

# Determinants of Company Decision Making for Foreign Exchange Hedges

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In facing business competition, business activities should be planned and controlled well especially for business dominated by foreign currency as the payment currency. A company with international class business activity need a reserve in the form of foreign currency. That reserve is often called as hedging or value protection. Hedging activity done by company management in facing the foreign exchange fluctuation is one of the alternatives of using a derivative instrument. Purpose of this research is to analyse the determination of company decision using foreign currency hedging. Data collected from the financial report of various industry companies, which are listed in the Indonesian stock exchange (BEI) during the period of 2014-2017. Research data is panel data and analysed by using the logical regression method and review application program. The research instrument used in analysing determination of the company decision to use foreign currency hedging is consisting of financial ratio (independent variables are leverage (LEV); growth opportunity (GROWTH); liquidity (CR); and ownership (independent variables are institutional ownership (INST); managerial ownership (MOWN); and public ownership (POWN)). The research result is showing that only institutional variable and public ownership, which is affecting company decision making to use a derivative instrument in doing foreign currency hedging.

**Keywords:** *Hedging, leverage, growth, liquidity, ownership*

## Introduction

In facing business competition, a change in company management concept from the conventional way to the modern approach is needed. All business activities should be planned and controlled well especially for the one with business activities dominated with foreign currency for the transaction. A company with international scale business would need to reserve in foreign currency. The complexity of foreign currency exchange policy in a country can give an influence to the company financial result (Jihad et al., 2019).

Almost all of the company activities are related to the international market; thus, company cash flow is affected by exchange rate fluctuation. One of the anticipations in a company with global scale business is using derivative in the form of hedging. Purpose of hedging is to protect the reserve value in foreign currency against the risk of exchange rate fluctuation in a country. Many companies and investors are buying a derivative instrument in hedging. Eiteman (2012) says that premium and derivative value based on an underlying asset. Generally, a derivative instrument which is transacted is option, futures and forward (Mardani & Fallah, 2018).

Result of research by (Nayeem Abdullah, 2015) that there is a positive impact between leverage ratio to the company hedging activity. While the result of research by (Sprcic & Sevic, 2012) that leverage ratio does not give any impact to the company hedging activity. Tai, Lai, and Lin (2014) say that there is a positive relationship between liquidity to the company decision making in doing hedging. However, research by (Arnold et al., 2014) saying oppositely.

Tai et al. (2014) are also doing research of relation between institution ownership with hedging decision. From the research if found that institution ownership positively affects the hedging decision. Chen and King (2014) also do similar research, but the result shows institutional ownership has a negative impact on the hedging decision (Zhatkin, 2018).

Korkeamäki, Liljebloom and Pfister (2016) state that the influence of insider ownership (managerial ownership) is contrary to the company decision making to use hedging. While Mullally (2015) says that the influence of outsider ownership (public ownership) is contrary to the company decision making to use hedging.

A derivative is an instrument that usually used in value protection activity hedging. This research is analysing how company using a derivative instrument to know hedging activity with foreign currency derivative instrument in the various industries company that listed in the Indonesian stock exchange in the period of 2014-2017, seen from financial ratio angle (independent variables are leverage (LEV), growth opportunity (GROWTH), liquidity (CR) and ownership (independent variables are institutional ownership (INST), managerial ownership (MOWN) and public ownership (POWN)).

The purpose of this research is:

- (1) to test the influence of LEV (leverage) to the company decision making to use foreign currency hedging;
- (2) to test the influence of GROWTH (growth opportunity) to the company decision making to use foreign currency hedging;
- (3) to test the influence of CR (liquidity) to the company decision making to use foreign currency hedging;

- (4) to test the influence of INST (institutional ownership) to the company decision making to use foreign currency hedging;
- (5) to test the influence of MOWN (managerial ownership) to the company decision making to use foreign currency hedging; and
- (6) to test the influence of POWN (public ownership) to the company decision making to use foreign currency hedging.

## Literature

### *Hedging (Value Protect)*

A company is doing hedging to avoid or reduce the risk of losses caused by foreign exchange rate changes as the impact of company business transaction. Hedging for foreign currency risk usually done through a portfolio by using foreign currency derivative instrument so the company can do selling or buying some currency to avoid the exchange rate gap caused by the company business transaction.

