DETERMINANT OF HEDGING ACTIVITIES IN SOE COMPANIES LISTED IN INDONESIA STOCK EXCHANGE PERIOD 2015-2019

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh peluang pertumbuhan, *leverage*, ukuran perusahaan, kesulitan keuangan, dan nilai pasar terhadap aktivitas lindung nilai. Penelitian ini menggunakan metode penelitian kuantitatif, yaitu metode penelitian yang digunakan untuk menguji populasi atau sampel tertentu dari populasi. Populasi penelitian semua perusahaan BUMN yang terdaftar di Bursa Efek Indonesia 2015-2019 dengan total 100 perusahaan, kemudian peneliti menggunakan tehnik pengambilan sampel dengan *purposive* sampel sehingga data sampel penelitian berjumlah 65 perusahaan. Teknik analisis data menggunakan regresi logistik. Hasil penelitian ini menunjukkan bahwa peluang pertumbuhan dan ukuran perusahaan memiliki pengaruh positif terhadap aktivitas hedging. *Leverage* memiliki pengaruh negatif terhadap aktivitas hedging. Kesulitan keuangan dan nilai pasar tidak berpengaruh terhadap aktivitas hedging. Hasil penelitian ini diharapkan mampu berkontribusi sebagai salah satu sumber informasi masukan dan wawasan bagi suatu perusahaan ketika akan menerapkan pengambilan keputusan hedging menggunakan instrumen derivatif valuta asing. Bagi peneliti selanjutnya dan akademisi diharapkan ini dapat memberikan kontribusi dalam pengembangan teori dan dijadikan sebagai sebuah literatur.

Keyword : *Lindung nilai, Peluang Pertumbuhan, Kesulitan Keuangan, Ukuran Perusahaan*

Introduction

Along with the uncertainty of the global economy, hedging or commonly known as "hedging" is a hot topic to be discussed. As quoted in one of the newspapers that Bank Indonesia (BI) urged the State-Owned Enterprises (SOE) to carry out hedging so that foreign debt does not trigger an economic crisis as happened several years ago. International trade transactions differ from domestic trade transactions because international trade transactions involve several countries (Ahmad, and Balkis, 2012). International trade is a conservative approach that companies can use to expand their markets overseas (by exporting) or obtain low-priced raw materials (by importing). The number of international

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trade activities will pose a high risk. Related with that company needs to engage in risk management.

Bank Indonesia (BI) promotes SOEs that have high exposure to foreign currency values to immediately hedge. Throughout 2014 the value of oil and gas imports was carried out. Pertamina reached US $ 31 billion, while the value of imported derivative products reached US $ 25 billion. In addition to pay for oil bought from abroad, Pertamina also often use the dollar to fund operations and meet capital expenditure. In addition, Pertamina also has foreign and operational debt obligations in foreign currencies. While more than 80 % of the receipts are received in rupiah. As a result there is a potential for cash flow missmatch, which must be mitigated by hedging risk . It is estimated that there is a missmatch in Pertamina's cash reaching U $ 600 million. Meanwhile, until the end of last year, the company's debt in dollars reached US $ 16 billion. In the past May PT Pertamina (Persero) hedged its transactions using foreign currencies of US $ 2.5 billion or around Rp 32.8 trillion (cnn.com).

Risk management is one important element in the company. This is related in an effort to minimize the various risks that occur in running the company. According to (Djojosoedarso, 2003) risk management is the implementation of management functions in managing risks, especially risks faced by organizations/ companies, families and communities. So it includes activities to plan, organize, organize, lead or coordinate, and supervise (including evaluating) risk management programs . Risks arise because of the conditions of uncertainty. Uncertainty could come from fluctuations in the movement of high activity, the higher the fluctuation, the big level of uncertainty (Mamduh, 2009).

