THE EFFECT OF FINANCIAL DISTRESS, GROWTH OPPORTUNITY, FIRM SIZE, MANAGERIAL OWNERSHIP ON HEDGING DECISION MAKING
(Case Study on Automotive and Component Subsector Manufacturing Companies on the Indonesia Stock Exchange 2014-2018)

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Abstract

Companies that have risks due to exchange rate fluctuations need to manage these risks, one of which uses hedging. This study aims to determine the effect of financial distress, growth opportunity, firm size, managerial ownership on hedging decision in in the Manufacturing companies Subsector Automotive and Component on the Indonesia Stock Exchange in the 2014-2018 period. This type of research is quantitative, The data analysis technique uses the logistic regression analysis method based on the multicollinearity test, coefficient of determination (R2 McFadden), Likelihood Ratio (LR), and Z statistics, with Eviews 10 software. The population of this research is the Automotive Subsector Manufacturing and Component Manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2014-2018 period. The sample in this study was chosen based on purposive sampling method, with a sample of 9 companies so that the total observations in this study were 45 observations. Panel data used in this study are secondary data from the annual financial statements. Data collection techniques using the method of documentation through the official site IDX: http://www.idx.co.id. Testing hypotheses using the Z test. The results of the study that financial distress and firm size have a positive and significant effect hedging decision, while growth opportunities and managerial ownership have a negative and insignificant effect hedging decision in the Manufacturing companies Subsector Automotive and Component on the Indonesia Stock Exchange in the 2014-2018 period.

Keywords : Hedging, financial distress, growth opportunity, firm size, managerial ownership.

I.   INTRODUCTION

The development of an increasingly advanced era has made many countries want to advance in economic change. Indonesia is one of the developing countries that can feel this progress, namely in the trade aspect, especially in international trade. Indonesian companies have conducted business transactions with other countries. With the existence of business activities with companies from other countries, it is able to maximize the company's assets and the interests of shareholders in order to achieve company goals.

International trade is economic and trade activities carried out by residents of other countries on the basis of collective agreements (Feriyanto, 2015 in Ayuningtyas et al., 2019). In international trade, companies will import to buy cheaper raw materials from

other countries and export to expand their business. Companies that carry out transactions in international trade will certainly face complicated problems due to payments using foreign currency. The difference in the use of currencies can cause several risks that must be borne by the company, including the risk of fluctuations in foreign exchange, interest rates, and commodity prices. The risk of foreign exchange fluctuations or also known as exchange rate risk is the biggest risk for companies in international transactions. The unbalanced demand and supply of currencies can lead to fluctuations in exchange rates resulting in exchange rate risk (Griffin and Pustay, 2005: 88 in Saragih and Musdholifah, 2017).

Factors that can influence hedging decision making apart from external factors such as interest rates, foreign exchange fluctuations, and commodity prices, in hedging decision making are also influenced by internal factors of a company. Internal factors that encourage companies to engage in hedging activities include financial distress, growth sales, firm size, and managerial ownership. Previous research has used these factors to analyze their effect on hedging decisions, including research conducted by Velasco (2014), Guniarti (2014), Nyamweya and Ali (2016), Kussulistyanti and Mahfudz (2016), Mediana and Muharam (2016), Prasetiono (2016), Wahyudi et al. (2019), Windari and Purnawati (2019), and Yustika et al. (2019).

Companies in the Automotive and Component Sub-sector Manufacturing Sector undertake greater hedging activities and this sector is the largest sector with sub-sector variability which is considered quite representative representing all public companies. Based on these descriptions and the existence of a research gap in previous research, the authors are interested in conducting research with the title "The Influence of Financial Distress, Growth Opportunity, Firm Size, Managerial Ownership on Hedging Decision Making (A Case Study of Manufacturing Companies in the Automotive and Component Subsectors on the Indonesia Stock Exchange Period 2014-2018 ".

II.   LITERATURE REVIEW

2.1   Research Review

In a study conducted by Setiawan and Mahardika (2019), the population used was the automotive sub-sector companies and their components listed on the Indonesia Stock Exchange in 2014-2017. The samples were selected using purposive sampling method (selecting samples with certain criteria). The results of the sample selection obtained as many as 48 research samples during the 2014-2017 period. This research uses descriptive statistical analysis and logistic regression analysis. The data used in this study are the annual financial statements of the automotive subsector companies and their components listed on the Indonesia Stock Exchange in 2014-2017. The results of these studies indicate that firm size has a significant positive effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions while the independent variable firm size and case studies on the automotive sub-sector and components on the Indonesia Stock Exchange. The difference between current research and previous research is the existence of independent variables of financial distress, growth opportunity and managerial ownership and the research period used in 2014-2018.

Further research by Setiawan (2019). The population used is the state-owned companies listed on the Indonesia Stock Exchange (IDX) for the 2013-2016 period of 20 companies. Data processing using logistic regression analysis. The data used in this study are financial reports and annual reports on state-owned companies listed on the Indonesia Stock Exchange for the period 2013-2016. In this study, using a purposive sampling technique to obtain samples assisted by the SPSS application version 20. Based on the predetermined sample criteria, a sample of 64 observations with a period of 4 years was

obtained. The results of this study indicate that financial distress has a significant positive effect on hedging decisions, growth opportunity has no significant positive effect on hedging decisions and firm size has a significant positive effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is financial distress, growth opportunity and firm size. The difference between current research and previous research is the existence of managerial ownership independent variables and case studies in automotive sub-sector manufacturing companies and components listed on the Indonesia Stock Exchange for the 2014-2018 period.

