM Bidang EkoSosBudKum (Ekonomi, Sosial, Budaya, Dan Hukum)*, 6(1), 427–436.
- 8) Pujana, W., Ramdhan, D., Indrajaya, D., & Putry, M. (2022). Analysis of the Effect of Current Ratio, Debt to Equity Ratio, Return on Assets, and Company Size on Derivative Hedging Decision Making in Pharmaceutical Companies. *Institute of Computer Science (IOCS)*, 12(4), 2804–2813.
- 9) Rachmat, A. S., & Kustina, L. (2019). The influence of rupiah exchange rate, firm size, leverage, and liquidity on hedging decision. *Journal of Research in Business, Economics, and Education*, 1(1), 58–63. <http://e-journal.stie-kusumanegara.ac.id>
- 10) Rahmadina, R., Putra, D., Mahardika, K., & Murti, G. (2023). The Influence of Leverage, Liquidity, and Growth Opportunity on Hedging Decisions (Case Study of a Coal Subsector Mining Company Listed on the Indonesia Stock Exchange for the 2016-2021 Period). 10(4), 2006–2017.
- 11) Setiyono, W., Prapanca, D., & Pramudita, N. A. (2021). Do the Firm Size, Debt Level, and Liquidity Have Impact on the Hedging Decisions. *Proceedings of the 2nd International Conference on Business and Management of Technology (ICONBMT 2020)*, 175, 233–241. <https://doi.org/10.2991/aebmr.k.210510.038>
- 12) Sudiarta, B. H., & Setyawan, I. R. (2022). Determining Factors of Hedging Decisions in Indonesia Stock Exchange. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, 6(1), 95. <https://doi.org/10.24912/jmieb.v6i1.11909>
- 13) Vural-Yavas, C. (2016). Determinants of Corporate Hedging: Evidence from Emerging Market. *International Journal of Economics and Finance*, 8(12), 151. <https://doi.org/10.5539/ijef.v8n12p151>
- 14) Wanda, M. G., . T., & Santoso, B. H. (2024). The Influence of Liquidity, Exchange Rate Profitability and Firm Size on Hedging Decision Making in Bank Companies on the Indonesian Stock Exchange. *Journal of Economics, Finance And Management Studies*, 07(04), 2025–2038. <https://doi.org/10.47191/jefms/v7-i4-27>
- 15) Yossy Aria Primayudha, Gunarsih, T., & Transistari, R. (2023). The Impact of Managerial Ownership and Financial Performance on Hedging Decisions. *International Journal of Finance & Banking Studies (2147-4486)*, 12(2), 13–21. <https://doi.org/10.20525/ijfbs.v12i2.2393>
- 16) Yudha, J. O. M., Oktavia, R., & Desriani, N. (2023). the Effect of Foreign Debt, Liquidity, Firm Size, and Exchange Rate on Hedging Decision. *Journal of Indonesian Economy and Business*, 38(2), 133–146. <https://doi.org/10.22146/jieb.v38i2.5887>
- 17) Sudiarta, B. H., & Setyawan, I. R. (2022). Determining Factors of Hedging Decisions in Indonesia Stock Exchange. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, 6(1), 95. <https://doi.org/10.24912/jmieb.v6i1.11909>
- 18) Vural-Yavas, C. (2016). Determinants of Corporate Hedging: Evidence from Emerging Market. *International Journal of Economics and Finance*, 8(12), 151. <https://doi.org/10.5539/ijef.v8n12p151>
- 19) Wanda, M. G., . T., & Santoso, B. H. (2024). The Influence of Liquidity, Exchange Rate Profitability and Firm Size on Hedging Decision Making in Bank Companies on the Indonesian Stock Exchange. *Journal of Economics, Finance And Management Studies*, 07(04), 2025–2038. <https://doi.org/10.47191/jefms/v7-i4-27>
- 20) Yossy Aria Primayudha, Gunarsih, T., & Transistari, R. (2023). The Impact of Managerial Ownership and Financial Performance on Hedging Decisions. *International Journal of Finance & Banking Studies (2147-4486)*, 12(2), 13–21. <https://doi.org/10.20525/ijfbs.v12i2.2393>
- 21) Yudha, J. O. M., Oktavia, R., & Desriani, N. (2023). the Effect of Foreign Debt, Liquidity, Firm Size, and Exchange Rate on Hedging Decision. *Journal of Indonesian Economy and Business*, 38(2), 133–146. <https://doi.org/10.22146/jieb.v38i2.5887>