Effect of Liquidity, Leverage, and Profitability on Consumption Company Hedging on Companies Listed the Indonesia Stock Exchange from 2012-2018

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Abstract

The regulation on currency hedging is applied to help investor protect their investment in the stock market against the possible decline of the rupiah. It is interesting also for investor to look at factor that can fact hedging decision. This research uses associative design with analysis in the consumption sector companies listed on the Indonesia Stock Exchange with the object of research was the hedging decision of 31 consumption sector companies consisting of 13 food and beverage companies, 4 cigarette companies, 7 pharmaceutical companies, 4 cosmetic & household goods companies, 3 home appliance companies for the period 2012-2018 with a total of 217 research samples. The method in this study uses a non-participant observation method with logistic regression analysis techniques using SPSS vs.21 software. The study states that liquidity, leverage, and profitability bring affects through hedging decision. Therefore, it is expected for decision maker in the company to make their hedging decision based on financial condition in the company such as liquidity, leverage, and profitability.

Keywords: *Liquidity, leverage, profitability, and hedging.*

1. INTRODUCTION

The rapid development of the international economy is characterized by trade flows between capital and goods between countries. International trade transactions are different from domestic trade transactions because international trade transactions involve several countries (Griffin & Pustay, 2005). International trade causes an increase in business risk that must be faced by companies to maintain business continuity (Putro & Chabachib, 2012).

The regulation on currency hedging is applied to help investor protect their investment in the stock market against the possible decline of the rupiah (OJK as seen in

Jakarta Post, 2018). The application of this regulation is expected to help the investors in their endeavor to reduce the risk of investment. It is interesting also for the investor to look at a factor that can fact hedging decision.

This research focuses on the financial condition, where financial conditions with the situation when a company experiences serious financial difficulties, so the company's operations cannot run well (Irfan & Yuniati, 2014). Protection against risk by hedging can reduce the risk of financial difficulties which leads to bankruptcy in the company (Zhu, 2010). Companies with higher financial difficulties costs tend to engage in hedging activities with derivative instruments (Shiu, et al. 2012).

Previous research conducted in various countries showed different results (research gap) related to the character of each country. The lack of research on hedging with derivative instruments in Indonesia is also a reference to re-examine the hedging policy of consumption sector companies listed on the Indonesia Stock Exchange (IDX) in 2012-2018.

2. METHODOLOGY/RESEARCH METHODS

This research uses associative design, which is research that investigates the effect of one variable with another variable. The study was conducted in the consumption sector companies listed on the Indonesia Stock Exchange with the object of research was the hedging decision of 31 consumption sector companies consisting of 13 food and beverage companies, 4 cigarette companies, 7 pharmaceutical companies, 4 cosmetic & household goods companies, 3 home appliance companies for the period 2012-2018 with a total of 217 research samples.

The dependent variable in this study is the hedging decision with the independent variables being liquidity, leverage, and profitability. Hedging is expressed as a dummy variable. If a company hedging does an activity is marked with number 1 and companies that do not do hedging activities are given the number 0. Liquidity variables are measured using the current ratio expressed in percent. Debt to equity ratio expressed in percent is used as a measure of leverage variable, and profitability is proxied using the ratio of return on assets expressed in percent units.

This type of research data is quantitative data using secondary data sources. Quantitative data and secondary data were obtained from the IDX in the form of an annual report on consumption companies in 2012-2018. All consumption companies

listed on the IDX are used as the population in the study and obtained as many as 31 companies. The sample selection uses a purposive sampling method.

The method in this study uses a non-participant observation method with logistic regression analysis techniques using SPSS software. The equation of this regression is

$$Log \frac{p}{1-p} = \alpha + \beta 1 \text{ LIQ} + \beta 2 \text{ LEV} + \beta 3 \text{ PROF} \quad (1)$$

Explanation:

$Log \frac{p}{1-p}$ = Hedging activity

α = Regression constant

β1 LIQ = Liquidity regression constant

β2 LEV = Leverage regression constant

β3 PROF = Profitability regression constant

3. LITERATURE REVIEW

3.1 Liquidity and Hedging Decision

Liquidity is a ratio to measure a company's ability to fulfill its obligations in the short term which is proxied by a current ratio. According to Megawati, et al (2016) the ability of companies to meet their obligations will be more severe when debt is dominated by foreign currencies. This results in fluctuations in currency exchange rates and creates greater risk. This situation makes the company compelled to hedging or hedging with foreign exchange derivative instruments to avoid loss. Chaudry Research (2014), Aditya & Asandimitra (2019), and Dewi & Purnawati (2016) show that liquidity has a significant negative effect on the use of hedging derivative instruments. Guniarti (2014) shows a different result, namely liquidity has a negative effect but not significant to hedging decisions. Whereas Putro & Chabachib (2012) get results that liquidity with company hedging policies has a positive but not significant effect, but Muslim & Puryandani (2019) found that liquidity has a significantly positive effect on hedging decisions.