Wahyudi et al. (2019) conducted a study with a population of companies listed on the Indonesia Stock Exchange during the 2014-2016 period in the non-financial sector, the sample obtained using the purposive sampling method was 27 samples. This study uses logistic regression analysis and is assisted by the SPSS version 23 application. The results of this study state that managerial ownership does not have a significant effect on hedging policy and growth opportunity does not have a significant effect on hedging policy. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is managerial ownership and growth opportunity. The difference between current research and previous research is the existence of independent variables of financial distress and firm size, as well as case studies conducted by current research on automotive and component manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2018 period.

In Herawati and Abidin's research (2019), the population used is State-Owned Enterprises (BUMN) listed on the Indonesia Stock Exchange for the 2013-2017 period, totaling 20 companies. The data is obtained from financial reports downloaded through the IDX official website, namely www.idx.co.id. The method of determining the sample in this study using purposive sampling technique and obtained 19 sample companies that meet the criteria. By using descriptive analysis techniques and logistic regression analysis techniques, the results of this study state that growth opportunity does not have a significant effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is growth opportunity. The difference between current research and previous research is the existence of independent variables of financial distress, firm size and managerial ownership and case studies in automotive sub-sector manufacturing companies and components listed on the Indonesia Stock Exchange for the 2014-2018 period.

Hadinata and Hardianti's research (2019). The population used is all outomotive and component and coal mining companies listed on the Indonesia Stock Exchange for the period 2014-2017. Data obtained from financial reports for the period. This study uses the Dichotomic Response Model (MRD) in which this model is measured using dummy variables. In this study, the sample selection used purposive sampling method, and logistic regression as the analysis technique. This study obtained the results that growth opportunity has a significant positive effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is growth opportunity and in the automotive sector and component companies. The difference between current research and previous research is the existence of independent variables of financial distress, firm size and managerial ownership and the research period of 2014-2018.

In a study conducted by Bodroastuti et al. (2019) the population used is all manufacturing companies listed on the Indonesia Stock Exchange for the period 2011-2015. With the purposive sampling method, obtained 50 company-years of observation and logistic regression analysis as the analysis technique. The data used is secondary data, namely the annual financial statements uploaded by the IDX on the website www.idx.co.id. This research shows that financial distress does not have a significant effect on hedging decisions, growth opportunity does not have a significant effect on

hedging policy, firm size has a significant positive effect on hedging decisions and managerial ownership has a significant positive effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is financial distress, growth opportunity, firm size, and managerial ownership. The difference between current research and previous research is a case study conducted by current research on automotive and component manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2018 period.

In the research of Anniyati et al. (2020) the population used is 170 companies in the manufacturing sector listed on the Indonesia Stock Exchange for the 2014-2017 period. With the purposive sampling method, 81 samples of companies were obtained. The data used is secondary data, namely the annual financial statements of manufacturing companies uploaded by the IDX. The data analysis technique used in this study is the logistic regression analysis method. This study found that financial distress has a significant negative effect on hedging decisions, while firm size has a significant positive effect on hedging decisions and managerial ownership has a positive effect on hedging decisions. The current research equation with previous research is the dependent variable on hedging decisions, while the independent variable is financial distress, firm size and managerial ownership. The difference between current research and previous research is the existence of an independent variable on growth opportunity and case studies conducted by current research on automotive and component manufacturing companies listed on the Indonesia Stock Exchange for the 2014-2018 period.

Gewar and Suryantini's research (2020). The population of this study are all manufacturing companies that have exposure to exchange rates during the 2016-2018 period. The sample in this study amounted to 133 companies with 399 years of company observations with the census method. The data used is secondary data, namely the annual financial statements of manufacturing companies in the 2016-2018 period published by the IDX. This study uses logistic regression analysis techniques. The results of this study indicate that managerial ownership has a negative and insignificant effect on hedging decisions. The difference between current research and previous research is the existence of independent variables of financial distress, growth opportunity and firm size, case studies on automotive sub-sector manufacturing companies and components listed on the Indonesia Stock Exchange for the 2014-2018 period.

2.2   Theoretical Basis

2.2.1 Definition of Risk and Risk Management

According to the Financial Services Authority or what is often called the OJK, it has defined risk, namely the potential loss due to the occurrence of a certain event. Rustam (2019) states that risk is the potential loss due to the occurrence of a certain event, or the possibility of an undesirable outcome and can cause loss if it is not anticipated and is not managed properly.

2.2.2 Jenis-Jenis Risiko

Djohanputro (2013) in Mariana (2017) reveals that there are risks that can occur in the industrial world, namely as follows:

1. Business risk or business risk	8. Operational risk
2. Liquidity risk	9. Technology risk
3. Market risk	10. Process risk
4. Interest rate risk	11. Risk of external events
5. Exchange rate risk	12. Reputational risk
6. Commodity risk	13. Disaster risk

7.   Hazard risk

2.2.3 Foreign Exchange Exposures

Exposure is the rate at which a firm's cash flow is affected by exchange rates or exchange rates. Companies that conduct transactions in foreign currencies will experience foreign exchange exposure. Foreign exchange exposure arises because foreign exchange rates are always changing (Hocht et al., 2009 in Guniarti, 2014). Foreign exchange exposure is a measure of the potential changes in the company's profitability, net cash flow and market value due to changes in exchange rates (Eiteman et al., 2010: 230). Changes in foreign exchange rates can affect all company activities, namely marketing, finance, production and purchasing activities. Changes in foreign exchange rates that have been suspected have been included in company planning (Yuliati and Prasetyo in Sumaji, 2019). According to Eentuk et al. (2010: 230) there are three main types of foreign exchange exposure, namely: Transaction Exposure, Operational Exposure and Translation Exposure.

