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DETERMINANTS OF HEDGING DECISIONS WITH DERIVATIVE INSTRUMENTS IN FOREIGN EXCHANGE BANKS LISTED ON THE INDONESIA STOCK EXCHANGE

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ABSTRACT

Hedging is an action a company can take to minimize the exchange rate risk it faces. Hedging will be useful for achieving financial and macroeconomic stability with good management of corporations that can make financial markets more developed and healthy. But there are still companies that do not hedge because they do not know exactly the factors that influence hedging decisions. This study aims to empirically examine the effect of firm size, debt levels, liquidity, and cash flow volatility on hedging decisions at foreign exchange banks listed on the IDX. This study used a purposive sampling method so as to get a sample of 23 companies. The statistical method uses logistic regression analysis, by testing the hypothesis of the Wald statistical test. The results of this study indicate that liquidity has a significant negative effect on hedging decisions. Meanwhile, company size, debt level, and flow volatility have no effect on hedging decisions.

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1. INTRODUCTION

One of the service industries in the financial sector that has an impact from cross-border transactions is banking. The banking industry is one of the financial services industries that has many enthusiasts among the public. The deposit insurance agency (LPS) stated that the total number of accounts registered with the deposit insurance agency was 246,293,377 as of January 2018, with deposits in rupiah amounting to 245,282,973 accounts and deposits in foreign currency amounting to 1,020,404 accounts. Banks also have one of the functions of collecting funds from the public and channeling them to the community. One of the bank's operational activities is to provide credit to customers andbanking business activities in foreign currency. Activities in foreign exchange are carried out by foreign exchange banks.A foreign exchange bank is a bank that can carry out international transactions such as exports and imports, buying and selling foreign exchange, and all other similar activities.The duties and roles of foreign exchange banks are to receive foreign currency savings, send and receive foreign currency transfers and collections, trade foreign currencies, serve the opening and payment of L/cs, and serve domestic and foreign payment traffic.Foreign exchange bank risks are decisions on lending, credit card issuance, foreign exchange, collection, and various other forms of financial decisions, which cause losses to banks and the biggest losses are in financial terms.Risko This cannot be eliminated or avoided, but with company policy this risk can be managed properly to minimize risks within the company.

One alternative to minimize risk is to carry out hedging activities. According to[1]hedging is an action that can be taken by companies to transact internationally in order to minimize the exchange rate risk they face. In anticipation of monetary turmoil, companies are expected to have reserves in foreign currencies specifically included in the hedging fund category. Hedging or hedging is basically transferring risk to other parties who are more able to manage risk better through financial instrument transactions. Hedging can also provide benefits to companies in predicting cash disbursements and receipts in the future more accurately.

Instruments that are usually used in hedging activities are derivative instruments. A derivative instrument is a contractual agreement between two parties to trade a number of assets at present in the form of a price that will be agreed upon but used in the future with a date specified in the contract.[2]. Companies use derivative instruments in hedging activities, because derivatives are a tool to change or even increase a company's financial exposure. The most common derivatives used for hedging activities are option contracts, forward contracts, future contracts, and swap contracts. Factors that influence hedging activities come from external companies and internal companies. The following describes the external

factors that influence hedging, including the exchange rate which is the company's reference in making hedging decisions.

Fluctuations in the inflation rate can pose a risk to companies, for example a banking company whose operations require funding. Inflation fluctuations make the currency unstable, this creates new problems for banking companies. If at times high inflation causes the currency to weaken and makes the company have a risk on the funding. If the company uses derivative instruments as a hedging activity, the company can determine transactions for a certain period of time and avoid fluctuations caused by inflation.

Factors that influence companies to make hedging decisions are not only external to the company, but also come from internal companies.Several previously conducted studies stated that making hedging decisions with derivative instruments usually requires roles such as Company Size, Growth Opportunity, Liquidity, and Cash Flow Volatility.