The motivation of this study is due to the dissimilarity of the results of research between previous studies. Growth opportunity in research Guniarti, (2014) and Aslikan dan Siti (2017) has a positive influence on the decision-making hedging activities, on right in research Widyagoca (2016) describes the growth opportunity negatively affect hedging activities. In research Kurniawan, and Asandimitra (2018) states that leverage has a positive effect on hedging decision making, while in research Aritonang et al., (2018) states that leverage has a negative effect on hedging activities. Firm size in research (Guniarti, 2014) and (Aritonang, et al., 2018) explain the positive effect on decision making for hedging activities, while in research Ahmad and Balkis, (2012) states that firm size has no effect on hedging activities. Financial distress has a positive effect on hedging activities in research (Aslikan, and Siti, 2017), and (Mediana, 2016), while financial distress has a negative effect on hedging activity based on research (Ahmad and Balkis, 201 2) and (Dewi and Ni Ketut, 2016). According to the study Ahmad and Balkis (2012) and Dewi and Ni Ketut (2016) market to book value have the effect of positive to the decision hedging, but in research Aslikan and Siti (2017) show market to book value have a negative effect on hedging activities.

Other motivations are adding vulnerable years of research that used to be only for 3 years (2015-2017) now changing to 5 years (2015-2019) and adding independent variables to financial distress and market to book value with the hope

of adding vulnerable research years and adding variables can provide new research contributions. This research is a replication study from a research journal conducted by (Aritonang, et al.,2018). Differences The difference in this study with previous research is the addition of financial distress and market to book value variables. The reason for adding this variable is because when a company that has a transaction exposure indicates a low Altman's Z-Score value, the company will be more careful in managing its finances so that it is motivated to protect from various risks including the risk of fluctuations in currency exchange rates. So, if the Z-Score is low, then the company will be encouraged to do hedging activities to avoid financial difficulties.

This is consistent with the results of research (Guniarti, 2014), In research (Sangkasari, 2011) and supported based on research results (Sami et al.,2004) which show that market to book value is proven to consistently have a high correlation with the realization of company growth. Market to book value indicates the investor's view of the company's value. For a company that is considered good, its shares will be sold higher than the book value. A high market to book value indicates that the company's growth opportunities are also high, to finance the growth the company will likely use loans from other parties so that the risks faced by the company will be greater. One way to minimize the risks that a company faces can be to use hedging to protect its debt value, the higher the market to book value of a company, the greater the use of its foreign exchange derivative instruments.

The contribution of this study is that companies can become a reference for consideration in making investment decisions by taking into account the impact of decision making on hedging activities carried out by SOE companies in accordance with Bank Indonesia Regulation Number 16/20/2014 concerning Application of Prudential Principles in Debt Management Foreign Bank Nonbank Corporation and Regulation of the Minister of State Owned Enterprises concerning Submission of Guidelines for the Formation of SOP of Hedging Transactions (hedging) Number S-687 / MBU / 10/2014 .

Literature Review
Risk management

Activities to predict, identify, measure and manage risks that will occur are often referred to as risk management (Sunaryo, 2007). Risk management aims to study the characteristics of risk so that we can manage risk well. Failure to manage risk can have serious consequences for the organization. Unexpected changes in the value of foreign currencies can have an impact on sales, prices, and earnings of exporters and importers. Thus, the company will directly or indirectly experience the impact of foreign activities so there is a risk due to fluctuations in foreign exchange

The activity of trade between countries allows companies to get greater risk because in the sale or purchase transaction with other countries using different currencies. Differences in the currency in which the company requires strategiuntuk manage these risks, including self-insurance that the company in question provides a number of reserve funds to sustain these risks alone; or

transfer the risk to third parties with derivative instruments. According to (Utomo, 2000) explained that a derivative instrument is a contractual agreement between two parties to sell or buy a number of goods (can be in the form of financial assets or commodities) at a certain date in the future at a price agreed upon at this time. In addition to the two strategies used to manage the risks above, hedging strategies are emerging or can be called hedges, which are strategies to avoid or manage foreign exchange risk (Sunaryo, 2007).

Agency Theory

Agency theory bases the contractual relationship between members in the company, where the principal and the agent are the main actors. Agency theory provides strong support for the use of hedges in response to the mismatch between management incentives and the interests of shareholders. Corporate risk management can also be used as a monitoring mechanism in reducing asymmetric information and contributing to avoiding opportunistic behavior from managers. According to (Messier et al.,2006), this agency relationship causes two problems, namely: (a) the occurrence of asymmetric information, where management in general has more information about the actual financial position and operating position of the entity by the owner, and (b) the occurrence of conflict interests due to unequal goals, where management does not always act in the interests of the owner.