2.2.4 Hedging

Hedging or what is also known as hedging is an attempt by a company to protect its company from exposure to exchange rate fluctuations. Hedging provides certainty, controls supplies of raw materials and commodities, and provides greater and safer provision of funds (Anniyati, 2020). According to Eentuk et al. (2010: 232) hedging is taking a position, obtaining a cash flow, asset or contract (including forward contracts) that will increase (or decrease) in value and offset it with a decrease (or increase) in the value of a existing position. Therefore hedging protects the owner from losses that can befall existing assets.

2.2.5 Derivative Instruments for Hedging

Derivative instrument is an agreement between two parties to sell and buy a number of assets (both commodities and securities) on a certain date in the future at a price that has been agreed at this time. Derivative financial instruments include: forward contracts, futures contracts, options contracts and swap contracts (Setiawan and Mahardika, 2019).

2.2.6 Financial Distress

Financial distress is a company condition where it has the potential to experience bankruptcy because the company is unable to pay its obligations and generates a small profit which has an impact on changes in capital so it needs restructuring in the company concerned (Noviandri, 2015). One of the measurements of financial distress can be done by using the Z Score proposed by Edward I. Altman. The following is the formula for calculating financial distress using the Z score (Loman and Malelak in Desiyanti et al., 2019):

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 0,999X_5 \qquad \textbf{(2.1)}$$

Information:

Z   = *bankruptcy index*
X_1 = *working capital / total assets*
X_2 = *retained earnings / total assets*
X_3 = *earnings before interest and taxes / total assets*

X_4 = *market value of equity / book value of debt*
X_5 = *sales / total assets*

It can be said that the company is in financial distress if from the results of the company's calculations the value limit of Z Score ≤ 1.8 and the rest of the company is in a non-financial distress condition.

2.2.7 Growth Opportunity

Growth opportunity or company growth opportunity can be defined as the company's future growth opportunities (Hadinata and Hardianti, 2019). Growth opportunity can be measured using the following CAPVA ratio.

$$CAPBVA = \frac{\text{Total Asset t1} - \text{Total Asset t0}}{\text{Total Asset t1}}$$

2.2.8 Firm Size

Company size is the size of the company as seen from the total asset value of the company. The larger the size of a company, the greater the activity that occurs in the company, and the higher the risk borne by the company because of the wider trade that the company carries out (Windari and Purnawati, 2019). Company size can be measured by Ln (Total Asset).

2.2.9 Managerial Ownership

Managerial ownership means the large proportion of shares owned by the manager or management of the company in a company (Sevic, 2012 in Bodroastuti et al., 2019).

2.3 Relationship Between Research Variables

2.3.1 The effect of financial distress on hedging decision making

Factors that cause financial distress are non-smooth cash flows, large amounts of debt, losses in company operations and loan interest rates that add to the value of debt. In addition, large companies certainly expand their business operations to various countries and involve different currencies so that they can pose a risk of foreign exchange fluctuations. When the company is unable to overcome these risks, financial difficulties for the company can occur, and this is very undesirable for any company. Therefore, companies need to protect against these risks by using hedging.

2.3.2 The effect of growth opportunity on hedging decision making

Companies that have a high growth rate will continue to maintain their income to be reinvested. The company will experience an increase in costs related to funding to meet the needs for the company's development. Companies that can maximize the use of capital so that the company continues to experience development and progress because operations get an adequate supply of funds, then with a good growth opportunity the company can increase its stock market price. With a good growth rate the company will be motivated to hedge so as not to be distracted from financial difficulties.

2.3.3 The effect of firm size on hedging decision making

Companies with large equity, sales and total asset values and transactions not only domestic but up to international will find it easier to access the capital market. These

international business relationships can create foreign exchange exposure and risk of fluctuations in foreign currencies. Due to these risks, companies are increasingly urgent to do hedging. The larger the company size, the greater the probability of hedging. This is because large companies are more aware of the importance of hedging to protect cash flows and assets and have the ability to purchase foreign currency derivatives that are used as hedging.

