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Analyzing The Impact of Hedging Practices, Institutional Ownership, and Debt Policies on Firm Value With Firm Size as Variable Moderation in Banking Sub Sector of Indonesia Stock Exchange

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***Abstract*—This study's purpose is to develop a conceptual framework to examine the effect of hedging practices, institutional ownership, and debt policy on firm value while considering the moderating role of firm size. Secondary data from the banking subsector on the Indonesia Stock Exchange during 2018-2022 was used, with a sample of 37 companies and a total of 185 data points. The purposive sampling method was used, and the analysis was conducted using moderation regression analysis. The results show that hedging practices and debt policy have no significant impact on firm value, while Institutional ownership positively and significantly impacts firm value. Based on moderation regression analysis, it is clear that firm size can moderate the relationship between hedging and firm value, as well as between debt policy and firm value. However, it does not moderate the effect of institutional ownership on firm value.**

Keywords— Debt Policy; Firm Size; Firm Value; Hedging Practices; Institutional Ownership

I. INTRODUCTION

This paper discusses the determinant factors that can affect firm value. Company value is one of the important things that needs to be considered, apart from company profits. It is crucial information for stakeholders, especially investors, in making decisions and assessing the company's financial performance [1]. Many factors can impact or influence firm value, including hedging practices, institutional ownership, and debt policy. Additionally, the size of the company can also have an effect relationship between those variables. However, The economic uncertainty in the Asia-Pacific region has led to unstable firm values, notably affecting Indonesia's banking sector. The recent fluctuations in the firm value of the banking sub-sector on the Indonesia Stock Exchange highlight the need for detailed research into the effects of hedging practices, institutional ownership, and debt policy. Furthermore, this study will investigate whether firm size moderates these effects. To explore these relationships, Multiple Regression Analysis (MRA) will be employed to show the effect of the independent variables on the dependent variable and to determine the moderating effect of firm size.

The uncertainty of exchange rates in Indonesia is influenced by economic fluctuations in major countries such as the United States and the European Union. One of the strategies used to mitigate this uncertainty is hedging, specifically through foreign currency derivative instruments. Hedging can increase company value by protecting financial stability from exchange rate fluctuations [2] . Companies that implement hedging tend to have better [1], [2], [3], [4] . In addition, institutional ownership can oversee governance and decision-making, reducing conflicts between managers and shareholders, and thereby increasing firm value [5], [6], [7]. The use of excessive debt in uncertain economic conditions can increase the risk of bankruptcy and financial costs, which reduce the value of the company, companies with low debt levels are more considered by investors and shareholders because it indicates that the company's operations are financed with a small amount of debt, reflecting better financial performance. This has an impact on investor confidence in the company, which then has a positive effect on the firm's value [8], [9], [10] . On the other hand, company size plays an important role in gaining better access to resources,

sophisticated hedging instruments, and credit markets so that it has the potential to strengthen the effect between hedging, institutional ownership, and debt policy on company value [9], [11].

Based on the explanation above, previous studies have not fully considered the complex interaction between multiple factors such as hedging, institutional ownership, and debt policy simultaneously, especially within the banking sub-sector. While some studies have discussed the firm size role, in-depth research on the way firm size can moderate the effect between these three variables and company value remains limited. Many previous studies used simple analytical methods such as linear regression, which may not be sufficient to capture the complex dynamics between variables in uncertain economic conditions.

Therefore, researchers took the initiative to combine the analysis of several hedging variables, institutional ownership, and debt policy with company size as a moderating variable, providing a deeper understanding of the factors that affect firm value simultaneously. In addition, researchers discuss cases that are rarely discussed in depth, especially in the banking sub-sector. This paper uses the Moderated Regression Analysis (MRA) method, which allows a more in-depth and accurate analysis of the relationship between variables and how company size can affect the relationship.

By filling the gap in previous research, this study is intended to contribute to providing new empirical evidence and deeper insights into the factors that affect firm value in unstable economic conditions. The conclusion of this paper also intends to provide theoretical implications for practitioners in developing strategies for managing risk and increasing firm value through hedging practices, institutional ownership management, and good debt policy. Based on the identified problems, the research questions developed are whether hedging practices, institutional ownership, and debt policy impact firm value, and whether company size can moderate the effects of these three variables on firm value.

II. RESEARCH METHODS

This study is quantitative and employs a descriptive research design, an approach aimed at describing the characteristics of a phenomenon or population. In this research, there are three independent variables: hedging, institutional ownership, and debt policy with firm value as the dependent variable. Additionally, firm size serves as a moderating variable in this study.