Application of risk management can reduce agency costs and increase the value of p erusahaan.Menurut (Jensen and Meckling,1976) split the cost of this agency be monitoring costs, bonding costs and residual loss. Monitoring costs are costs incurred and borne by the principal to monitor agent behavior, that is to measure, observe, and control agent behavior. Bonding costs are costs borne by the agent to establish and comply with mechanisms that guarantee that the agent will act in the interests of the principal. Furthermore, residual loss is a sacrifice in the form of reduced principal prosperity as a result of differences in agent decisions and principal decisions.

Hypothesis Development
Effect of Growth Opportunity on Hedging Activities

In accordance with risk management theory that companies that have high growth opportunity opportunities make it possible to expand or expand the business. Due to limited funds owned in the company, the company chose to make loans to third parties or banks (eg using foreign currencies) to achieve the objectives of expanding the business. With this decision, the company will accept external parties' funds with a risk of foreign exchange if in the future (when paying off debt) fluctuates. This can have an impact on the health of the company's cash flow due to the large cost burden that the company must incur to pay off the debt. So one of the strategies for risk management is to take advantage of hedging activities by using derivative instruments (for example, future contracts) in making loans to third parties.

In research Aslikan and Siti, (2017), growth opportunity has a positive effect on hedging decisions, this is in line with research conducted by Kurniawan and Asandimitra, (2018) which states that growth opportunity has a positive effect on hedging decisions because companies that have gowth hight opportunity shows

that the company will need to finance expansion or investment through third party loans, to reduce the risk can be done with hedging activities . Then the following hypothesis is formulated:

H1: Growth opportunity has a positive effect on hedging activities

Effect of Leverage on Hedging Activities

Leverage is a ratio intended to measure a company's ability to meet all its obligations both short-term and long-term (Aritonang, et al., 2018). Companies that have high leverage ratios will experience financial difficulties because of the many obligations that must be paid. In accordance with risk management theory which can occur is if the company cannot complete its obligations so that it results in losses even to the point of bankruptcy. Companies can take advantage of hedging activities by using derivative instruments (eg forward contracts) to reduce these risks. A forward contract is an agreement to sell assets in the future at the price agreed upon at the time the contract is made. By utilizing hedging activities, the company is expected to be able to predict and regulate the company's finances to avoid possible financial difficulties.

Kurniawan and Asandimitra, (2018) show that leverage has a positive effect on hedging decisions. This is in line with the results of research conducted. Pangestuti and Crissy (2015) which states that leverage positively influences hedging activities because the use of funding through high debt will increase financial risk which is increasingly large so that it will encourage companies to protect financial risk by using hedging activities. Then the hypothesis can be formulated as follows:

H2: Leverage has a positive effect on hedging activity

Effect of Firm Size on Hedging Activities

Firm size or company size is one indicator to see developments since the company since it was founded. With the size of the company, it will also be easier to obtain external and internal funding (Gunarti, 2014). For example a company operating in Indonesia will establish a subsidiary in the United States. Company A has a good business partner in the United States (company B) who also wants to establish a subsidiary in Indonesia. In accordance with the risk management theory, both companies will agree to enter into a swap contract, which is an agreement between two parties to exchange cash flows periodically with a specified amount and time. The swap contract is a risk management strategy for foreign exchange fluctuations by utilizing hedging activities with derivative instruments to reduce the risks experienced by the company.