2.3.3 The effect of managerial ownership on hedging decision making

Managers who also own shares in the company will try to minimize risks that can reduce the return on their investment. Managers in avoiding risk tend to hedge such as using derivatives in order to reduce the risk of foreign exchange fluctuations. Hedging is done because managers are also tied to their portfolios in wage income, so managers will protect their incentives. The greater the percentage of shares owned, the more encouraging it is to hedge.
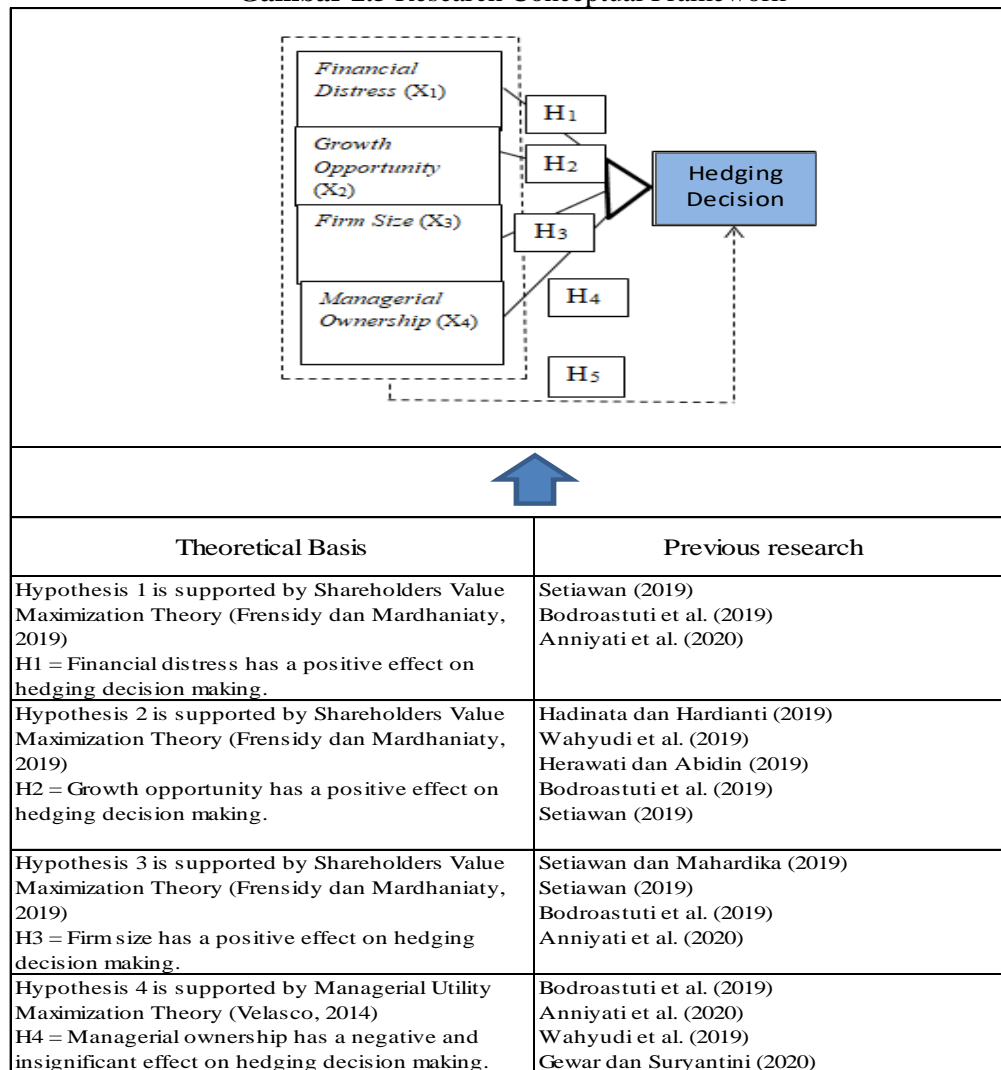
2.4 Hypothesis Development

Based on the description of the Relationship Between Research Variables, the variables used in this study are as follows:
1. H_1 = Financial distress has a positive effect on hedging decision making.
2. H_2 = Growth opportunity has a positive effect on hedging decision making.
3. H_3 = Firm size has a positive effect on hedging decision making.
4. H_4 = Managerial ownership has a negative and insignificant effect on hedging decision making.

2.5 Research Conceptual Framework

In this study, the internal factors used as independent variables consist of financial distress, growth opportunity, firm size, and managerial ownership. Based on the background, problems and literature review, the relationship between variables can be described with a conceptual framework as follows:

Gambar 2.5 Research Conceptual Framework

Theoretical Basis	Previous research
Hypothesis 1 is supported by Shareholders Value Maximization Theory (Frensidy dan Mardhaniaty, 2019) H1 = Financial distress has a positive effect on hedging decision making.	Setiawan (2019) Bodroastuti et al. (2019) Anniyati et al. (2020)
Hypothesis 2 is supported by Shareholders Value Maximization Theory (Frensidy dan Mardhaniaty, 2019) H2 = Growth opportunity has a positive effect on hedging decision making.	Hadinata dan Hardianti (2019) Wahyudi et al. (2019) Herawati dan Abidin (2019) Bodroastuti et al. (2019) Setiawan (2019)
Hypothesis 3 is supported by Shareholders Value Maximization Theory (Frensidy dan Mardhaniaty, 2019) H3 = Firm size has a positive effect on hedging decision making.	Setiawan dan Mahardika (2019) Setiawan (2019) Bodroastuti et al. (2019) Anniyati et al. (2020)
Hypothesis 4 is supported by Managerial Utility Maximization Theory (Velasco, 2014) H4 = Managerial ownership has a negative and insignificant effect on hedging decision making.	Bodroastuti et al. (2019) Anniyati et al. (2020) Wahyudi et al. (2019) Gewar dan Suryantini (2020)

III. RESEARCH METHODS

This study uses a quantitative approach. Quantitative research is research that uses data analysis in numerical form. Quantitative research aims to develop and use mathematical models, theories and / or hypotheses related to the phenomena investigated by researchers (Hendryadi, 2019: 99).

3.1 Population and Sample

3.1.1 Population

Population is the entire group of people, events, or things of interest that investigative researchers want (Sekaran and Bouge, 2016 in Hedryadi, 2019: 162). The population used in this study were all automotive and component manufacturing companies listed on the Indonesia Stock Exchange in 2014-2018, namely 13 companies.

3.1.2 Sample

Determination of the sample in this research using purposive sampling technique, namely the selection of samples with certain objectives and criteria. Using this technique, 9 company samples were obtained so that the total sample data for the 5 years of the study were 45 observations.

3.2 Data processing

In this study, the data obtained by researchers will be processed using E-Views version 10 and Microsoft Excel software.