The data from this study was taken with a period of 2018-2022. The data taken on a national scale is precisely from the Indonesia Stock Exchange. The study includes banking sub-sector companies listed on the Indonesia Stock Exchange during 2018-2022 as its population. Samples were selected based on criteria, namely banking companies that go public and listed (IPO) before 2018 on the Indonesian stock exchange, and companies that present complete financial data and were not suspended during the period of the study year. Based on this filter, 37 companies were obtained with a total of 185 data. The study utilizes secondary data sourced from financial reports and annual reports of companies within the banking sub-sector listed on the Indonesia Stock Exchange. These data were accessed through www.idx.co.id and the official websites of the relevant companies.

The Company value variable was measured using Tobin's Q according to [12]. In calculating hedging using dummy variables, companies that engage in hedging are coded as "1", whereas companies that do not hedge are coded as "0" [1]. The institutional ownership variable is measured by the proportion of stock owned by institutions to total outstanding shares [13]. The debt policy variable is measured using the DER formula [14]. The moderating variable measures the natural logarithm of total assets [15]. This research was established using the moderation regression analysis method, to investigate whether there is an effect between two variables and whether the moderating variable can moderate this relationship. This research was conducted through moderation regression with the following equation [16]:

$$Tobin's\ Q = a + \beta_1 Hedging + \beta_2 Inst\_Own + \beta_3 DER + \mathcal{E}$$
$$Tobin's\ Q = a + \beta_1 Hedging + \beta_2 Inst\_Own + \beta_3 DER + \beta_4 Hedging.Size + \beta_5 Inst\_Own.Size + \beta_6 DER.Size + \mathcal{E}$$

Based on the issues and equations mentioned above, the conceptual framework can be concluded as follows:

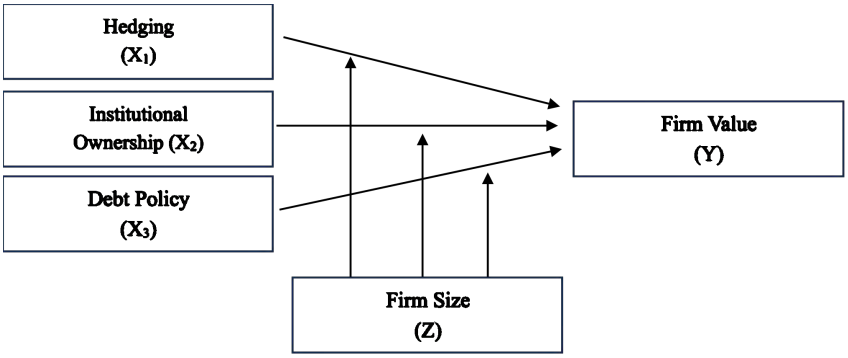

Figure 1. Thinking Framework

Source: Processed Data (2024)

Drawing on prior research and established theories, the following hypotheses are posited:

H1: Hedging positively impacts firm value.
H2: Institutional ownership positively influences firm value.
H3: Debt policy positively affects firm value.
H4: Company size moderates the impact of hedging on firm value
H5: Company size moderates the impact of institutional ownership on firm value
H6: Company size moderates the impact of debt policy on firm value

Based on the above equations and hypotheses, data testing is carried out through the Eviews version 13 application. The data processing begins with model selection, testing the FEM, CEM, or REM models through Hausman test, Chow test, and LM test if necessary. After the model selection, data analysis includes descriptive statistics, F-test, and Moderated Regression Analysis (MRA). Classical assumption tests are omitted, considering that not all such tests are necessary for every linear regression model using the OLS approach, especially given that the data utilized are panel data rather than time series data. [17]

III. RESULT AND DISCUSSION

Table 1. Results of Panel Data Model Tests

No	Testing	Result
1	Chow Test	FEM
2	Hausman Test	FEM

Source: Processed Data (2024)

Based on the results, the FEM (fixed effect model) is identified as the optimal model in this study.

Table 2. Descriptive Test Results

	Tobin's Q (Y)	Hedging (X1)	Inst_Own (X2)	DER (X3)
Mean	1.453174	0.372973	0.760815	5.434009
Median	0.983448	0.000000	0.848521	5.149202
Maximum	21.84963	1.000000	1.340076	16.07858
Minimum	0.010309	0.000000	0.000000	0.492513
Std. Dev.	2.462673	0.484907	0.191412	2.837708
Skewness	6.839079	0.525345	-0.762034	1.041916
Kurtosis	50.85003	1.275987	3.739227	4.486856

Source: Processed Data Eviews 13 (2024)