In the research of Aritonang, et al., (2018), firm size has a positive effect on hedging decisions. The results of the study are in line with the results of the study Pangestuti and Crissy, (2015) which explains that the greater the size of the company, the more transactions will be carried out using foreign exchange so that the company has the risk of exchange rate fluctuations so hedging activities are needed to function to reduce possible risks. The following hypothesis can be formulated:

H3: Firm size has a positive effect on hedging activity

Effect of Financial Distress on Hedging Activities

Financial distress can be called a measure of company bankruptcy. In accordance with agency theory, if the company in the past few years has a large amount of obligations that must be resolved, the company earns a lower profit than the costs incurred and the management conducts production by developing innovations on products that require more funds. The situation is worsened by the existence of loans with banks (foreign currency) to cover production costs that have been incurred and will affect the survival of the company if the value of the rupiah continues to decline so that fixed costs incurred will increase. So that in addition to minimizing production costs incurred and increasing product sales, the company decided to take another strategy that is also needed is to conduct hedging activities in making loans with banks by utilizing derivative instruments (for example using forward contracts) which are expected to help minimize the risk of bankruptcy that occurs .

This is in accordance with research Aslikan, and Siti (2017) which explains that financial distress has a positive effect on hedging activities because companies that have indications of bankruptcy will encourage management to protect the company from various risks including market risks by utilizing hedging activities. Then the following hypothesis can be formulated:

H4: Financial distress has a positive effect on hedging activities

Effect of Market to Book Value on Hedging Activities

Market to book value is a comparison between the market value of a company and its book value. In accordance with the theory of corporate risk management that has a high market value, it will attract more investors to invest (Irawan, 2014). The greater the number of investors to invest in the company, the greater the burden of the company to return funds from investors. The greater the burden on companies to return funds from investors requires companies to be more careful in the use of these funds so that companies can take advantage of hedging activities with derivative instruments to minimize the risks that occur when making investments.

From the results of the study Ahmad and Harris (2012) showed positive results between the variable market to book value on hedging activities, this is in line with research Dewi and Ni Ketut (2015) which states that market to book value variables have a positive effect on hedging activities where market to book value is an indicator of investors' views of the value of the company, a good company then the stock price will be sold higher than the book value so that to increase the value of the company requires good risk management to manage risks that may occur when companies finance profitable investments one of them by utilizing hedging activities. Then the hypothesis can be formulated as follows:

H5: Market to book value has a positive effect on hedging activities

Research methods
Data Types and Sources

This type of research data is quantitative research using secondary data. Secondary data in this study were obtained from annual reports of 2017-

2019 companies listed on the Indonesia Stock Exchange and the Indonesian Capital Market Directory (ICMD). The data source was obtained from the Indonesia Stock Exchange through the website (www.idx.co.id). Sampling using a purposive sampling technique. Data analysis uses logistic linear regression.

Population and Research Samples

The population in this study includes all State-Owned Enterprises (SOEs) recorded in the Indonesia Stock Exchange period 2015-2019. The sampling method used is the puposive sampling method, where the sample population used is the population that meets certain criteria. These criteria are as follow : see table 1.

1. State-owned enterprises listed on the Indonesia Stock Exchange respectively during the period 2013 -2017.
2. SOE using the currency of rupiah in the financial statements for the period 201 3 -2017.
3. Non-banking company.

Table 1.Sample Criteria

No	Criteria	Company per year					
		2013	2014	2015	2016	2017	Total
1	SOE listed on the Indonesia Stock Exchange	20	20	20	20	20	100
2	SOE that does not use rupiah units in the period 201 5 -201 9	(3)	(3)	(3)	(3)	(3)	(15)
3	SOE which is the banking sector	(4)	(4)	(4)	(4)	(4)	(20)
	Total						**65**

Source : Data secunder is proceeds 2020

Definition contents of operational and Measurement Variabel
Hedging (Y)

Hedging is an act of protecting companies to avoid or reduce the risk of loss on foreign exchange as a result of business transactions (Aritonang et al.,2018). In this study using the dummy variable as a measurement, by giving a value of 1 for companies that do hedging and giving a value of 0 for companies that do not do hedging (Aritonang et al., 2018).