Company size is a benchmark for a company that has developed or since the company was founded, which can be seen from the total asset value listed in the statement of financial position. Companies that have a large size will have broader and more risky operational activities because there is a high possibility that transactions to various countries will involve several different currencies. In its activities it will result in fluctuating foreign currency exchange rates and larger companies will prefer to hedge[3].

2. METHODS

2.1 Types of Research

This type of research is a process of collecting and analyzing data that is carried out systematically and logically to achieve a certain goal. In this research, the type of research used is quantitative research where data is expressed in numbers and analyzed using statistical techniques. In this research, the type of data used is secondary data on the Indonesian Stock Exchange. This research can be divided into descriptive, comparative, and associative research. Of the three types of research, the research used is associative. According to[4]in associative research is research that aims to determine the causal relationship (correlation) of two or more variables, namely the independent or independent variable to the dependent or dependent variable.

2.2 Data Sources

The data in this study came from data obtained indirectly through media sourced from the IDX website (www.idx.co.id) using the documentation method.

2.3 Data Collection Methods

In research there are several methods of data collection, including the following:

1. Observation
   Is a technique for collecting research data. This research was conducted by conducting research directly on the Indonesian Stock Exchange. While passive observation, the researcher observes but is not directly involved in the activity.
2. Documentation
   Data collection by copying or retrieving data from records, documentation, and administration according to the problem being studied.

2.4 Population and Sample

1. Population

Population Is a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by research to be studied and then conclusions drawn[4]. The population is the entire collection of elements that show certain characteristics that can be used to make conclusions. According to the population for this study are foreign exchange banks listed on the Indonesia Stock Exchange for the 2016-2018 period.

2. Sample

The sample is part of the number and characteristics possessed by the population[4]. The sample is part of the population that represents the characteristics indicated by the level of accuracy and precision. The samples used in this study were foreign exchange banks, totaling 23 companies[5]. The sampling technique in this study is purposive sampling, which is purposive sampling based on the sample criteria in the study[5].

3. RESULT AND DISCUSSION

1. Hedging Variables (Dependent Variables)

The dependent variable in this study is hedging. According to[1] Hedging or hedging is one of the company's strategies to carry out risk management activities in order to reduce currency exchange rate risk due to the use of currency from the use of foreign currencies in its operational activities. Based on PBI No.15/8/pbi/2013 the definition of hedging is a way or technique to reduce risks that arise or are expected to arise due to price fluctuations in financial markets. In this study, the hedging variable is a dummy variable that is measured by means of companies that hedge on derivatives will be given a score of 1 and companies that do not hedge on derivatives will be given a score of 0 (Paranita, 2011).

Image 1. Hedging and Non-Hedging Foreign Exchange Bank Companies
Source: Indonesia stock exchange

2. Company Size Variable as Independent Variable.

Company size is used as a tool to find out how much the company has grown. The high size of the company can influence in obtaining funding sources both external and internal. The bigger the company, the risk received will be higher.

Table 1. Calculation of the Size of Hedging Companies
UK (Hedging)

NO	EMTEN	YEAR		
		2016	2017	2018
1	BABP	30,200	30,002	30.016
2	AGRO	30,063	30,424	30,780
3	READ	30,285	30,425	30,522
4	BBKP	32,289	32,299	32,192
5	BBNI	34,033	34,195	34,326
6	BDMN	32,791	32,814	32,861
7	BSIM	31,071	31,169	31,057
8	BSWD	29,091	29,132	28,991
9	INPC	30,898	30,953	30,890
10	MCOR	30,137	30,390	30.403
11	MEGA	31,887	32,041	32,059
12	PNBN	32,925	32,995	32,965
13	BBCA	34,148	34,252	34,346
14	BCIC	30,408	30,474	30,512
15	BBTN	32,998	33,197	33,356
16	BGTG	29,075	29,153	29,134
17	BJBR	32,259	32,376	32,420
18	BJTM	31,393	31,573	31,769
19	BKSW	30,824	30,835	30,651
20	BMAS	29,332	29,432	29,532
21	BMRI	34,577	34,656	34,723
Average		31,461	31,561	31,595