Based on the descriptive statistics, Tobin's Q has an average value of 1.453174, a standard deviation of 2.462673, and a median of 0.983448, with values ranging from a minimum of 0.010309 to a maximum of 21.84963. It exhibits skewness of 6.839079 and kurtosis of 50.85003. Hedging practices show an average of 0.372973, a standard deviation of 0.484907, and a median of 0, ranging from a minimum of 0 to a maximum of 1, with skewness of 0.525345 and kurtosis of 1.275987. Institutional ownership averages 0.760815, with a standard deviation of 0.191412, and a median of 0.848521, ranging from a minimum of 0 to a maximum of 1.340076. It shows skewness of -0.762034 and kurtosis of 3.739227. Debt-to-Equity Ratio (DER) averages 5.434009, with a standard deviation of 2.837708, and a median of 5.149202, ranging from a minimum of 0.492513 to a maximum of 16.07858. It exhibits skewness of 1.041916 and kurtosis of 4.486856.

Table 3. Multiple Regression F Test Results

R-squared	0.423011
Adjusted R-squared	0.267821
S.E. of regression	2.107247
Sum squared resid2	643.8712
Log likelihood	-377.8643
F-statistic	2.725757
Prob(F-statistic)	**0.000008**

Source: Processed Data Eviews 13 (2024)

Based on the results of the research F test shows that the significance value or significant value is 0.000008 below the significant value of 0.05. The table also shows the R-squared value is 0.423011 while the Adjusted R-squared value of 0.267821.

Table 4. Multiple Regression T-Test Results

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C (Intercept)	-2.175383	1.484652	-1.465248	0.1450
hedging (X_1)	0.246433	0.697075	0.353524	0.7242
Inst_Own (X_2)	4.878528	1.536251	3.175606	0.0018
DER (X_3)	-0.032207	0.114340	-0.281679	0.7786

Source: Processed Data Eviews 13 (2024)

Based on the above results, the regression equation is concluded as follows:

$$Y=-2.175383+0.246433X_1 \quad +4.878528X_2 \quad -0.032207X_3 \quad +\varepsilon$$

The t-test results table indicates that the impact value of hedging on firm value does not achieve a t-value of significance, scoring 0.353524, below the critical value of 1.97323, with a probability level of 0.7242, exceeding 0.05. Conversely, institutional ownership's impact on firm value shows a t-value of 3.175606, surpassing the critical value of 1.97323, with a significance level of 0.0018, below 0.05. Meanwhile, the effect of debt policy on firm value registers a t-value of -0.281679, lower than the critical value of 1.97323, with a probability level of 0.7786, exceeding 0.05.

Table 5. Regression F Test Results after Moderation

R-squared	0.518626
Adjusted R-squared	0.376247
S.E. of regression	1.944970
Sum squared resid	537.1731
Log likelihood	-361.1054
F-statistic	3.642587
Prob(F-statistic)	**0.000000**

Source: Processed Data Eviews 13 (2024)

After conducting moderation regression, the F test indicates an R-squared value of 0.518626 and an Adjusted R-squared value of 0.376247, with a significant value of 0.0000, which remains below 0.05.

Table 6. Regression T-Test Results after Moderation

Variable	*Coefficient*	*Std. Error*	*t-Statistic*	*Prob.*
C (Intercept)	-48.60469	22.53443	-2.156908	0.0327
hedging (X_1)	-0.112082	0.648947	-0.172714	0.8631
Inst. Own (X_2)	109.6495	21.66253	5.061712	0.0000
DER (X_3)	-2.396144	2.220556	-1.079074	0.2824
Hedging.Size	-3.450272	0.716526	-4.815280	0.0000
Inst_Own.Size	0.078768	0.072747	1.082763	0.2807
DER.Size	1.551265	0.744455	2.083760	0.0390

Source: Processed Data Eviews 13 (2024)

Based on the above table, the regression equation is concluded as follows:

$$Y=-48.60469-0.112082\,x_1 \quad +109.6495\,x_2 \quad -2.396144\,x_3 \quad -3.450272x_1.z+0.078768\,x_2.z \quad +1.551265\,x_3.z + \varepsilon$$

The results indicate that the impact of hedging on firm value with firm size moderation has a t-value of -0.172714 with a probability level of 0.8631. The impact of institutional ownership on company value moderate by company size shows a t-value of 5.061712 with a probability level of 0.0000. The effect of debt policy (DER) on company value with company size moderation has a t-value of -1.079074 with a significance level of 0.2824. The t-value for the moderating impact of firm size on the effect of hedging on company value is -4.815280, with a significance level of 0.0000. For the moderating effect of firm size on institutional ownership, the t-value is 1.082763, with a probability level of 0.2807. Lastly, the moderating effect of firm size on DER shows a t-value of 2.083760, with a probability level of 0.0390.

