

The Effect of Profitability, Leverage, and Growth Opportunity on Hedging Activities in 2017 (Study on BUMN Listed on Indonesia Stock Exchange)

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ABSTRACT

This study was done to determine the effect of Return on Assets (ROA), Debt to Equity Ratio (DER), and Growth Opportunities for Hedging activities in 2017. The objects of research are state-owned companies listed on the Indonesia Stock Exchange. The sampling technique employed was the purpose-sampling method. This method obtained 19 companies that met the criteria from total of 20 companies in one year. The type of data used was secondary data and the method used was descriptive analysis and logistic regression using the overall model fit, R Square, and T Test. The results show that Return on Assets affects the hedging activity, whereas Debt to Equity Ratio and Growth Opportunities do not affect hedging activities.

Keywords: *profitability, leverage, Growth Opportunities, Hedging*

1. INTRODUCTION

The development of globalization that is sweeping across countries in the world makes international business an increasingly attractive opportunity. An increasingly rapid international economy is characterized by the flow of trade both capital and goods between countries. The mechanism that occurs in international trade is the delivery of goods and the payment of a sum of money between the two countries that carry out the transaction. International trade occurs because it is driven by several factors such as differences in the ability to master science, technology in processing economic resources, meeting the needs of domestic goods and services, the desire to gain profits, and increase state revenues. To market their products, there are differences in conditions such as natural resources, climate, labor, culture, and population that cause differences in production results, a common taste in goods, a desire to open cooperation, political relations and support from other countries, and the occurrence of globalization so that no country in the world lives alone. International trade transactions are different from domestic trade transactions because the former involve several countries. Cash payments can also import debt which followed by payment agreements in certain foreign currencies and agreed time limits, so countries that have import debt must exchange their domestic currency before making payments. In this case, companies that conduct international trade will face more complicated problems compared to problems in domestic market.

In connection with the value of foreign exchange rates of each country which fluctuates against other countries, there is uncertainty in the payment of international trade because the transaction value can change in line with the fluctuations of foreign currency drainage. If the foreign currency depreciates against the relevant foreign currency, the value of import debt will increase. To avoid this, many companies engaged in export and import are trying to hedge or employing hedge techniques.

According to [1], systemic risks arise on the confluence of many factors and are accompanied by widespread losses and spikes in correlations across asset classes. The common factors frequently underlying market bubble are discussed by [2]. These include speculative leverage, investor emotions, and a misunderstanding of the true consequences of financial innovation, to name a few. The failure of Lehman Brother, for example, announced on Sunday, September 14, 2008, signalled the severity of the collapse in credit markets, as well as geographic boundaries. In this chapter, the researchers demonstrate the degree of non-normality of return with particular attention to the shape of the left tail of the distribution of return recently witnessed across various global markets. The researchers also cover multivariate models of risk that conditioned on three common factors (liquidity, volatility, and default risk) giving the researchers probabilities of instantaneous failure (hazard rates) as well as a joint failure across the market. A failure event is defined as a *threshold exceedance*.

Together, these models form a basis of monitoring tail risk and providing conditional forecasts of extreme returns both within and across markets.

Company risk can be known by measuring exposure. According to [3], exposure can be interpreted as a vulnerable object that adversely affects the performance of a company that experiences the risk, besides that the risk can also be defined in various ways. [4] said that risk can be defined as an event or adverse event. The company's losses can be seen in the financial statements that show expenses due to foreign exchange exposures. Foreign exchange losses can be seen from the declining profit from a company's financial statements. Companies can cope risks with good and suitable management so that every potential risk can be avoided by the company; this can be interpreted as risk management.

2. LITERATURE REVIEW

[3] conducted research on the effect of leverage, profitability, and liquidity on hedging decisions in mining sector companies on the Indonesia Stock Exchange. Independent variables used were leverage, profitability, and liquidity. The dependent variable used were Hedging decision. The method of determining the sample employed a purposive sampling technique and obtained 30 sample companies that met the criteria and 120 firm-year observation. The analysis technique applied in this study was logistic regression analysis. The results show that leverage significantly has a positive effect on hedging decisions by using derivative instruments. Profitability has a negative and insignificant effect on hedging decisions by using derivative instruments. Liquidity has a significant negative effect on hedging decisions by using derivative instruments.