H1: Liquidity influences hedging decisions.

3.2 Leverage and Hedging Decision

Leverage is the company's ability to fulfill long-term obligations. Companies that have a high level of leverage have a large debt burden and tend not to be able to pay it off too, have a high risk. That company conducting transaction exposures will have

debts in the value of foreign currencies resulting in fluctuations in currency exchange rates. Therefore companies need to use risk management by making hedging decisions so as to reduce the risks and losses faced by the company. Hedging decisions are driven by external factors and internal factors companies. There are two external factors, namely the BI rate and the exchange rate (Megawati et al. 2016). Several previous researchers have examined the internal factors that influence corporate hedging decisions, one of which is leverage. Hedging is very useful for companies that have high leverage ratios because they are able to stabilize cash flow and are able to reduce costs such as financial distress costs, underinvestment problems and costs others related to cash flow (Wang & Lida, 2011). Leverage is stated not to have a significant negative effect on hedging decisions by Baimwera & Muriuki (2014), while Widyagoca & Lestari (2016) and Fazira (2018) in their research found that leverage significantly negatively influenced hedging decisions. Research conducted by several researchers shows different things. Martha, et al. (2016) and Aprianda (2018) get the result that leverage does not have a significant positive effect on hedging decisions, while Nuzul & Lautania (2015) show that leverage has a significantly positively influenced hedging decision.

H2: Leverage influences hedging decisions.

3.3 Profitability and Hedging Decision

The effectiveness of the performance of a company to get profits can be measured using Return on Assets (ROA) in profitability. According to Megawati, et al, Jiwandhana & Triartyati (2016), and Lailatussurur (2017) hedging decisions are influenced in a manner positive and significant by profitability. Companies that are faster in expanding their business are usually companies that have a high level of profitability, a small change can certainly cause a risk of loss caused by circumstances international markets are very volatile so companies need to reduce the risk that might occur by hedging (Jiwandhana & Triaryati (2016). So it can be concluded hypothesis testing in research this can be formulated as follows:

H3: Profitability influences hedging decisions.

4. RESULTS AND DISCUSSION

The result of the study is presented in the following manner, which includes descriptive statistics, frequency table of hedging, and regression logistic used in the study.

The table below shows that the descriptive statistics of the variables studied which include liquidity, leverage, profitability, and hedging.

Table 1 **Descriptive Statistics**

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Liquidity	217	.51	8.64	2.5830	1.66079
Leverage	217	-9.45	9.47	.8007	1.14641
Profitability	217	-.21	.92	.1015	.13731
Valid N (list wise)	217				

Source: Data processed, 2020

Liquidity (CR) has a minimum value of 0.51, a maximum value of 8.64, an average value of 2.5830, and a standard deviation of 1.66079. The lowest value of leverage (DER) is -9.45, the highest value is 9.47, and the average value is 0.8007, and the standard deviation is 1.14641. The minimum value of profitability (ROA) is -0.21, the maximum value is 0.92, the average value is 0.1015, and the standard deviation is 0.13731.

Table 2 **Frequency Table**

Hedging

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	147	67.7	67.7	67.7
	1.00	70	32.3	32.3	100.0
	Total	217	100.0	100.0	

Source: Data processed, 2020

In the data used, samples that do hedging activities will be coded 1 and vice versa gave code 0. Table 2 shows there are 70 observations of which 32.3% do hedging while

those who do not do hedging are 147 observations which amount to 67.7% of total observations which is 217.

Table 3 **Hosmer and Lemeshow Test**

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.402	8	.395

Source: Data processed, 2020

The Hosmer and Lemeshow Test shows the feasibility of a regression model. A sig value greater than 0.05 indicates data by the model. The results of the model feasibility test are shown in Table 3. The value of the Hosmer and Lemeshow Test was 8,402 with a significant probability of 0.395. Significance value is greater than 5%, meaning the model in this study can be accepted.

Table 4 **-2 Log likelihood**

Block Number	-2 Log likelihood
Beginning (Block number = 0)	272.948
Ending (Block number = 1)	255.941

The overall assessment of the model can be assessed by comparing the results between the initial Log 2 likelihood (block number = 0) and the final Log 2 likelihood value (block number = 1). The Log Likelihood value at the beginning was 272,948 and the Log Likelihood value at the end decreased by 17,007 to 255,941. A decrease in log-likelihood indicates that the hypothesized model matches the data. The results of the overall model research can be seen in Table 4.

Table 5 **Model Summary**

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	254.862[a]	.080	.111

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Source: Data processed, 2020

Nagelkerke R Square value shows the relationship of independent variables to the dependent variable. It can be seen from Table 5 that shows the Nagelkerke R Square value of 0.111 which means that variations of DER, ROA, and CR can interpret hedging by 11.1%, while the other 88.9% is explained by other variables not included in the regression model.