Based on Table 4, with a probability level of 0.7242 exceeding 0.05, it can be deduced that the first hypothesis (H1) is rejected. The observed effect of hedging on firm value is positive but lacks statistical significance. This suggests that despite hedging being commonly viewed as a strategy to mitigate financial risk, in this instance, it does not significantly enhance firm value. This could be due to several factors, one of which is market efficiency, where information about hedging strategies is already reflected in stock prices, thus not providing a significant surprise. Additionally, unstable economic conditions can make the benefits of hedging less apparent due to high market volatility.

The positive effect of institutional ownership on firm value is statistically significant at a level of 0.0018, which is less than 0.05, indicating acceptance of the second hypothesis (H2). This underscores the significant and positive influence of institutional ownership on firm value, emphasizing the crucial role of institutions in corporate governance. This finding supports Agency Theory, where significant institutional ownership can reduce conflicts of interest between management and shareholders. This is because institutions are typically more capable of monitoring and influencing management decisions, thereby gaining company value. These results are consistent with findings from previous studies. [5], [6], [7].

Based on Table 4, the result is that the Debt Policy does not affect Firm value. At a significance level of 0.7786, which exceeds the critical value of 0.05, the third hypothesis (H3) is rejected. The influence of debt policy on firm value is negative but not statistically significant. The capital structure, whether with a high or low proportion of debt, does not significantly impact firm value in this instance. Companies with high levels of debt may also experience reduced investor interest. Investors perceive excessive debt as posing substantial risks to the company, potentially reducing profits and thereby decreasing the company's stock price and overall value. However, the lack of significant impact of debt policy on firm value could be attributed to other factors that investors consider in this scenario.

Table 6, it terminates that firm size moderates the effect relationship of hedging on company value. With a probability value of 0.0000 below the significance level of 0.05, indicating acceptance of the fourth hypothesis (H4), the impact of company size is found to be negative and significant on the relationship between hedging and firm value. This discovery can be elucidated by the Resource-Based View (RBV) theory, suggesting that larger companies might possess greater resources and capabilities to implement effective hedging strategies, thereby influencing their stock prices.

The effect of institutional ownership on firm value is not moderated by firm size. With a significance level of 0.2807, which exceeds the threshold of 0.05, it indicates that the fifth hypothesis (H5) is rejected. Firm size, as a moderating variable, exhibits a positive but insignificant influence on the relationship between institutional ownership and firm value. Despite the positive nature of institutional ownership, its impact on firm value does not appear to be strengthened by firm size, suggesting that investors may not perceive firm size as a critical factor in enhancing the effect of institutional ownership.

The effect of debt policy on firm value is moderated by firm size, with a significance level of 0.0390, which is less than the significance threshold of 0.05. Therefore, the sixth hypothesis (H6) is accepted. Moderating variable firm size is negative and significant on debt policy on firm value. Large companies may not necessarily affect debt policy on firm value. Investors may assume that large companies that increase debt can be assumed to be facing financial problems or uncertainty, which can increase risk perceptions and reduce share value (Signaling Theory).

In the F test, the value of R-squared is 0.518626 suggesting that approximately 51.86% of the variability in the dependent variable (Y) can be attributed to the independent variables in the model. The adjusted R-squared value, accounting for the number of variables, is 0.376247, indicating that about 37.62% of the variability in the dependent variable can be explained by the model. The significant p-value of 0.0000, which remains below 0.05, suggests that the conducted moderation regression is considered appropriate.

IV. CONCLUSION

This study investigates how hedging practices, institutional ownership, and debt policy influence firm value within the banking subsector listed on the Indonesia Stock Exchange between 2018 and 2022. Using multiple regression and moderation analysis, it was found that institutional ownership significantly increases firm value, supporting agency theory. However, hedging and debt policy show no significant effect. Firm size moderates the effects of hedging and debt policy but does not affect institutional ownership. These results contradict some previous studies, suggesting that the effectiveness of hedging and debt policy in increasing firm value is not optimal. In conclusion, Institutional investors are seen as playing an important role in supervision and corporate governance, with the effectiveness of hedging and debt policy varies depending on the size of the company. This study provides a reference for the banking sector in Indonesia regarding the determinants of firm value. Banking practitioners can focus on increasing the involvement of institutional investors, evaluating and improving existing hedging strategies, and adjusting debt policy to the size of the company to optimize firm value. Future research can explore the factors that influence the effectiveness of hedging and debt policy and expand the scope of the study to validate the findings.

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