[3] conducted research on the effect of leverage, growth opportunities, and liquidity on hedging decisions at PT Unilever Tbk. Independent variables used were leverage, growth opportunities, dividend policy, and liquidity. The dependent variable used was hedging decisions. This study used non-participant observation methods in data collection and multiple linear regression analysis techniques which include the classical assumption test and hypothesis testing using partial tests and coefficient of determination. The results show that leverage has significant positive effect on hedging decisions using the derivative instrument. Growth opportunities have a significant positive effect on hedging decisions using derivative instruments. Dividend policy has positive and significant implications for hedging decisions. Liquidity has a significant positive effect on hedging decisions using derivative instruments.

[5] conducted a study on the effect of market to book value and liquidity toward hedging decisions on manufacturing companies on the Indonesia Stock Exchange. Independent variables used were market to book value and liquidity. The dependent variable used was hedging decision. This study took sample of 6 manufacturing companies listed on the Indonesia Stock Exchange during the study period, namely 2009 to 2013, by using a purposive sampling method. The

analysis technique used in this study was multiple linear regression analysis. The results show that market to book value has significant positive effect on hedging, and liquidity decisions has significant negative effect on hedging decisions using derivative instruments.

[6] conducted research on the effect of leverage and profitability on hedging decisions in manufacturing companies in Indonesia. Independent variables used were leverage and profitability. The dependent variable used was hedging decisions. This study aimed to test the financial distress hypothesis in manufacturing companies listed on the Indonesia Stock Exchange in the period 2010 to 2013. Purposive sampling technique was employed according to established criteria, thus 125 company samples and 500 firm-years observations were obtained. Logistic regression was used to test the financial distress hypothesis. The results show that leverage significantly and negatively influence hedging decisions, and profitability significantly and positively influence hedging decisions using derivative instruments.

3. RESEARCH AND METHODOLOGY

In this study, the data used was secondary data. Secondary data is data obtained from other parties, not from the current researchers and research subjects, which are usually in the form of available report data. The data were collected through documentation method. Documentation is collecting data by recording documents related to this study. The data used in this study were the 2017 State-Owned Enterprises' financial statements. The software used for data processing was SPSS.

Population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to be studied and drawn conclusion [7]. The population in this study were companies of State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange on 2013-2017 period, totalling 20 companies. The sample was determined from companies that met several criteria of purpose sampling method (sample selection with certain criteria) as follows:

| No. | Information | Total |
|-----|--|-------|
| 1. | BUMN companies listed on the Indonesia Stock Exchange (IDX) during the 2017 period | 20 |
| 2. | BUMN companies that issue financial statements in the 2017 period | 19 |
| 3. | BUMN companies that have data in accordance with research variables during the 2017 period | 19 |
| | Research sample multiplied by 1 (year) | 19 |

Variables Used: An operational definition is a complete set of instructions about what must be observed and how to measure a variable or concept, and talks about how abstract concept ideas transformed into an easily measurable empirical indicator. Besides, operational definition is clear translation of a variable and its indicators in detail, it also avoids multiple interpretations, so that the existing variables

can be measured. The operational definitions in this study are as follows:

1. Dependent Variable

The dependent variable in this study is hedging activity. Hedging activity is measured using dummy numbers, such as code 1 for companies that conduct hedging activities with derivative instruments and code 0 for companies that do not conduct hedging activities with derivative instruments [8].

2. Independent Variables

The independent variable (free) is a type of variable that explains or influences other variables. In this study, it includes:

1) ROA

According to [9], ROA is calculated by comparing net income available to ordinary shareholders with total assets. It can be formulated as follows:

$$ROA = \frac{Net\ income}{Total\ assets}$$

Great value of ROA shows that the company's performance is getting better because it means greater rate of return on investment. This value reflects the company's return of all assets given to the company [10].

2) DER

DER is used because it is the most appropriate ratio to describe the company's capital structure and it can show the company's financial condition. According to [11-12] systematically, the DER can be formulated as follows:

$$DER = \frac{Total\ Liabilities}{Total\ Equity}$$

3) Growth Opportunities

High growth will require more funds, especially external funds, to meet investment needs or to meet the needs of finance growth. The proxy used to measure a company's growth opportunity or growth opportunity is MVE/BVE, which is a comparison between Market Value of Equity and Book Value of Equity. According to [8, 13] systematically, the company's growth opportunities can be formulated as follows:

$$Growth\ Opportunities = \frac{MVE}{BVE}$$

The analytical method used to test the hypothesis in this study is logistic regression. Also, descriptive analysis is used to provide an overview of the variables in this study. In addition, the feasibility of a regression model was tested to assess the regression model. The following is an explanation of the analysis method.