According to Shapiro (2013), some of the hedging strategy used by the company are:

#### (1) Buying a futures contract

A futures contract is a contract that defining the exchange rate of one currency for a specific amount with transaction closing on a date which is agreed together.

#### (2) Buying a forward contract

A forward contract is a contract made to do selling or buying of foreign currency against other foreign currency in the future with the exchange rate, which is agreed at the time of contract started.

The benefit of buying a forward contract are:

- (a) reducing the risk of exchange rate;
- (b) this contract can be adjusted according to the company needs;
- (c) to ease company to prepare company financial planning; and
- (d) investors can do speculation to gain a bigger profit.

#### (3) Hedging by investing in the money market

Hedging by investing in the money market is done by buying short term investment instrument to protect the amount of account payable or account receivable, which is due in the future.

#### (4) Hedging by making an option contract

An option contract is a right purchased in trading or selling of foreign currency in the future based on the contract price and executed on the date which is agreed.

In hedging decision, the company is using a derivative instrument to hedge. Eiteman (2012) mentioned that a derivative instrument is a contract agreement between two parties that would be executed in the future in the date which is agreed together. The derivative instrument can be split into four alternatives, which are options contract, forward contract, futures contract and swap contract.

Derivative instrument option and futures have an exchange. Futures contract hedging is frequently used by a company to protect value or relatively smaller hedging transaction. Option contract hedging is flexible contract system for a company because that contract can be cancelled or not realised if it's found that that contract is causing the losses to the company because of the foreign currency fluctuation in the future.

Forward contract hedging is a contract between two parties with a binding agreement and can not be cancelled. Big and international companies where the funding of transaction insignificant amount is doing hedging by buying a forward contract as a company strategy to avoid foreign currency fluctuation (Shapiro, 2013)

Difference between option and futures (forward) is: in future (forward), the buyer has a right option, if profitable then the buyer will use their right, if not profitable then the buyer will not use their right, and as a consequence for the right then the buyer is paying the premium. Futures (forward): both parties (buyer and seller) have rights to the contract which is agreed and has no premium.

The similarity between option and futures is both are sold in an organised way and has a standard unit (lot).

### ***Research Variable Definition***

Independent variable in this research is consist of 6 variables, which are: LEV, GROWTH, CR, INST, MOWN, and POWN.

#### ***LEV (Leverage)***

(Kumhof, Ranci re, & Winant, 2015) explain the leverage ratio is a proportion between total debt (wealth) with a total asset (wealth) of a company. Systematically leverage (LEV) can be formulated as follow:

$$LEV = \frac{\text{Total long term debt}}{\text{Total assets}}$$

### ***GROWTH (Growth Opportunity)***

Growth opportunity is a company growth probability in the future. According to Hermuningsih (2014), if the growth level of the company is high, then the company will certainly need a lot of external funds to fund the growth. A proxy which is used to measure the growth opportunity is the ratio between the market value of the equity (MVE) with a book value of the equity (BVE). Growth opportunity (GROWTH) can be formulated as follow:

$$\text{GROWTH} = \text{Market Value Equity (MVE)} : \text{Book Value Equity (BE)}$$

Where:  $\text{MVE} = \text{outstanding share} \times \text{closing price}$

$\text{BVE} = \text{total asset} - \text{total liabilities}$

### ***CR (Liquidity)***

Liquidity is a company ability to fulfil their liabilities which will be due (reflected in their short term liabilities). Company liquidity measurement can be done by using the current ratio

$$\text{CR} = \text{current assets} : \text{current liabilities}$$

### ***INST (Institutional Ownership)***

According to (Birkmose & Strand, 2012) definition of institutional ownership: international ownership is a proportion of share owned by an institution on the end of the year, which is measured with percentage. According to (Birkmose & Strand, 2012), institution ownership is a company share which is owned by the company. Institution ownership is shown on the annual financial report, which is showing the potion of the published shareholder.

### ***MOWN (Managerial Ownership)***

Managerial ownership is the company managers, which is also the shareholder (Han, Jin, Kang, & Lobo, 2013) Purpose of a company to give an opportunity to the company managers to participate in the shared ownership is to ensure that the managers are more careful in taking investment and debt decision, thus giving positive impact the company values. Managerial ownership is also known as insider ownership, is written in the annual financial report that showing shareholder position, which is published.