Growth Opportunity (X1)

Growth opportunities is a growth opportunity for a company in the future, companies with growth rates that will require more funds in the future, especially external funds that are used to meet the needs in financing their growth (Aritonang et al., 2018) . These variables in research can be determined by dividing the MVE (market value of equity) which can be calculated by means of the number of shares outstanding multiplied by the closing price with BE(book of equity) that is total equity (Aritonang et al., 2018). The formulate for this variable are following :

$$GO = \frac{MVE}{BE}$$

Leverage (X2)

The leverage ratio can be defined as a tool to measure a company's ability to fulfill all obligations, both short and long term (Aritonang et al., 2018). This variable is proxied using the DER ratio (Debt Equity Ratio), that is by comparing total liabilities with total equity in percent (Aritonang et al., 2018). The formulate for this variable are following :

$$DER = \frac{\text{total liabilities}}{\text{total equity}} \times 100\%$$

Firm Size (X3)

Firm size is the size of the company that can be measured by the total assets or large assets of the company by using the logarithm value of total assets (Aritonang, et al.,2018). The greater a company will be directly proportional to its operational activities and risks that will be faced. Company size can be demonstrated through total assets, total sales, average total sales and average total assets owned by the company (Aritonang, et al., 2018). This variable is calculated by the total assets using the Ln function (Guniarti, 2014). The formulate for this variable are following :

$$SIZE = Ln \text{ (total assets)}$$

Financial Distress (X4)

States financial distress is defined as a condition that describes the state of a company that is experiencing financial difficulties (Platt, 2006). Financial distress is a condition that describes the state of a company that is experiencing financial difficulties. Financial distress proxies the financial distress variable with the Altman Z-Score formula (Aritonang et al., (2018). The calculate for this variable are following :

$$Z\ Score = X_1 + X_2 + X_3 + X_4 + X_5$$

Z: overall index of corporate health
X1: working capital / total assets
X2: retained earnings / total assets
X3: earnings before interest and taxes / total assets
X4: market value of equity / book value of total liability
X5 : total revenue / total assets
With the evaluation criteria (Munawir, 2008), as follows:

- Z Score > 2.99 is categorized as a very healthy company so that it does not experience financial difficulties.
- 1.81 < Z Score <2.99 means it is in the gray area so it is categorized as a company that has financial difficulties, but the possibility of being saved and the possibility of going bankrupt depends as much on the decision of the company's management as the decision maker.
- Z Scor e <1.81 is categorized as a company that has very large financial difficulties and high risk so that the possibility of bankruptcy is very large.

Market to Book Value

Market to book value as a tool to measure the value of a company by comparing the book value of a company's stock with its market value in the capital market (Fama and French, 1992) . In the research of Aslikan and Siti (2017) this variable was calculated by dividing Market Price by Book Value. The formulate for this variable are following :

$$MTBV = \frac{Market\ Price}{Book\ Value}$$

Data analysis technique
Descriptive statistics

Descriptive statistics are used to describe the variables in this study. The analytical tool used is the average, maximum, minimum, and standard deviation to describe the research variables.

Assess the feasibility of a regression model

Testing the feasibility of a logistic regression model so that it does not require classical assumptions. Logistic regression test was assessed using Hosmer and Lemeshow's Goodness of Fit Test . If the statistical value of Hosmer and Lemeshow's Goodness of Fit Test is greater than 0.05, then the null hypothesis is rejected which means there is a significant difference between the model and its observational value so that the goodness fit of the model is not good because the model cannot predict its observation value (Ghozali, 2016).

Classification table

The 2x2 classification table is used to calculate the description of the predictions of the logistic regression model with observational data. In a perfect model, all cases will be on a diagonal with a forecast rate of 100 %. If the logistic regression model has homokedastisitas, the percentage of correct (correct) will be the same for both rows.

Test the coefficient of determination (R2)

The coefficient of determination (R2) is a test to measure how far the model's ability to explain the variation of the dependent variable. This is done by dividing the value of Cox and Snell's R2 with the maximum value. Value Nagelkerke's R2 can be interpreted as the value of R2 in multiple regression , ie to measure the percentage of attachment between the independent variable on the dependent variable (Ghozali, 2016).

Hypothesis Testing

This study uses a significance level of 5% to determine whether there is a real influence of the independent variables on the dependent variable. The criteria of this test are:
   a) If the result of the significance (p) <0.05, H1 is accepted.
   b) If the significance result (p)> 0.05 H1 is rejected.