Descriptive Analysis

Descriptive analysis is the elementary transformation of data in a way that describes the basic characteristics such as central tendency, distribution, and variability. Maximum, minimum, means, variants, and standard deviation typify widely applied descriptive statistics [14]. Descriptive statistics provide an overview of the research data in the form of research variables which include profitability, leverage, corporate growth opportunities, and hedging activities.

Logistic Regression

Logistic Regression, along with discriminant analysis, is an appropriate statistical technique when the dependent

variable is a categorical (nominal or nonmetric) variable and the independent variable are metric or nonmetric variables. Logistic regression is specialized form of regression formulated to predict and explain a binary categorical variable rather than a metric dependent measure [15].

The estimated coefficient for the independent variable is estimated using either the logit value or the odds value as the dependent measure. Each of these model formulations is shown here.

$$Logit_i = b_0 + b_1X_1 + \dots + b_nX_n$$

Analysis of logistic regression testing models [15].

4. ANALYSIS AND RESULTS

4.1. Descriptive Analysis

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| ROA | 19 | -5.65 | 18.51 | 4.1842 | 6.36678 |
| DER | 19 | .59 | 10.34 | 2.8147 | 2.50550 |
| Growth Opportunity | 19 | .00 | 15.71 | 3.1643 | 3.73858 |
| Valid N (listwise) | 19 | | | | |

1) ROA

The table of the results from descriptive analysis of ROA variable notes that the lowest range (minimum) is -5.65 owned by PT Garuda Indonesia Tbk in 2017, while the highest range (maximum) is 18.51 owned by PT Adhi Karya Tbk in 2017. For that value, the mean of ROA variable is in the percentage of 4.1842, which indicates that the average sample company has a comprehensive profit higher than the total assets. The standard deviation value of 6.36678 is greater than the average value of 4.1842, it means that the data deviations occurring are high or that there is a large gap between the lowest and highest company ROA, hence the spread of data is not normal.

2) DER

The table of the results from descriptive analysis of leverage variable notes that the lowest range (minimum) is 0.59 owned by PT Bukit Asam Tbk in 2017, while the highest range (maximum) is 10.34 owned by PT Bank Tabungan Negara Tbk in 2017. For the value, the mean of DER variable is in a percentage of 2.8147, which indicates that the average sample company has a capital composition of debt that is higher than the total capital it has. The standard deviation value of 2.50550 is smaller than the average value of 2.8147, it means that the data deviations occurring are low or that there is small gap between the lowest and highest DER of the company, hence the spread of data is normal.

3) Growth Opportunity

The table of the results from descriptive analysis of the growth opportunity variable notes that the lowest range (minimum) is 0.001 owned by PT Pembangunan

Perumahan Tbk in 2017 and PT Waskita Karya Tbk, while the highest range (maximum) is 15.71 owned by PT Perusahaan Gas Negara Tbk in 2017. The mean value of the growth opportunity variable is in the percentage of 3.1643, this indicates that the average sample company has the highest chance of growth reflected in higher market prices compared to the book value of shares issued by the company. The standard deviation value of 3.73858 is greater than the average value of 3.1643, it means that the data deviations occurring are high or that there is a large gap between the lowest and highest growth opportunity of the company, hence the spread of data is not normal.

4.2. Logistic Regression

Testing the Regression Model Eligibility

| | B | S.E. | Wald | df | Sig. | Exp(B) |
|---------------------|-------|-------|-------|----|------|--------|
| Step 1 ^a | | | | | | |
| ROA | .264 | .088 | 9.081 | 1 | .003 | 1.303 |
| DER | -.535 | .379 | 1.999 | 1 | .157 | .585 |
| Growth Opportunity | -.299 | .243 | 1.513 | 1 | .219 | .742 |
| Constant | 2.923 | 1.803 | 2.628 | 1 | .105 | 18.590 |

The magnitude of the influence of the independent variable on the dependent variable and the coefficient value of the variable can be seen through the value of B, while the significant value of the variable can be seen in the column sig, furthermore, the relationship between odds with the independent variable can be seen through Exp (B). Based on table 4.9, the constant value is 2.923, while the constant value of the variable ROA is 0.264, the constant value of the DER variable is -0.535, and the constant value for the growth opportunity variable is -0.299, so the logistic regression model can be seen as follows:

$$\text{Logit}_i = 2.923 + 0.264 X_1 + -0.535 X_2 + -0.299 X_3$$

Information:

- X₁ = ROA
- X₂ = DER
- X₃ = Growth Opportunities

4.3. Results

Based on the results of the hypothesis test above explained as follows:

1. Effect of ROA on Hedging activities

H1: ROA has a positive effect on hedging decisions.