### ***POWN (Public Ownership)***

Sun and Teo (2018) tested public ownership as a hedging decision factor. That model is estimating that manager with a bigger proportion from their wealth they invested in the

company share would prefer hedging to reduce company risk. Sun and Teo (2018) have an opinion that external decision-maker other than the director and staff tends to increase company investors rather than public ownership. Public ownership often said as outsider ownership is listed in the annual financial report of the company, which is showing the position of the shareholder, which is published.

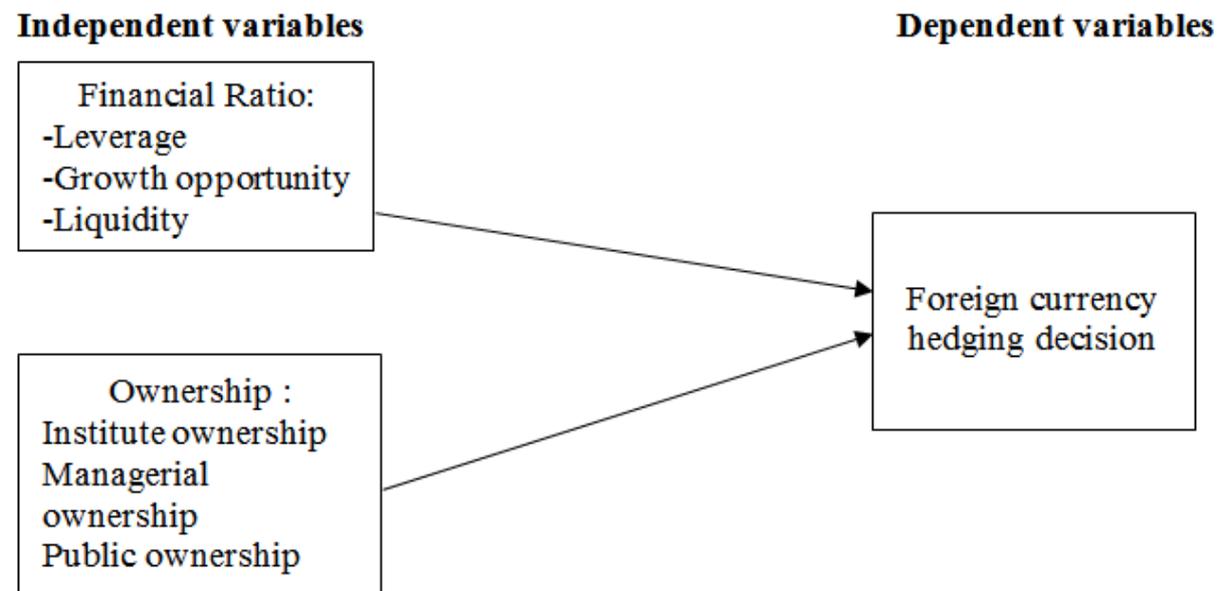
### Methodology and Data

Data collection method used by writers in this research is using secondary data. Secondary data used is the annual financial report of companies from various industries using derivative and registered in Indonesian stock exchange (BEI) in the period of 2014-2017.

Sample selection is using purposive sampling method with the following criteria:

- (1) data collected from company financial report which is registered in the Indonesian stock exchange (BEI) under various industry category;
- (2) the company should have data of managerial ownership, institutional ownership, and public ownership for the whole four subsequent years. Based on those criteria, then from forty-five listed companies in BEI under various industries category, there are thirty companies identified with data of managerial ownership, institutional ownership, and public ownership for four subsequent years.

**Figure 1.** Research model



**Source:** Author (2019)

Based on Figure 1, research model concerning research model it can be seen that instrument of this research is using six determined indicators of a company, which is using derivative, which

are : leverage (LEV), growth opportunity (GROWTH), liquidity (CR), institutional ownership (INST), managerial ownership (MOWN), and public ownership (POWN) against company decision to do foreign currency hedging.

## Results and Discussion

### Research Result

This research is using a quantitative method and panel data. , The logit of this research Analysis result, can be seen in the below table one, Logit analysis result.