Table 2. Calculation of Company Size that is Not Hedging
UK (Not Hedging)

NO	EMTEN	YEAR 2016	2017	2018
1	BTPN	32,146	32,190	32,255
2	AGRS	29,032	28,834	29,054
Average		30,589	30,512	30,655

Table 3. Average Size of Hedging and Non-Hedging Companies

Average	2016	2017	2018
Hedging	30,589	30,512	30,655
No hedging	31,461	31,561	31,595

3. Growth Opportunity Variable as Independent Variable

*Growth opportunity*A high value indicates the opportunity for the company to be able to expand its operational activities, this allows the company to maintain its viability. To respond to this opportunity, large amounts of funds are needed to finance this growth in the future.

Table 4. Calculation of Heding Growth Opportunity
GO (Hedging)

NO	EMTEN	YEAR 2016	2017	2018
1	BABP	0.076	- 0.180	0.014
2	AGRO	0.360	0.435	0.428
3	READ	0.168	0.151	0.102
4	BBKP	0.117	0.010	- 0.101
5	BBNI	0.186	0.176	0.140
6	BDMN	- 0.074	0.024	0.048
7	BSIM	0.119	0.103	- 0.106
8	BSWD	- 0.293	0.042	- 0.132
9	INPC	0.044	0.057	- 0.061
10	MCOR	0.215	0.288	0.013
11	MEGA	0.034	0.167	0.018
12	PNBN	0.088	0.072	- 0.030
13	BBCA	0.139	0.109	0.099
14	BCIC	0.219	0.069	0.038
15	BBTN	0.247	0.220	0.172
16	BGTG	1.145	0.082	- 0.019
17	BJBR	0.154	0.124	0.045
18	BJTM	0.005	0.197	0.217
19	BKSW	- 0.054	0.011	- 0.168
20	BMAS	0.026	0.105	0.106
21	BMRI	0.141	0.083	0.069
Average		0.146	0.112	0.042

Table 5. Calculation of Non-Heding Growth Opportunity
GO (No Hedging)

NO	EMTEN	YEAR 2016	2017	2018
1	BTPN	0.127	0.045	0.067
2	AGRS	- 0.037	- 0.180	0.247
Average		0.045	- 0.068	0.157

Table 6. Average Hedging and Non-Hedging Growth Opportunities
Average Growth Opportunity Hedging and Not Hedging

Average	2016	2017	2018
Hedging	0.146	0.112	0.042
No hedging	0.045	- 0.068	0.157

4. Liquidity Variable as Independent Variable

Liquidity is the company's ability to meet its short-term obligations smoothly and on time. Companies that cannot sustain it will experience liquidity difficulties and be in a serious financial condition.

Table 7. Calculation of Hedging LDR
LDR (Hedging)

NO	EMTEN	YEAR		
		2016	2017	2018
1	BABP	0.768	0.751	0.859
2	AGRO	0.861	0.855	0.843
3	READ	0.552	0.504	0.517
4	BBKP	0.846	0.796	0.845
5	BBNI	0.906	0.866	0.902
6	BDMN	0.886	0.923	0.944
7	BSIM	0.762	0.778	0.874
8	BSWD	0.725	0.662	0.958
9	INPC	0.851	0.811	0.737
10	MCOR	0.858	0.788	0.874
11	MEGA	0.554	0.575	0.690
12	PNBN	0.877	0.883	0.998
13	BBCA	0.761	0.782	0.833
14	BCIC	0.917	0.874	0.765
15	BBTN	0.928	1.022	1.022
16	BGTG	0.884	0.853	0.848
17	BJBR	0.859	0.867	0.913
18	BJTM	0.864	0.762	0.642
19	BKSW	0.907	0.680	0.715
20	BMAS	0.997	0.969	1.006
21	BMRI	0.878	0.905	1,002
	Total	0.831	0.805	0.847

Table 8. Calculation of Non-Hedging LDR
LDR (Hedging)