Hypothesis testing on H1 shows that the results of the regression ROA variable has a regression coefficient of 0.264 with a significant value of 0.003, which indicates less than 0.05. Because the significant value of the test is smaller than 0.05 (0.003 < 0.05) then H0 is rejected, and H1 is accepted. It means that the company's ROA affects hedging activities.

2. Effect of DER on hedging activities

H2: DER has a positive effect on hedging decisions.

Hypothesis testing on H2 shows that the DER variable regression results have a regression coefficient of -0.535 with a significant value of 0.157, which indicates greater than 0.05. Because the significant value of the test is greater than 0.05 (0.157 > 0.05), H0 is accepted and H2 is rejected. It means that DER has no effect on hedging activities.

3. Effect of growth opportunities on hedging activities

H3: Growth opportunities have a positive effect on hedging decisions.

Hypothesis testing on H3 shows that the regression results of the growth opportunity variable have a regression coefficient of -0.299 with a significant value of 0.219, which indicates a greater than 0.05. Because the significant value of the test is greater than 0.05 (0.219 > 0.05), H0 is accepted and H3 is rejected. It means that growth opportunities do not affect hedging activities.

| Hypothesis | Hypothesis Remarks | Result | | Hypothesis Remarks (H ₀) |
|----------------|--|--------|-------|--------------------------------------|
| | | B | Sig. | |
| H ₁ | ROA has a positive effect on hedging activities. | 0.264 | 0.003 | Rejected |
| H ₂ | DER has a positive effect on hedging activities. | -0.157 | 0.157 | Accepted |
| H ₃ | Growth opportunities have a positive effect on hedging activities. | -0.299 | 0.299 | Accepted |

The research discussion aims to provide an overview and results obtained from this study. After going through statistical calculations, the results of the research can be described as follows:

1. Effect of profitability on hedging activities

The results of hypothesis testing show that ROA as a proxy of profitability affects the hedging activity. These results indicate that the first hypothesis, profitability has a positive effect on hedging decisions, is accepted.

Companies with high profit levels tend to be faster in expanding the business. If the company's profitability is increased, the company will implement a strategy to continue increasing its profit. The strategy taken by the company, for example, is by expanding its business, which initially only covers domestic market, extends to international market. Such strategy will be able to provide greater profit opportunities for the company. From a great opportunity for profit, there is also a very large risk. Small changes can certainly cause a risk of loss caused by a very volatile international market situation. The risk faced by expanding company will get bigger because international market conditions are very dynamic that it can cause large losses for companies that carry out transactions in large numbers, therefore the company must always reduce risk through hedging activities.

The results of this study is consistent with [6] research. Based on the results of the logistic regression test, it is shown that return on assets as a proxy of profitability has a positive and significant effect on the dependent variable, namely hedging decisions using derivative instruments. It is because a company with a higher level of profit tends to expand its business faster because the international market

conditions are very dynamic, so any small changes that occur can cause large losses to companies that make transactions in large numbers; therefore, the company must always reduce the risk through hedging.

In contrast to research by [16], which states that profitability shows a negative influence on hedging decisions toward companies that have advantages in the form of local currencies, and in the management and purchase of raw materials to be operated also use local currencies, therefore there is no effect when there is a fluctuation in foreign exchange rates. It means that the increase or decrease in the value of ROA does not affect the company in making hedging decisions. Revenue and the majority of company operations are carried out in local currency; therefore, there is no need to convert its currency into foreign currency.

2. Effect of leverage on hedging activities

The results of hypothesis testing show that DER as a proxy of leverage has no effect on hedging activities. These results indicate that the second hypothesis, leverage has a positive effect on hedging decisions, is rejected.