**Tabel 1:** Logit analysis result

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.751982	0.777016	2.967782	0.0332
LEV	0.001761	0.004035	0.436401	0.6625
GROWTH	0.001312	0.011858	0.110663	0.9119
CR	0.002372	0.030880	0.076797	0.9388
MOWN	-0.022717	0.019414	-1.170128	0.2419
INST	-0.004228	0.011769	-2.359283	0.0194
POWN	-0.026106	0.013601	-2.919384	0.0449
McFadden R-squared	0.167958	Mean dependent var		0.172414
S.D. dependent var	0.379378	S.E. of regression		0.382308
Akaike info criterion	0.977596	Sum squared resid		15.93141
Schwarz criterion	1.143761	Log likelihood		-49.70058
Hannan-Quinn criter.	1.045050	Restr. log likelihood		-53.32439
LR statistic	7.247612	Avg. log likelihood		-0.428453
Prob(LR statistic)	0.298554			
Obs with Dep=0	96	Total obs		116
Obs with Dep=1	20			

Based on table one, logit analysis result, z value shows the absolute value of 2.96, which is means significant because z is bigger than 2 with probability value less than 0.05. While the determination coefficient value ( $R^2$ ), which is used is  $R^2_{McFadden}$ . Where the value of  $R^2_{McF} = 0.16$  which is means influence of variable LEV, Growth, CR, MOWN, INST, and POWN against company decision making to use foreign currency hedging is 16.80%, while the rest is 83.2% influenced by another variable which is not covered in this research

The equation is as follow:

$$Y = 0.751982 + 0.001761 \text{ LEV} + 0.001312 \text{ GROWTH} + 0.002372 \text{ CR} - 0.022717 \text{ MOWN} - 0.004228 \text{ INST} - 0.026106 \text{ POWN} + e$$

where:

Y = company decision to use derivative

LEV = Leverage

GROWTH = Growth Opportunity

CR = Liquidity

MOWN = Managerial Ownership

INST = Institution Ownership

POWN = Public Ownership

Based on the above equation can be known that influence of leverage variable to the company decision making to use derivative instrument is 0.001761, the influence of GROWTH variable against company decision to use derivative instrument is 0.001312, the influence of liquidity variable that measured with current ratio against company decision to use derivative instrument is 0.002372, the influence of managerial ownership variable against company decision to use derivative instrument is 0.022717, the influence of institutional ownership variable against company decision to use derivative instrument is 0.0042281, the influence of public ownership variable against company decision to use derivative instrument is 0.026106.

## Hypothesis test

### *First Hypothesis (H1)*

H1: there is a positive impact between leverage against company decision making to do foreign currency hedging.

The above result indicates the first hypothesis is rejected, where the relation between leverage against company decision making to do foreign currency hedging is positive and not significant. This is means if company leverage is an increase, it would affect company decision making to do foreign currency is also increase.

### *The second hypothesis (H2)*

H2: there is a positive impact between growth opportunity against company decision in doing foreign exchange value hedging.

The above result is indicating that the second hypothesis is rejected, where the relation between growth opportunity to the company decision making to do foreign currency hedging is positive and not significant. That is means if company growth is increasing it would also affect company decision to do hedging is also growing.

### ***Third Hypothesis (H3)***

H3: there is a negative impact between Liquidity to the company decision making to do foreign exchange hedging.

The above result is indicating that the third hypothesis is rejected, where the relation between liquidity to the company decision making to do foreign currency hedging is positive and insignificant. That's means if company liquidity is increasing, then it affects company decision making to do foreign currency hedging is also increase.

### ***Fourth hypothesis (H4)***

H4: there is a positive impact between Institutional Ownership to the company decision in doing foreign currency hedging.

The above result is indicating that the fourth hypothesis is accepted, where the relation between institutional ownership to the company decision in doing foreign currency hedging is negative and significant. That means if institutional ownership is increasing, then company decision making to do foreign currency hedging is decreasing.

### ***Fifth hypothesis (H5)***

H5: Managerial ownership has a negative impact on the company decision in doing foreign currency hedging.

The above result indicates that the fifth hypothesis is rejected, where the relation between managerial ownership to the company decision in doing foreign currency hedging is negative and insignificant. That means if managerial ownership of the company is increasing in decision making to do foreign currency hedging is also growing.

### ***Sixth hypothesis (H6)***

H6: Public ownership negatively influencing the company decision making to do foreign currency hedging.

The above result is indicating that the sixth hypothesis is accepted, where the relationship between public ownership to the company decision making to do foreign currency hedging is negative and significant. That is means if public ownership of the company is increasing in decision making to do foreign currency hedging is decreasing.