NO	EMTEN	YEAR		
		2016	2017	2018
1	BTPN	1.019	1.039	1.039
2	AGRS	0.841	0.838	0.838
	Total	0.930	0.938	0.938

Table 9. Average LDR Hedging and Not Hedging
The average LDR is hedging and not hedging

Average	2016	2017	2018
Hedging	0.831	0.805	0.847
No hedging	0.930	0.938	0.938

5. Cash Flow Volatility Variable as Independent Variable

The statement of cash flows can provide information that enables users to evaluate changes in the net assets of an entity, its financial structure and its ability to affect amounts and cash flows in order to adapt to changing circumstances and opportunities. The volatility of cash flows indicates that the uncertainty about the business income is very high. This uncertainty has the potential to generate financial risks, such as bankruptcy.

Table 10. Hedging VAK calculations
VAK (Hedging)

NO	EMTEN	YEAR		
		2016	2017	2018
1	BABP	- 0.010	- 0.186	- 0.002

2	AGRO	0.053	- 0.048	0.116
3	READ	- 0.012	0.065	0.091
4	BBKP	0.026	- 0.015	- 0.064
5	BBNI	0.026	0.047	- 0.005
6	BDMN	- 0.003	0.021	0.024
7	BSIM	0.024	- 0.028	- 0.026
8	BSWD	- 0.232	- 0.083	- 0.125
9	INPC	- 0.063	0.035	0.045
10	MCOR	- 0.043	0.094	- 0.137
11	MEGA	0.040	0.065	- 0.038
12	PNBN	0.003	- 0.033	- 0.054
13	BBCA	0.064	0.013	0.006
14	BCIC	- 0.016	- 0.008	0.069
15	BBTN	0.046	0.001	- 0.008
16	BGTG	- 0.087	0.020	- 0.008
17	BJBR	0.060	0.022	- 0.051
18	BJTM	- 0.026	0.129	0.150
19	BKSW	- 0.023	- 0.009	- 0.141
20	BMAS	- 0.034	- 0.005	0.054
21	BMRI	0.040	0.004	- 0.027
	Total	- 0.008	0.005	- 0.006

Table 11. Non-hedging VAK calculations

VAK (Hedging)

NO	EMTEN	YEAR 2016	2017	2018
1	BTPN	0.029	0.012	0.045
2	AGRS	- 0.075	0.005	0.029
Total		- 0.023	0.008	0.037

Table 12. Average VAK Hedging and Not Hedging

The average VAK is hedging and not hedging

Average	2016	2017	2018
Hedging	-0.008	0.005	-0.006
No hedging	-0.023	0.008	0.037

RESULTS OF DESCRIPTIVE STATISTICAL ANALYSIS

The descriptive method is a method of examining the status of a group of people, an object, a set of conditions, a system of thought or a class of events in the present. The purpose of this descriptive research is to make a systematic, factual and accurate description, picture or painting of the facts, characteristics and relationships between the phenomena investigated. Descriptive statistics provide an overview of a data seen from the average value, standard deviation, maximum, and minimum.

Table 13. Descriptive Statistics

	N	Minimum	Maximum	Means	std. Deviation
VAK	69	-,232	,150	-,00293	,066601
GO	69	-,293	1.145	,09519	,183875
LK	69	,504	1.039	,83693	,123744
Hedging decisions	69	0	1	,91	,284
UK	69	28,834	34,723	31.45633	1.677472
Valid N (listwise)	69				

The descriptive statistic table above shows the number of observations in the study were 69 observations. From these 69 observational data, the minimum value of Cash Flow Volatility is -0.232, which comes from Bank Of India Indonesia Tbk in 2016, while the maximum value is 0.15 which comes from Bank Pembangunan Timur Tbk in 2018. The average value The volatility of cash flows owned by the sample companies is-0.00293with a standard deviation of 0,066601.Furthermore, the minimum value obtained

from the Growth Opportunity is -0.293, which is fromBank Of India IndonesiaTbk in 2016, while the maximum value is 1.145 which comes from Bank Ganesha Tbk in 2016. The average Growth Opportunity value obtained by sample companies is 0.09519 with a standard deviation of 0.183875.