Results
Descriptive statistic Test

Descriptive statistic provide to chapsture about variable's characteristics in this study. The result of descriptive statistic can be seen in table 2.

Table 2. Descriptive statistic results

	N	Maximum	Mean	Std, Deviation
Hedging	65	1,0	0,495	0,496
Growth Opportunity	65	33,852	6,692	7,832
Leverage	65	6,254	1,668	1,572
Firm Size	65	36,861	31,236	1,028
Financial Distress	65	24,768	23,570	5,349
Market to Book value	65	33,982	33,649	5,871
Valid N (listwise)	65			

Source : Data secunder is proceeds 2020

Table 2 which is the result of data processing shows that the fraud variable is proxied by the dummy variable, which is the value of 1 for companies that do hedging, and 0 for companies that do not do hedging. Based on the result of a descriptive desk statistical test, the mean value of the Hedging Decision (HD) is equal to 0.495 with a standard deviation of 0.496 . This value shows that the company doing hedging from 2015-2019 amounted to 61.53 % of the total study sample. This is indicate that of 65 sample companies there are 40 companies hedging, and 25 companies did not hedge.

Test hosmer and emeshow

This test is used to determine whether there is a difference between the predicted logistic regression model data and the observational data. The result of Hosmer and Lemeshow can be seen in table 3.

Table 3. Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.523	7	.867

Source : Data secunder is proceeds, 2020

Based on the table 2, it is known that the chi square value of 4,523 with a significance value of 0,867. So it can be concluded that the model is able to predict the value of its observations because of its significance value > 0,05.

Cross tabulation model

The cross tabulation model can be used to confirm the absence of a significant difference between the predictions of the logistic regression model and the observation data. The classification can be seen in table 4.

Table 4. Classification Table

	Observed		Predicted Hedging		Percentage Correct
			Non hedging	Hedging	
Step 1	Hedging	No Hedging	15	11	57.7
		Hedging	6	33	84.9
	Overall Percentage				76.9

a. The cut value is .500

Source : Data secunder is proceeds, 2020

Based on the table 4 shows that of the 39 companies that did hedging , 33 companies could be predicted with a model with a percentage of 84,6%, and from 26 companies that did not hedge, 15 companies could be predicted with a model with a percentage of 57,7 %.

Test the Overall Model

The overall model fit test is carried out using tests of the log likelihood – 2 value . A low log likelihood value of 2 indicates that the model will be more fit. The result model fit test can be seen in table 5.

Table 5. -2 Log Likelihood

Step	-2 Log Likelihood	Cox& Snell R Square	Nagelkerke R Square
1	61.814	.417	.426

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Source : Data secunder is proceeds, 2020

The final value of -2 log likelihood is 61,814, indicating a relationship between the independent variable and the dependent variable. With Nagelkerke R Square value of 0,426, which means 42.6 % of the hedging variable can be influenced by growth opportunity, leverage, firm size, financial distess, and market to book value variables. The overall feasibility test for the regression coefficient (overall model) of the five predictors as a whole is carried out using the omnibus test of model coefficient. The result Omnibus tets can be seen in table 6.

Table 6. Omnibus Test of Model Coefficients

		Chi-square	df	Sig
Step 1	Step	24.537	5	.000
	Model	24.537	5	.000
	Block	24.537	5	.000

Source : Data secunder is proceeds, 2020

The results of the omnibus test of model coefficient showed that the value of chi square (decrease in value - 2 log likelihood) was 24,537 with a significant value of 0,000. With the value of -2 Log Likelihood Value block number = 0 greater than the value of -2 Log Likelihood Value block number = 1, the regression model is getting better. With a significant value smaller than 0,05, it can be concluded that hedging can be influenced by growth opportunity, leverage, firm size, financial distress and market to book value . This means that the use of independent variables in research together can explain the occurrence of hedging.

Logistic Regression Equation

The logistic regression equation was tested using the Wald test with the chi square approach obtained the following results. The result of logistic regression tets can be seen in table 7.