Based on the above test result, it is summarised as Table 2, Sign that obtained of the research result as below:

**Table 2:** Sign that obtained

Variable	Symbol	Sign	Decision
Leverage	LEV	Positive (insignificant)	H1: Rejected
Growth	GROWTH	Positive (insignificant)	H2: Rejected
Liquidity	CR	Positive (insignificant)	H3: Rejected
Institutional Ownership	INST	Negative (Significant)	H4: Accepted
Managerial Ownership	MOWN	Negative (insignificant)	H5: Rejected
Public Ownership	POWN	Negative (Significant)	H6: Accepted

## Discussion on the Research Results

### *Effect of Leverage to the Company Decision in Using Foreign Currency Hedging*

Several researchers such as Nayeem Abdullah (2015) and Sprcic and Sevic (2012) did the research effect of leverage to the company to do hedging. Research result from Nayeem Abdullah (2015) shows that there is a positive impact between leverage ratio to the company hedging activity. While research result from Sprcic and Sevic (2012) is leverage ratio is not affecting company hedging activity.

Research result indicates that leverage has a positive impact and not significant. This is aligned with the result of research by Sprcic and Sevic (2012). In minimising loss risk company pay the debt when it is due then company choose other alternative other than hedging, such as rescheduling company debt payment.

### *Impact of Growth Opportunity to the Company Decision to use Foreign Currency Hedging*

Chen and King (2014) state that small size enterprises tend to use hedging. Research result indicates that growth opportunity has positive and insignificant influence. If company growth increase means company profit also increases and probably the company does not need to use the fund received from the profit to do hedging but to invest that can make the company get more profit.

### ***Impact of Liquidity to the Company Decision to use Foreign Currency Hedging***

Tai et al. (2014) found that there is a positive relationship between liquidity with company decision in doing hedging, and the research by (Arnold et al., 2014) say that there is a relation on another way round. Research result indicates that liquidity has a positive and insignificant impact. That is aligned with research by Tai et al. (2014).

### ***Impact of Institutional Ownership to the Company Decision to use Foreign Currency Hedging***

Tai et al. (2014) also research on the relationship between institutional ownership and hedging decision making. The research result shows that there is a positive impact between institutional ownership to the company decision making to do hedging. According to Chen and King (2014), however, institutional ownership has a negative impact on the hedging decision. Research result indicates that institutional ownership of a company has a negative and significant impact, thus if institutional ownership of a company is increasing cause decreasing of company decision making to do foreign currency hedging.

### ***Impact of Managerial Ownership to the Company Decision to use Foreign Currency Hedging***

Korkeamäki, Liljeblom and Pfister (2016) state that the impact of insider ownership (managerial ownership) is negative to the company decision making to use hedging. Research result indicated that managerial ownership of a company has a negative and insignificant impact, thus if the managerial ownership of the company is increasing will cause decreasing of company decision in doing hedging.

### ***Impact of Public Ownership to the Company Decision to use Foreign Currency Hedging***

Mullally (2015) says that the impact of outsider ownership (public ownership) is negative to the company decision making to use hedging.

Research result indicates that public ownership of a company has a negative and significant impact, thus if the public ownership of the company is increasing will cause decreasing of company decision in doing hedging for foreign currency.

## Conclusion

Based on the logit regression test on 120 observations from various industries company listed in the Indonesian stock exchange (BEI) since the years 2014-2017, it is identified the following results:

- (1) The company decided to use a derivative instrument in doing foreign currency hedging is influenced by the drop of institutional and public ownership;
- (2) The character of the company, which are leverage variable, growth opportunity and liquidity do not affect various industries company in making the decision to use foreign currency derivative hedging, that is because company character is not the factor that company management considering to minimise the company risk from the losses due to foreign currency.

That happens if the company is considering to give more benefit to the investors (institutional and public) by doing the way to protecting the foreign currency to be used in the company transaction; thus the profit generated is stable and giving a stable return to the investors. But from the research result if those six variables are tested at the same time, then the company decision making to use the derivative instrument in doing foreign currency hedging is significant to the impact of leverage, growth, liquidity, institutional ownership, managerial ownership, and public ownership.

## Suggestions

For the further development, research on the company that using derivative in Indonesian stock exchange (BEI) can be addressed to the following developments: (1) increase the category of the company because of the limited company that is using derivative; (2) Considering the value of  $R^2$  is not so big, an independent variable can be developed with reference to some critical decisions in financial management, such as funding decisions, investment, dividend; and considering the fundamental condition of the company such as business risk and company growth.

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