The minimum value obtained from Liquidity is 0.504, which comes from Bank Capital Indonesia Tbk in 2017, while the maximum value is 1.039 which comes from the National Pension Savings Bank Tbk in 2017. The average value of Liquidity obtained by sample companies is 0. 83693 with a standard deviation of 0.123744.

The minimum value obtained from Company Size is 28,834, which comes from Bank Agris Tbk in 2017, while the maximum value is 34,723 which comes from Bank Mandiri Persero Tbk in 2018. The average value of Company Size owned by sample companies is 31 .45633 with a standard deviation of 1.677472.

Table 14. Descriptive Hedging Data

	Hedging decisions	Valid		Cases missing		Total	
		N	percent	N	percent	N	percent
UK	0	6	100.0%	0	0.0%	6	100.0%
	1	63	100.0%	0	0.0%	63	100.0%
GO	0	6	100.0%	0	0.0%	6	100.0%
	1	63	100.0%	0	0.0%	63	100.0%
LK	0	6	100.0%	0	0.0%	6	100.0%
	1	63	100.0%	0	0.0%	63	100.0%
VAK	0	6	100.0%	0	0.0%	6	100.0%
	1	63	100.0%	0	0.0%	63	100.0%

Based on table 9, the number of observation samples is 69 samples, and all samples have been taken into account in hypothesis testing. Foreign exchange bank companies that make hedging decisions are given a code (1) while banks that do not carry out hedging activities are given a code (0).

RESULTS OF DATA ANALYSIS TECHNIQUES

1. Logistic regression method test results

The analytical method used to test the hypothesis in this study is logistic regression. Logistic regression is applied because the dependent variable in this study is a hedging derivative decision which is a dummy variable. Logistic regression is used to test whether the profitability of the dependent variable or the dependent variable can be predicted by the independent variable or the independent variable. Logistic regression is generally used if the multivariate normal distribution assumption is not met (Ghozali, 2013). Logistic regression analysis does not require the assumption of normality on the independent variable data. The general logistic regression model is as follows:

1. Assessing Model Fit

The first step is to assess the overall fit of the model to the data and some statistical tests are given to assess this. The hypothesis for assessing model fit is:

Ho: The hypothesized model fits the data

Ha: The hypothesized model doesn't fit the data

From this hypothesis we will reject the null hypothesis so that the model fits the statistical data used based on the likelihood function. Likelihood L of the model is the probability that the hypothesized model describes the input data. To test the null and alternative hypotheses, L is transformed to -2LogL, sometimes called the likelihood ratioX_2statistics, where is the distribution with degrees of freedom n – q. q is the number of parameters in the model. The -2LogL statistic can be used to determine if the independent variable is added to the model to significantly improve model fit. After L is transformed to -2LogL, then it is compared betweenX_2-2LogL value at the beginning (block number = 0) where the model only includes constants with -2LogL after the model includes independent variables (block number = 1) if -2LogL block number = 0 > value -2LogL block number = 1 then shows the regression model the good one. A large value of the log-likelihood statistic indicates a bad statistical model.

Table 15. Block 0 : Beginning Block

Iterations	-2 log likelihoods	Coefficients Constant

Step 0	1	44,021	1,652
	2	40,902	2,199
	3	40,771	2,342
	4	40,771	2,351
	5	40,771	2,351

The -2Log Likelihood value is 40.771 which will be compared with the Chi square value at a significance level of 0.05 with a df of N-1 where N is the number of samples, meaning 69–1 = 68. From the chi square table, the value is 33.924. So 2Log Likelihood < Chi square (40.771 < 101.776).