Table 6 **Correlation Matrix**

Correlation Matrix

			Constant	CR	DER	ROA
1	Step	Constant	1.000	-.810	-.501	-.162
		CR	-.810	1.000	.337	-.133
		DER	-.501	.337	1.000	-.236
		ROA	-.162	-.133	-.236	1.000

Source: Data processed, 2020

The matrix is used in logistic regression to determine the correlation between independent variables. A correlation matrix of fewer than 0.8 means that there is no indication of severe multicollinearity between independent variables. Table 6 shows the correlation value between variables smaller than 0.8, this means there are no signs of dangerous multicollinearity between independent variables.

Table 7 **Classification Table**

Classification Table [a,b]

		Observed		Predicted		
				Hedging		Percentage Correct
				.00	1.00	
0	Step	Hedging	.00	140	7	95.2
			1.00	57	13	18.6
		Overall Percentage				70.5

Source: Data processed, 2020

The data in Table 7 shows the predictive ability of the regression model to project companies applying hedging by 18.6%. These results indicate that by applying the regression model, 13 observations are estimated to do hedging from all 70 observations

that carry out hedging. The projection strength of the regression model in predicting the probability of the company not hedging is 95.2%. The model shows that there are 140 observations predicted not to hedge from a total of 147 observations that did not hedge. Overall classification accuracy in this model is 70.5 percent, which means the results of this study are quite good because it is close to 100 percent.

Table 8 **Variables in the Equation**

Variables in the Equation

		B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	CR	-.361	.117	9.553	1	.002	.697	.554	.876
	DER	-.130	.146	.803	1	.370	.878	.660	1.168
	ROA	3.040	1.189	6.539	1	.011	20.903	2.034	214.842
	Constant	-.078	.360	.047	1	.829	.925		

a. Variable(s) entered on step 1: CR, DER, ROA.

Source: Data diolah, 2020

Variables in the Equation show the estimated value of the parameters to form a logistic regression model. The regression model formed from the estimated values of the Variables in The Equation parameter is shown in Table 8. The test results with logistic regression at an error rate of 5 percent. The model formed based on the estimated value of the parameters in Table 8 can be stated as follows:

$$Log \frac{p}{1-p} = - 0.078 – 0.361 \text{ LIQ} – 0.130 \text{ LEV} + 3.040 \text{ PROF}$$

DISSCUSION

Based on the formed regression model the results can be explained as follows:

The first hypothesis states that liquidity has a significant negative effect on hedging decisions. The CR variable which is a proxy of liquidity shows a regression coefficient of -0.361 with a variable probability value of 0.002 which is smaller than the significance level of 0.05 (5%). The test results indicate that H1 was accepted, and showed that CR has a significant relationship to the hedging policy of consumption sector companies on the IDX and supports previous research by Chaudry Research (2014), Dewi & Purnawati (2016).

The second hypothesis states that leverage has a significant negative effect on hedging decisions. DER which becomes the proxy of leverage shows a regression coefficient of -0.130, with a variable probability of 0.370, higher than the significance level of 0.05 (5%). So from previous studies (Widyagoca & Vivi (2016)), it can be seen that the test results indicate H2 is accepted, this shows that DER has a significant effect on the hedging decisions of consumption sector companies listed on the IDX.

The third hypothesis states that profitability has a significant positive effect on hedging decisions. ROA which is a proxy of profitability shows a regression coefficient of 3.040 with a variable probability value of 0.011 which is lower than the significance level of 0.05 (5%). The test results showed, H3 was accepted, because the same as the research of Megawati, et al, Jiwandhana & Triartyati (2016) showed the same results. This indicates ROA has a significant relationship to the hedging decision of consumption sector companies listed on the IDX.

CONCLUSION

Liquidity has a significant negative effect on the use of hedging consumption sector companies. These results indicate that a low CR value causes an increase in hedging use. Conversely, a higher CR results in a decrease in hedging use. Leverage has a significant negative effect on hedging decisions of consumption sector companies. The increase in DER results in high use of hedging and conversely the lower DER causes low use of hedging. Profitability has a significant positive effect on corporate hedging policies in the consumption sector. These results indicate that increasing ROA in consumption sector companies has a significant impact on hedging decision making.

Consumption companies, especially those conducting international transactions that face uncertainty as a result of fluctuations in foreign exchange, should use hedging when certain economic conditions protect the value of the company. Investors who want to invest in consumption companies need to pay attention to the variables of liquidity, leverage, and profitability because these variables affect hedging decisions and to know how the company's ability to manage the risks faced. This study still has limitations, namely not determining the derivative instruments used for the risks faced by the

company and not separating the dominant sample using debt at the foreign exchange rate and debt that is dominated by the local exchange rate so for future researchers to conduct more specific research in determining derivative instruments that can be used by companies and separating samples.

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