IV. RESEARCH RESULTS AND DISCUSSION

4.1 Descriptive Statistical Analysis

Tabel 4.1. Independent Variable Descriptive Statistics

	N	Max	Min	Rata-rata	Standar Deviasi
Financial Distress	45	11.2	0.5	3.1	2.68
Growth Opportunity	45	23%	-6%	5%	0.07
Firm Size (in billions of rupiah)	45	344,711	1,516	39,752	86,257
Managerial Ownership	45	21.05%	0.00%	2.82%	0.06
Hedging	45	1	0	0	0.50

Based on table 4.1. shows that the average value of financial distress is 3.1, which means that the sample companies tend to be far away from difficulties because the resulting Z Score average is more than 1.8. The average value of the resulting growth opportunity is 5.23%, this means that the sample companies on average experience positive growth. The table results also show that the firm size has an average of Rp. 39,752 billion, it means that the companies studied have an average asset of Rp. 39,752 billion. The average managerial ownership value generated is 2.82%, this means that the ownership of the companies studied is on average 2.82% controlled by managers. The average hedging value of 0 means that generally the companies studied were not hedged.

4.2 Logistic Regression Analysis

The analytical tool used in this research is logistic regression analysis. The purpose of using logistic regression is to test the probability of the occurrence of the dependent variable which can be predicted by the independent variable, in which the dependent variable uses a dummy. In this study, it is necessary to test the relationship or correlation between independent variables. The following are the results of the multicollinearity test using eviews:

Tabel 4.2. Multicollinearity Test Results

	FD	GW	FS	MO
FD	1.000000	0.131929	-0.395676	-0.002279
GW	0.131929	1.000000	0.000617	-0.166603
FS	-0.395676	0.000617	1.000000	-0.099961
MO	-0.002279	-0.166603	-0.099961	1.000000

Widarjono (2013: 104) states that if the correlation coefficient is above 0.85, it indicates that there is multicollinearity in the model. Based on table 4.9. The resulting

correlation coefficient is less than 0.85, it means that the independent variable does not have a multicollinearity problem.

a. Determination Coefficient Test (R^2 McFadden)

Tabel 4.3. Determination Coefficient Test (R^2 McFadden)

McFadden R-squared	**0.537037**	Mean dependent var	0.422222
S.D. dependent var	0.499495	S.E. of regression	0.352662
Akaike info criterion	0.852776	Sum squared resid	4.974814
Schwarz criterion	1.053517	Log likelihood	-14.18747
Hannan-Quinn criter.	0.927610	Deviance	28.37494
Restr. deviance	61.28992	Restr. log likelihood	-30.64496
LR statistic	32.91499	Avg. log likelihood	-0.315277
Prob(LR statistic)	0.000001		

Source : Processed with Eviews 10

Based on table 4.3. It is known that the estimation result of R2 McFadden (R2MCF) is 0.537037, it means that the independent variable in the model is able to explain the change in hedging probability of 53.70% and the remaining 46.30% is explained by other variables outside the model.

b. Likelihood Ratio Test (LR)

Tabel 4.4. Likelihood Ratio Test (LR)

McFadden R-squared	0.537037	Mean dependent var	0.422222
S.D. dependent var	0.499495	S.E. of regression	0.352662
Akaike info criterion	0.852776	Sum squared resid	4.974814
Schwarz criterion	1.053517	Log likelihood	-14.18747
Hannan-Quinn criter.	0.927610	Deviance	28.37494
Restr. deviance	61.28992	Restr. log likelihood	-30.64496
LR statistic	**32.91499**	Avg. log likelihood	-0.315277
Prob(LR statistic)	**0.000001**		

Source : Processed with Eviews 10

The results of the estimates are shown in table 4.4. obtained statistical LR value (chi square) of 32.91499. Meanwhile, using the Df 4 table, $\alpha = 0.05$ obtained 9.48773. The LR statistic value (32.91499)> the chi square table value (9.48773), then the decision is to reject Ho and accept Ha, which means that all explanatory variables can jointly affect the dependent variable.

c. Z Statistical Test

Tabel 4.5. Z Statistical Test

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-33.21525	12.47423	-2.662709	0.0078
FD	1.068317	0.466965	2.287786	0.0221
GW	8.058825	7.671494	1.050490	0.2935
FS	1.840490	0.709832	2.592853	0.0095

| | MO | -0.656454 | 12.80106 | -0.051281 | 0.9591 |

According to Gujarati and Porter (2012: 198-199) the Z test is carried out by comparing the probability value to α, if the probability value is <α, then Ho is rejected, meaning that the independent variable affects the dependent variable, whereas if the probability> α, then Ho is accepted, meaning that the variable independent does not affect the dependent variable. Based on Table 4.5. It can be concluded that financial distress has a significant effect on hedging, growth opportunity has no effect on hedging, firm size has a significant effect on hedging, and managerial ownership has no significant effect on hedging.

d. Logistic Regression Equation

Based on the coefficient value from the results of data processing using Eviews, the following logistic regression equation is obtained:

$$\text{Ln}\frac{p}{1-p} = \text{-33.21525} + \text{1.068317FD} + \text{8.058825GW} + \text{1.840490FS} - \text{0.656454MO}$$

4.3 Discussion

a. Financial Distress

Based on the Z test, it shows that financial distress has a significant effect on hedging which has a probability value of 0.0221 with a confidence level (α = 0.05). The coefficient value of financial distress has a positive direction of 1.06831 this value explains that every 1 point increase in financial distress will increase the hedging by 1.06831 points. The results of this study support the research of Setiawan (2019) which states that financial distress has a positive effect on hedging decision making, but does not support the research of Bodroastuti et al. (2019) and Anniyati et al. (2020) which states otherwise.