Table 16. Block I : Method = Enter

Iterations		-2 log likelihoods	Coefficients Constant	X1	X2	X3	X4
Step 1	1	38,608	-1.338	, 174	1,350	-3,128	-4,394
	2	30,293	-3,261	,363	3.135	-7,227	-10,182
	3	27,340	-3,465	,504	5,318	-11,692	-17,319
	4	26,601	-3,044	,587	7,245	-14,858	-23,689
	5	26,541	-3,037	,621	7,998	-15,945	-26,209
	6	26,540	-3,058	,625	8,071	-16,047	-26,462
	7	26,540	-3,058	,625	8,071	-16,048	-26,464
	8	26,540	-3,058	,625	8,071	-16,048	-26,464

If only the constants are feasible, all independent variables are included, but there will be a -2Log Likelihood decrease. The decrease was 40.771 –26,540= 14,230 the results can be seen in the table below:

Table 17. Omnibus Test of Model Coefficients

		Chi-square	df	Sig.
Step 1	step	14,230	4	,007
	blocks	14,230	4	,007
	Model	14,230	4	,007

1. Cox and Snell's R Square Test Results

*Cox*and Snell's R Square is a measure that tries to imitate sizeR_2in multiple regression which is based on likelihood estimation techniques with a maximum value of less than 1 (one), making it difficult to interpret. Nagelkerke's R square is a modification of the Cox and Snell's coefficients to ensure that the value varies from 0 (zero) to 1 (one). This is done by dividing the Cox and Snell's value by the maximum value. Nagelkerke's value can be interpreted like the value in multiple regression, which is to measure the percentage of attachment between the independent variable and the dependent variable.R^2R^2 R^2

Table 18. Summary models

step	-2 log likelihoods	Cox & Snell R Square	Nagelkerke R Square
1	26,540a	, 186	,418

From the table above it can be seen that the model by including 4 independent variables turns out to have a change in the parameter estimate (-2Log Likelihood) of 26.540. If you look at the R square value of 0.186 or 18.6%. (Cox & Snell) and a value (Nagelkerke) of 0.418 or 41.8%. Thus it can be said that the independent variables (UK, TH, LK, and VAK) on the dependent variable (HEDG) are 18% while 82% on the dependent variable is explained by other factors outside the independent variables used.

2. Hosmer and Lemeshow's Goodness of Fit Test

Testing the null hypothesis and empirical data fits or fits the model (there is no difference between the model and the data so that the model can be said to be fit). If the value of the Hosmer and Lemeshow's Goodness of Fit test statistics is equal to or less than 0.05, then the null hypothesis is rejected, which means there is a difference. Significant between the model and the value of the observation. If the statistical value of the Hosmer and Lemeshow's Goodness of Fit Test is greater than 0.05, then the null hypothesis cannot

be rejected and means that the model is able to predict the observed value or is said to be an acceptable model because it fits the observed data.

Table 19. Hosmer and Lemeshow Test

step	Chi-square	Df	Sig.
1	2,399	8	,966

The joint correlation between UK, TH, LK, and VAK on HEDG (multiple correlation) with the Chi-Square technique yields a Chi-Square value of 2.399 with a significant value of 0.966 > 0.05, thus the null hypothesis (0) cannot be rejected and means the model able to predict the value of his observations. It can be concluded that the model is acceptable because it fits the observation data.

3. Classification Table

The classification table is used to calculate the correct (correct) and incorrect (incorrect) estimated values. The companies that were sampled in this study were foreign exchange bank companies in 2016-2018, consisting of 34 companies.

Table 20. Classification Table

Observed			predicted		
			Hedging decisions		Percent Correct
			0	1	
Step 1	Hedging decisions	0	2	4	33,3
		1	1	62	98.4
	Overall Percentage				92.8

Based on table 18 above, it shows that the prediction accuracy in this study is 92.8%, which means that all independent variables have an effect on the dependent variable.

HYPOTHESIS TEST

1. Partial Test Results (Wald)

Partial testing is used to determine the effect of each independent variable on the dependent variable. This test uses the Wald statistical test from the results of logistic regression. The decision in this test is that if the Pvalue value of the Wald statistic is less than the significance level of 5%, it can be concluded that there is an influence between the independent variables on the dependent variable, then the hypothesis is accepted. Conversely, if the value of Wald's P-value statistic is greater than the 5% significance level, it can be concluded that there is no effect between the independent variables on the dependent variable, so the hypothesis is rejected.