Table 7. Logistic Regression

		B	SE	Wald
Step 1	GO	0.187	0.091	4.103
	DER	-0.483	0.316	4.017
	SIZE	0.496	0.251	4.577
	FD	-0.003	0.097	.000
	MTBV	-0.186	0.109	0.919
	Constant	-14.769	7.892	4.164

Source : Data secunder is proceeds, 2020

Based on the data above, the equation in logistic regression can be formulated as follows:

$$\text{Hedging} = -14{,}769 + 0{,}187\, X_1 - 0{,}483\, X_2 + 0{,}496\, X_3 - 0{,}003\, X_4 - 0{,}186\, X_5$$

Hypothesis testing

Hypothesis testing results can be shown as the table 8 below:

Table 8. Logistics Test

		Sig.	Decision on Test Results
Step 1 [a]	GO	0.047	Significant
	DER	0.052	Significant
	SIZE	0.046	Significant
	FD	0.829	Not significant
	MTBV	0.438	Not significant

Source : Data secunder is proceeds, 2020

So, the decision for hypothesis testing which based on tables 7 and 8 can be known:

1) Growth Opportunity (GO) has a positive effect on hedging activities, with a significance value of 0,047 (<0,05) and a regression coefficient of i with a positive value of 0,187. This means that H1 is **accepted.**

2) Leverage (DER) has a negative effect on the hedging activity, with a significance value of 0,052 (<0,05) and a regression coefficient i of negative value of 0,483. This means H2 is **rejected.**

3) Firm Size (SIZE) has a positive effect on hedging activities, with a significance value of 0,046 (<0,05) and a regression coefficient i marked positive of 0,496. This means that H3 is **accepted.**

4) Financial Distress (FD) did not affect the activity hedging, with a significance value of 0,829 (>0,05) and the coefficient of Recourse i is positive of 0,003. This means that H4 is **rejected.**

5) Market To Book Value (MTBV) has no effect on hedging activities, with a significance value of 0,438 (>0,05) and a regression coefficient value of negative sign of 0,186. This means that H5 is **rejected.**

Discussion
Effect of growth oppotunity on hedging activities

Companies that have a high growth opportunity show that the company is able to expand or expand the business. The results empirically n is in line with the management theory download the risks which the company must choose a strategy that has the fewest risks in future when deciding to expand, so that the necessary risk management strategies such as leveraging activities of hedging in deciding on financing expansion or expansion. So that the higher the growth rate of the company, the higher the hedging activity will be because to protect the company from various risks. Hedging activities can be in the form of future contracts, which are contracts whose settlement value has been set at the beginning so that by utilizing hedging activities the company can avoid the risk of foreign exchange fluctuations if value fluctuations occure foreign exchange rates when completing contracts. The results of this study have similarities with the results of research conducted by Kurniawan and Asandimitra, (2018) and Aslikan and Siti (2017) which states that growth opportunity has a positive effect on hedging activities.

Effect of leverage on hedging activities

Leverage is the company's ability to fulfill all its obligations. A company that has high leverage means it has a debt level that is greater than its equity. The results of this study are not in line with risk management theory where companies that have high leverage, the company's activities to conduct hedging activities are increasingly high. But in fact the company's debt in this study was not denominated by foreign exchange rates, in other words most of the company's debts came from domestic so that the company did not need hedging activities. This is because this research uses the SOE sector where the government as the principal interferes in the decision making that should be done by company managers as agents. The government will try to save companies from high leverage by providing loans in the country that do not have the risk of fluctuations in foreign exchange rates. Leverage as the potential use of fixed financial costs to increase the effect of changes in earnings before interest

and taxes. The use of debt that is greater than the company's capital will benefit the company to obtain additional business capital to expand from the use of the debt. Proper management and use of debt will make the company able to develop and compete in the era of globalization with other companies. The results of this study have similarities with the results of research conducted by Triaryati and Satwika, (2016) and Mediana (2016) which states that leverage negatively affects hedging activities.