b. Growth Opportunity

Based on the Z test, it shows that growth opportunity has no effect on hedging which has a probability of 0.2935 with a confidence level (α = 0.05). The value of the growth opportunity coefficient has a positive direction of 8.058825, explaining that every 1 point increase in growth opportunity will increase the hedging by 8.058825 points. The results of this study support the research of Bodroastuti et al. (2019) which states that growth opportunity does not affect hedging policy, but does not support the research of Hadinata and Hardianti (2019) which states otherwise.

c. Firm Size

Based on the Z test, it shows that firm size has a significant effect on hedging which has a probability of 0.0095 with a confidence level (α = 0.05). The firm size coefficient value has a positive direction of 1.840490, this value explains that every 1 point increase in firm size will increase the hedging by 1.840490 points. The results of this study support the research of Setiawan and Mahardika (2019), Setiawan (2019), Bodroastuti et al. (2019) and Anniyati et al. (2020) which states that firm size has a positive effect on hedging decision making.

d. Managerial Ownership

Based on the Z test, it is concluded that managerial ownership has no effect on hedging which has a probability of 0.9591 with a confidence level (α = 0.05). The managerial ownership coefficient value has a negative direction of -0.656454, this value explains that every 1 point increase in managerial ownership will reduce hedging by 0.656454 points. The results of this study support the research of Wahyudi et al. (2019), Gewar and Suryantini (2020) who state that managerial ownership does not affect

hedging decisions, but does not support the research of Bodroastuti et al. (2019) and Anniyati et al. (2020) which states otherwise.

4.4. Research Findings

1. Financial Distress

    One of the measurements of financial distress can be done by using the Z Score proposed by Edward I. Altman. The critical Z value found is 1.2 so that if the Z Score is less than 1.2, it is a company that has the possibility of bankruptcy, if the Z Score is between 1.2-2.90 it is included in the zone of ignorance, whereas if the Z Score is more than 2 , 90 are included in companies that do not have the possibility of bankruptcy (Guniarti, 2015). Based on the average Z Score of the companies under study, the lower the Z Score, the more likely it is to hedge, this means that this research supports the theory of financial distress associated with the use of hedging.

2. Growth Opportunity

    The higher the growth rate of a company or growth opportunity, the more necessary it is to carry out hedging activities within the company to protect risks that can cause harm to the company (Hadinata and Hardianti, 2019). Based on the results of this study, the average company under study has a positive growth rate but does not affect hedging decision making for the company, it means that this research does not support the results of this study. This shows that the higher the chance for a company to grow, it means that the company has sufficient funds to minimize risk and overcome foreign currency exposure losses.

3. Firm Size

    Setiawan (2019) states that with a large number of assets, companies are more likely to implement hedging. The results of this study state that firm size has an effect on hedging, where the higher the total assets owned by the company, the greater the probability of the company to hedge because there will be more company operations and will increase the risk of foreign exchange exposure.

4. Managerial Ownership

    Mahfudz (2016) states that the higher the shares owned by the manager, the more likely the company is to hedge. Based on the level of ownership of managers in the companies studied, it can be explained that managers have an optimistic attitude and are brave enough to take risks so they don't use hedging, because the use of hedging can increase company costs. The results of this study do not support this theory.

V. CONCLUSIONS AND SUGGESTIONS
5.1. Conclusions

    Based on the research that has been done, namely testing the effect of financial distress, growth opportunity, firm size, and managerial ownership on hedging decision making (a case study in the automotive and component manufacturing companies on the Indonesia Stock Exchange for the 2014-2018 period), the following results are obtained:

1. Financial distress has a positive effect on hedging decision making. This shows that the more the company is experiencing financial difficulties, which is proxied by a low Z Score, the greater the probability of the company to hedge and vice versa. When a company is indicated to experience financial distress on the Z Score calculation, the company is motivated to protect itself from risks that may arise, including the risk of foreign exchange fluctuations that can worsen financial conditions and even bankruptcy.

2. Growth opportunity has a negative effect on hedging decision making. This shows that the higher the opportunity to grow the company, it means that the company has sufficient funds to minimize risk and overcome foreign currency exposure losses, so the probability of the company to hedge is low. Conversely, the lower the company's growth opportunity, the greater the company's probability of hedging.
3. Firm size has a positive effect on hedging decision making. This shows that the higher the total assets owned by the company, the greater the probability of the company to hedge and vice versa. The larger the size of the company, the more operational the company will have and the risk of foreign exchange exposure, so that more activities need to be protected through hedging.
4. Managerial ownership does not have a significant effect on hedging decision making. This shows that the existence of peer company ownership by managers makes managers feel safe and does not question the risks that can arise. Based on the level of ownership of managers in the companies studied, it can be explained that managers have an optimistic attitude and are brave enough to take risks so they don't use hedging, because the use of hedging can increase company costs.
5. Financial distress, growth opportunity, firm size, and managerial ownership affect hedging decision making.

5.2   Suggestions

Here are some suggestions that researchers can convey for researchers who will conduct similar research:
1. In this study, the dependent variable hedging and the independent variable financial distress, growth opportunity, firm size, and managerial ownership. For future researchers, it is hoped that other or more diverse independent variables such as current ratio, debt level, institutional ownership, or other financial ratios are used.
2. In this study using a sample in the Automotive and Component Subsector Manufacturing company. For future researchers, it is hoped that a larger sample of companies will be used.
3. The period of this research is 2014-2018, it is hoped that further research can conduct research in the latest year.
4. This research uses logistic regression analysis method and data processing with Microsoft Office 10 and Eviews 10 software. For future researchers, it is expected that the latest methods and software are more adequate.