The results of this test are in accordance with the study of [6]. By using a sample of 125 manufacturing companies in Indonesia in 2010-2013, it was found that DER had a negative but not significant effect. It can be caused by companies conducting international transactions with debts and are not denominated by foreign exchange rates, in other words, most of the company's debts come from domestic so that the company does not need hedge. Therefore, the company does not need protection from foreign exchange exposures, in other words, companies with high debt may not necessarily hedge. Therefore, there is an inverse but insignificant relationship between debt to equity ratio and hedging decisions.

It is in contrast to the research from [12]. The results of the logistic regression test shows that the leverage variable consistently has a positive regression coefficient sign with a significance value smaller than 0.05 (alpha). It means that leverage has a positive and significant effect on the probability of conducting hedging activities against fluctuations in currency exchange rates (rupiah against US dollars) with foreign exchange derivative instruments.

These results indicate suitability with the hypothesis. Increased leverage will indicate the likelihood of hedging actions through increased transaction exposure. Conversely, companies with lower leverage will show the possibility of hedging actions through decreased transaction exposure.

High leverage ratio shows that companies use high debt which means it can increase profitability but increases the risk. Companies that have transaction exposures will have debt denominated in foreign currencies (US dollars) so that they have the risk of fluctuations in currency exchange rates. When the local currency (rupiah) depreciates, the value of debt denominated in foreign currencies (US dollars) will increase. Increased value of debt can be detrimental to the company in meeting its debt obligations. With the risk of financial difficulties due to the struggle of fulfilling obligations, companies need to take hedging measures to reduce the adverse effects of these risks. The higher the leverage, the greater the hedging action taken to

reduce the adverse effects of risk so that hedging activity is positively related to leverage.

3. Effect of growth opportunities on hedging activities

The results of hypothesis testing show that growth opportunities do not affect hedging activities. These results indicate that the third hypothesis, growth opportunities has a positive effect on hedging decisions, is rejected.

The results of this test are in accordance with [17] which used sample of 210 non-financial companies in Indonesia in 2012-2013. It indicated the significance value for the growth options variable of 0.554 (greater than 0.05) meaning that partially growth options have no effect on hedging activity. The results of this study indicate that companies engaged in hedging activities are not associated with high or low levels of investment growth opportunities and market value owned by the company.

In contrast to the research by [18] which states that the variable level of Corporate Growth Opportunity or Growth Opportunity has a regression coefficient of 11.914 with a probability value (sig) of 0.011, and has a wald statistic of 6.447. It shows that the Growth variable is significant because it has a sig value less than 0.05, and the wald statistic value is greater than the chi-square table value (3.841). It means H_a states that the Growth Opportunity variable has a positive effect on hedging and significant decision making.

5. CONCLUSION

This study aims to obtain empirical evidence about the effect of profitability, leverage, and the company's growth opportunities on hedging activities. The analysis was conducted on 19 State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange (IDX) in 2017. According to the results of discussion, the following conclusions can be drawn:

1. Profitability affects hedging activities

Companies with high-profit levels tend to be faster expanding their business because international market conditions are very dynamic, any small changes that occur can cause large losses for companies that conduct large amounts of transactions; therefore, companies must always reduce risk by conducting hedging activities.

2. Leverage do not affect hedging activities

Companies with debts that carry out international transactions which are not denominated by foreign exchange rates, or in other words, most of the company's debts come from domestic, do not hedge because the company does not yet need protection from foreign exchange exposures.

3. Growth opportunities do not affect hedging activities

Increasing leverage will indicate the probability of hedging actions taken by companies, with increased transaction exposure. Conversely, companies with lower leverage will indicate the probability of hedging actions taken by companies, with decreased transaction exposure.

SUGGESTIONS

Based on the limitations of this study, the researchers provide the following suggestions:

1. The further research is expected to be able to reproduce data of State-Owned Enterprises that are used in order to better describe the effect of the independent variable on the dependent variable in each type of company.
2. Further research can use primary data by distributing questionnaires or conducting interviews directly with management, so that the variables used are not only derived from secondary data. It is expected that further research can predict the cause of companies making hedging decisions more precisely.
3. Further research should add more time for conducting the study, so the research can collect more number of samples to be studied and consistency can be obtained from the results of the study.

IMPLICATION

The research has implications for the following entities:

1. Investors can be used as additional considerations in making investment decisions.
2. For management, it is suggested to provide additional considerations in making hedge decisions.
3. For academics, it can be used as an additional reference for the knowledge about the effect of profitability, leverage, and growing opportunities for hedging activities.

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