Table 21. Partial Test (Wald Test)

		B	Wald	df	Sig.
Step 1a	X1	,625	2,712	1	,100
	X2	8,071	2.014	1	, 156
	X3	-16,048	5,806	1	,016
	X4	-26,464	2,963	1	.085
	Constant	-3,058	.076	1	,783

Based on table 19 Partial Test (Wald Test) shows that 1 independent variable has a significant effect on the dependent variable. The independent variable is Liquidity with a significance value of 0.016 (1.6%) <0.05. Independent variables that do not significantly influence hedging decisions are company size variables with a significant value of 0.100 (10%) > 0.05 (5%), growth opportunity variables with a significant value of 0.156 (15.6%) > 0.05 (5%), and the variable cash flow volatility with a significant value of 0.085 (8.5%) > 0.05 (5%). Based on the table above, it can be seen that the logistic regression model is formulated as follows:

HEDG = -3.058+0.625(UK)+8.071(GO)-16.048(LK)-26.464(VAK)

Based on the equation of the logistic regression formula, it can be concluded that firm size has no effect on hedging decisions, so Ho is accepted. The level of debt has no effect on hedging decisions, so Ho is

accepted. Liquidity has a significant negative effect on hedging, so Ha is accepted, meaning that any increase in liquidity will decrease the probability of a hedging decision. Cash flow volatility has no effect on hedging decisions, so Ho is accepted.

DISCUSSION

1. Effect of company size on hedging decisions.

This first hypothesis is rejected and it turns out that firm size has no effect on hedging decisions at foreign exchange banks, because the statistical value of firm size variable B is 0.,625with a significance value of 0.100. Significance value (0.100) 10% > (0.05) 5%. The results of the logistic regression test found that firm size had a statistically insignificant positive effect on the dependent variable, namely hedging decisions using derivative instruments. Company size has no effect on hedging decisions because a lower company size will indicate the probability of hedging decisions made by companies with transaction exposure will decrease. Therefore based*Shareholders Value Maximization Theory*, statehedging can protect cash flows in the future from the impact of changes in exchange rates while maintaining the amount of debt at a certain level, so that the chance of default that will be experienced by the company due to fluctuations in foreign exchange rates is smaller.Meanwhile, based on the hedging phenomenon, I point out that hedging policies should be properly implemented to minimize the risks that arise and so that the company does not suffer losses (loss) due to fluctuations in foreign exchange rates. The results of this study are in line with those stating that company size is not significant to hedging decisions where this research states that company size is not always a strength or a thing that will encourage companies to hedge using derivative instruments. The results of this study do not support research conducted by which states that company size has a significant positive effect on hedging decisions.

2. The effect of growth opportunity on hedging decisions

The second hypothesis is rejected and it turns out that growth opportunities have no effect on hedging decisions at foreign exchange banks, because the statistical value B of the debt level variable is8,071with a significance value of 0,156. Significance value (0.156) 15.6% > (0.05) 5%. The results of the logistic regression test found that growth opportunities had a statistically significant positive effect on the dependent variable, namely hedging decisions using derivative instruments.This illustrates that a high growth rate of a company will not necessarily experience difficulties in controlling its debts, so that the higher the banking growth rate, the smaller the hedging activities carried out.hedge. Therefore based*Shareholders Value Maximization Theory*, statehedging can protect cash flows in the future from the impact of changes in exchange rates while maintaining the amount of debt at a certain level, so that the chance of default that will be experienced by the company due to fluctuations in foreign exchange rates is smaller.Meanwhile, based on the hedging phenomenon, I point out that hedging policies should be properly implemented to minimize the risks that arise and so that the company does not suffer losses (loss) due to fluctuations in foreign exchange rates. The results of this study support research that the results of DER have no effect on hedging policies, because the size of the company's Debt to Equity Ratio will not affect hedging decisions. The results of this study do not support research conducted by which states that the level of debt has a significantly positive effect on hedging decisions.