REFERENCE LIST

Anniyati, H., Hermanto. dan S. A. Hidayati. 2020. "Pengaruh Firm Size, Financial Distress, Debt Level, Dan Managerial Ownership Terhadap Keputusan Hedging Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia." *Jmm Unram - Master of Management Journal* 9(1): 28–41. ISSN : 2548-3919. Decree No. 21/E/KPT/2018.

Ayuningtyas, V., S. Warsini. dan R. E. Mirati. 2019. "Analisis Faktor Yang Mempengaruhi Pengambilan Keputusan Hedging Menggunakan Instrumen Derivatif Valuta Asing." *Journal Of Chemical Information And Modeling* 16(1): 980–992.

Bodroastuti, T., E. S. Paranita. dan L. Ratnasari. 2019. "Faktor-Faktor Yang Berpengaruh Terhadap Kebijakan Hedging Perusahaan Di Indonesia." *Valid Jurnal Ilmiah* 16(1): 71–84. ISSN : 26214954. Decree No. 21/E/KPT/2018.Febriani, I., L. B. Prasetyo. dan A. H. Dharmawan 2017. "Analisis Deforestasi Menggunakan Regresi Logistik Model di Tahura Sekitar Tanjung Provinsi Jambi." *Jurnal Pengelolaan Sumberdaya Alam dan Lingkungan* 7(3): 195-203. ISSN : 2460-5824.

Desiyanti, O., W. Soedarmono., K. Chandra. dan Kusnadi. 2019. "Pengaruh Market To Book Value Dan Likuiditas Terhadap Keputusan Hedging Pada Perusahaan Manufaktur Di Bei." *E-Jurnal Manajemen Universitas Udayana* 5(1): 355–384. ISSN : 2252-4614. Decree No. 28/E/KPT/2019.

Dewi, R. U. dan Purnawati. 2016. "Pengaruh Market To Book Value Dan Likuiditas Terhadap Keputusan Hedging Pada Perusahaan Manufaktur Di Bei." *E-Jurnal Manajemen Universitas Udayana* 5(1): 355–384.

Eiteman, D. K., A. I. Stonehill. dan M. H. Moffett. (2010). *Manajemen Keuangan Multinasional.* Edisi Kesebelas Jilid 1. Bahasa Indonesia Language Edition : Jakarta : Erlangga.

Fitriasari, F. 2013. "Value Drivers Terhadap Nilai Pemegang Saham Perusahaan Yang Hedging Di Derivatif Valuta Asing." *Jurnal Manajemen Bisnis* 1(1): 89–102.

Frensidy B. and T. I. Mardhaniaty. 2019. "The Effect Of Hedging With Financial Derivatives On Firm Value At Indonesia Stock Exchange." *Economics and Finance in Indonesia* 65(1): 20–32. ISSN : 24429260. Decree No. 21/E/KPT/2018.

Gewar, M. M. and S. Suryantini. 2020. "The Effect of Leverage, Managerial Ownership, And Dividend Policy On Hedging Decisions In Manufacturing Companies." *American Journal of Humanities and Social Sciences Research (AJHSSR)* 4(1): 382–389. ISSN : 2378-703X.

Gujarati, D. N. dan D. C. Porter. (2012). *Dasar-Dasar Ekonometrika*. Edisi Lima Buku Dua. Jakarta: Salemba Empat.

Guniarti, F. 2014. "Faktor-Faktor Yang Mempengaruhi Aktivitas Hedging Dengan Instrumen Derivatif Valuta Asing." *Jurnal Dinamika Manajemen* 5(1): 64–79. Http://Journal.Unnes.Ac.Id/Nju/Index.Php/Jdm. ISSN : 2086-0668.

Hadinata, S. dan Hardianti. 2019. "Variabel Fundamental Perusahaan Dalam Memprediksi Keputusan Hedging." *Jurnal Ilmu Akuntansi (Akuntabilitas)* 12(2): 179–190. ISSN : 2461-1190. Decree No. 14/E/KPT/2019.

Herawati, A. and Z. Abidin. 2019. "The Effect of Profitability, Leverage, and Growth Opportunity on Hedging Activities in 2017 (Study on BUMN Listed on Indonesia Stock Exchange)." *Advances in Economics, Business and Management Research* 135: 51–57.

Kinasih, R. dan D. P. K. Mahardika. 2019. "Pengaruh Likuiditas, Leverage, Dan Nilai Tukar Rupiah Terhadap Penggunaan Instrumen Derivatif Sebagai Keputusan Hedging (Studi Pada Bank Konvensional Yang Terdaftar Di Bei Periode 2014-2017)." *Jurnal Ilmiah Mea (Manajamen, Ekonomi, & Akntansi)* 3(1): 63–80. ISSN : 2621-5306. Decree No. 10/E/KPT/2019.

Krisdian, C. dan Badjra. 2017. "Pengaruh Ukuran Perusahaan, Tingkat Hutang, Dan Kesulitan Keuangan Terhadap Keputusan Hedging Pada Perusahaan Manufaktur Indonesia." *E-Jurnal Manajemen Universitas Udayana* 6(3): 1452–1477. ISSN : 2302-8912. ISSN : 2454-1362.

Kurniawan, D. P. dan N. Asandimitra. 2018. "Analisis Faktor Yang Mempengaruhi Penggunaan Instrumen Derivatif Sebagai Pengambilan Keputusan Hedging Pada Perusahaan Sektor Keuangan Yang Terdaftar Di Bei Periode 2011-2015." *Jurnal Ilmu Manajemen (Jim)* 6(1): 1–11.