Effect of firm size on hedging activity

From the test results indicate that the firm size variable has a positive effect on hedging activity. The larger a company is, the easier it will be for companies to obtain funding, especially from external parties. The results of this study are in line with risk management theory, therefore companies need risk management strategies in making the right decisions to minimize risk when obtaining and using these funds. The company can take advantage of hedging activities to avoid the risk of fluctuations in foreign exchange rates when obtaining the funding, which can be in the form of a swap contract, an agreement between two parties to exchange cash flows periodically with a specified amount and time. This can stabilize cash flow flows in the future, because it can be predicted the amount of cash flow due to utilizing hedging activities. So the bigger a company, the higher the risk that appears so it will be more likely to do hedging activities. The results of this study have similarities with the results of research conducted by Guniarti (2014) and Aritonang et al., (2018) which states that firm size has a positive effect on hedging activity.

The effect of financial distress on hedging activities

Measurement of financial distress variables can use tje Altman Z-Score formula, where these measurements measure financial difficulties through all of the company's operational activities. Research results is not in line with agency theory, where company which had financial distress are high or low does not affect the level of the company in the activities of hedging, the results of this Study do not succesfully support the hypothesis that proposed, things have to because a lot of companies that do hedging caused companies The level of debt in foreign exchange and debt with floating interest rate,while the financial distress varibale measured by Altman Z-Score is an indicator that measures financial difficulties not only in terms of the level of corporate debt, but from all of the company's operational activities. Especially because this research use the SOE sector where the government as the principal will take part in making decisions made by the manager (agent) so that the company can continue to operate as usual with the condition of the company that is experiencing financial distress or not. The results of this study are in line with research conducted by Lautania and Hafiz, (2015) and Rinanti (2018) which states that there is no influence between financial distress and hedging activities.

Effect of market to book value on hedging activities

Market to book value variable is a ratio that describes the condition of companies in the capital market. The results of this study are not consistent with the

theory Manaj e shortly risks, which should s emakin higher the ratio obtained, the higher the interest of investors to buy shares of the company. High market to book value does not affect the level of the company in utilizing hedging activities. This is because companies that have high market values have good funding, so companies can handle risks due to fluctuations in foreign exchange values without having to take advantage of hedging activities, in addition companies that have low market values and do not have good funding will not utilize activities hedging because the cost required is quite a lot so that the funds owned are used for the company's operational activities rather than used for hedging activities. So the higher or lower market to book value of the company does not affect the decision on hedging activities. This can be caused because this research sector is the SOE sector where the company manager (agent) will try as much as possible to get funding so that the company can continue to operate while the government (principal) will try to help the company to obtain funding without having to obtain funding with foreign exchange. The results of this study are in line with the results of research conducted by Aslikan and Siti (2017) and Angga and Nadia, (2019) which states that market to book value has no effect on hedging decisions.

Conclusion

Based on the analysis of the results of the research and discussion that has been described previously, some conclusions that can be drawn are as follows **:**
1. Growth Opportunity (GO) has a positive effect on hedging activities.
2. Leverage (DER) has a negative effect on hedging activity.
3. Firm Size (SIZE) has a positive effect on hedging activity.
4. Financial Distress (FD) has no effect on hedging activities.
5. Market to Book Value (MTBV) does not affect the hedging activity.

Limitation

This study has limitations that might weaken the results of the study. Limitations in this study include the variables used to assess hedging decisions in this study still does not adequately describe the probability of hedging decision making. In addition, the lack of data for a time ranges in the sample observation - subsequent years.

Suggestion

Suggestions for further research is to add other variables related to hedging activities , such as adding liquidity, manager ownership , and profitability variables . Future studies are expected to increase the time span of the study to more than 5 (five) years; and increase the number of research sectors such as the manufacturing sector, real estate, and consumer goods industry, and the government can actively disseminate information about regulations that require hedging and impose sanctions on companies that do not comply with established regulations.

Implication

The factors that become independent variables that are thought to influence derivative hedging activities positively and significantly in this study are only growth opportunity and firm size . To protect the company from risks due to growth and company size, managers are expected to be able to apply hedging policies with derivative instruments. And the selection of the use of derivative instruments can be consulted in advance with the leadership or owner of the company in accordance with government recommendations, regardless of later the company is owned by the state or private.

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