3. **Effect of liquidity on hedging decisions**

The third hypothesis is accepted and it turns out that liquidity has a negative effect on hedging decisions at foreign exchange banks, because the statistical value B of the debt level variable is-16,048with a significance value of 0.041. Significance value (0.041) 4.1% < (0.05) 5%. The results of the logistic regression test found that liquidity has a statistically significant negative effect on the dependent variable, namely hedging decisions using derivative instruments. The liquidity ratio is used to measure a company's ability to meet its short-term obligations, so the higher the company's liquidity, the more liquid the company is. When a company has too much cash, the company needs to hedge to avoid the risk of loss. Companies that have a large level of liquidity tend to hedge foreign currency derivative instruments to avoid this risk. Therefore based*Shareholders Value Maximization Theory*, statehedging can protect cash flows in the future from the impact of changes in exchange rates while maintaining the amount of debt at a certain level, so that the chance of default that will be experienced by the company due to fluctuations in foreign exchange rates is smaller.Meanwhile, based on the hedging phenomenon, I point out that hedging policies should be properly implemented to minimize the risks that arise and so that the company does not suffer losses (loss) due to fluctuations in foreign exchange rates. The results of this study are in accordance with research conducted by liquid companies indicating that the company has a large number of current

assets compared to its current liabilities. If the current assets are dominated by too much cash, then the company's management has not optimized the use of cash properly. When a company has too much cash, the company needs to hedge to avoid the risk of loss.

4. Effect of cash flow volatility on hedging decisions

The fourth hypothesis is rejected and it turns out that the volatility of cash flows has no effect on hedging decisions at foreign exchange banks, because the statistical value B of the debt level variable is-26,464with a significance value of 0.355. Significance value (0.355) 35.5% > (0.05) 5%. The results of the logistic regression test found that the volatility of cash flow had a statistically insignificant negative effect on the dependent variable, namely hedging decisions using derivative instruments. The volatility of cash flows illustrates the level of a company's ability to run operations. Companies with greater variations in cash flow or accounting profit resulting from exposure to exchange rate risk will not influence hedging decisions. Therefore based*Shareholders Value Maximization Theory*, statehedging can protect cash flows in the future from the impact of changes in exchange rates while maintaining the amount of debt at a certain level, so that the chance of default that will be experienced by the company due to fluctuations in foreign exchange rates is smaller.Meanwhile, based on the hedging phenomenon, I point out that hedging policies should be properly implemented to minimize the risks that arise and so that the company does not suffer losses (loss) due to fluctuations in foreign exchange rates.

4. CONCLUSION

This study examines the effect of company size, debt levels, liquidity, and cash flow volatility on hedging decisions at foreign exchange banks listed on the IDX for the 2016-2018 period. The data is obtained by looking at the company's annual report which can be seen through the official IDX website, namelywww.idx.co.id. The data obtained was then processed using the SPSS 20 analysis tool. Based on the results of data analysis and the discussion that has been carried out to answer the research problem formulation, it can be concluded that: Company size (X1) has no significant positive effect on hedging decisions for companies, because the lower the company size will indicate the probability of hedging decisions made by companies with transaction exposure will decrease.

The level of debt (X2) has no significant positive effect on hedging decisions for companies, because companies that carry out international transactions have debt that is not denominated by foreign exchange rates, in other words most of the company's debt comes from within the country so companies do not hedge because companies do not need protection from foreign exchange exposure, in other words companies that have high debt do not necessarily hedge. Liquidity (X3) has a significant negative effect on hedging decisions for companies, because the higher the company's liquidity, the more liquid the company is. When a company has too much cash, the company needs to hedge to avoid the risk of loss. Companies that have a large level of liquidity tend to hedge foreign currency derivative instruments to avoid this risk.

Cash flow volatility (X4) has a non-significant negative effect on hedging decisions for firms, because firms with greater variations in cash flows or accounting profit resulting from exposure to exchange rate risk will not influence hedging decisions.

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