Kussulistyanti, M. J. W .A. dan Mahfudz. 2016. "Analisis Faktor-Faktor Yang Memengaruhi Keputusan Hedging Dengan Derivatif Valuta Asing (Studi Pada Perusahaan Non-Finansial Yang Terdaftar Di Bursa Efek Indonesia Periode Tahun 2011–2014)." *Diponegoro Journal Of Management* 5(3): 1–14. Http://Ejournal S1.Undip.Ac.Id/Index.Php/Management. ISSN : 2337-3806.

Mariana, C. D. 2017. "Asesmen Risiko Berdasarkan Manajemen Risiko Korporat Terintegrasi (Mrkt) Menurut Iso 31000 Bagi Pt Xyz 2015-2017." *Journal of Management and Business Review* 14(1): 1–29. ISSN : 2503-0736. Decree No. 34/E/KPT/2018.

Mediana, I. dan H. Muharam. 2016. "Analisis Faktor- Faktor Yang Mempengaruhi Pengambilan Keputusan Lindung Nilai (Hedging) Menggunakan Instrumen Derivatif." *Diponegoro Journal Of Management* 5(2): 1–14. ISSN : 2337-3792.

Muslim, A. A. dan S. Puryandani. 2019. "Analisis Faktor-Faktor Yang Mempengaruhi Pengambilan Keputusan Hedging (Studi Kasus Pada Perusahaan Manufaktur Sub Sektor Otomotif Dan Komponen Yang Terdaftar Di Bei Periode 2013-2017)." *Journal And Proceeding Feb Unsoed* 9: 85–95.

Nyamweya, L. N. and I. Ali. 2016. "Determinants Of Hedging Foreign Currency Risk In Kenya : A Survey Of Tea Exporting Companies In Mombasa County." *Imperial Journal Of Interdisciplinary Research* 2(6): 740–757.

Prasetiono, N. H. 2016. "Faktor Penentu Perusahaan Melakukan Pengambilan Keputusan Hedging Pada Derivatif Valuta Asing (Studi Kasus Pada Perusahaan Manufaktur Yang Terdaftar Di Bei Periode 2011-2014)." *Diponegoro Journal Of Management* 5(3): 1–13. ISSN : 2337-3792.

Rustam, B. R. (2019). *Manajemen Risiko Prinsip, Penerapan, Dan Penelitian*. Jakarta : Salemba Empat.

Saragih, F. dan Musdholifah. 2017. "Pengaruh Growth Opportunity, Firm Size, Dan Liquidity Terhadap Keputusan Hedging Pada Perusahaan Perban Kan Indonesia." *Jurnal Ilmu Manajemen (Jim)* 5(2): 1–10.

Setiawan, A. P. dan D. P. K. Mahardika 2019. "Market To Book Value, Firm Size Dan Profitabilitas Terhadap Pengambilan Keputusan Lindung Nilai (Studi Kasus Pada Perusahaan Sub Sektor Otomotif Dan Komponennya Yang Terdaftar Di Bursa Efek Indonesia Pada Tahun 2014–2017)." *Jurnal Ilmiah Akuntansi* 4(1): 124–140. ISSN : 2527-4090. Decree No. 30/E/KPT/2019.

Setiawan, R. J. 2019. "Faktor Internal Perusahaan Yang Mempengaruhi Kebijakan Lindung Nilai." *Jurnal Riset Akuntansi Kontemporer* 11(1): 33–40. ISSN : 2597-6826. Decree No. 14/E/KPT/2019.

Sumaji, Y. M. P. S. 2019. "Analisis Pengaruh Variabel Fundamental Dan Makroekonomi Terhadap Eksposur Ekonomi (Studi pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2015-2017)." *Jurnal Bisnis Terapan* 3(2) : 1–16. ISSN 2597-4157. Decree No. 28/E/KPT/2019.

Ulfah, I. F. 2019. "Analisis Pengaruh Rasio Keuangan dan Good Corporate Governance Terhadap Income Smoothing Perbankan Syariah Di Indonesia (Studi Kasus Pada Bank Umum Syariah Periode 2012 – 2016)." *Journal of Economic and Business* 25(1): 15-31. ISSN : 27151662.

Velasco, G. L. 2014. "Factors Influencing Derivatives Usage By Selected Listed Companies In The Philippines." *Philippine Management Review* 21: 1–12.

Wahyudi, S. *et. al*. 2019. "The Determinants Of Corporate Hedging Policy: A Case Study From Indonesia." *International Journal Of Economics And Business Administration* 7(1): 113–129.

Widarjono, A. (2013). *Ekonometrika Pengantar dan Aplikasinya*. Yogyakarta: UPP STIM YKPN.

Windari, D. dan Purnawati. 2019. "Pengaruh Leverage, Ukuran Perusahaan, Dan Likuiditas Terhadap Keputusan Hedging pada Perusahaan Manufaktur Terdaftar Di Bei." *E-Jurnal Manajemen Universitas Udayana* 8(8): 4815-4840. ISSN : 2302-8912.

Yustika, D., C. Cheisviyanny. dan N. Helmayunita. 2019. "Pengaruh Financial Distress, Growth Options, Institutional Ownership Terhadap Aktivitas Hedging." *Jurnal Eksplorasi Akuntansi* 1(1): 388–403. ISSN : 2656-3649.

http://www.idx.go.id "*Laporan Keuangan Tahunan*" diakses pada 14 Mei 2020.