

THE ROLE OF HEDGING DECISIONS IN MODERATING FINANCIAL DISTRESS AND UNDERINVESTMENT PROBLEM EFFECT ON INDONESIA MANUFACTURING COMPANIES VALUE

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Abstract

This study intended to discover the role of hedging decisions in moderating the effect of financial distress and underinvestment problems on the value of Indonesian manufacturing companies on the Indonesia Stock Exchange (IDX) for the period 2013-2016. The population in this study is a manufacturing company listed on the Indonesia Stock Exchange (IDX) with a total of 148 companies with a sample of 34 companies, the sample determination was done by purposive sampling method. The data analysis technique used is moderated regression analysis. Based on the results of the analysis found that the debt to equity ratio has a significant negative effect on firm value. Current ratio, firm size, market to book value has a significant positive effect on firm value, while hedging is not able to moderate the leverage, firm size, market to book value towards firm value, hedging is able to moderate and strengthen the influence of liquidity on the value of the firm.

Keywords: Firm value, leverage, liquidity, firm size, growth opportunities, hedging

INTRODUCTION

Companies in the modern era are required to continually create and implement new strategies to improve the company's cash flow which will then increase the prosperity of the company's shareholders. The main objective of the company according to financial management theory is to maximize shareholder wealth or company value (Salvatore, 2012). Maximizing shareholder prosperity can be interpreted as maximizing the company's stock price, maximizing company value means also maximizing shareholder prosperity is an important thing that must be achieved by company management (Brigham and Daves, 2017).

Corporate value is an important concept for investors, corporate value is an indicator of how market perceptions of the company's success. The value of the public market is determined by stock market prices. Stock market prices reflect the potential of the company in the future or the overall assessment of investors on their own capital owned by a particular company. The value of the company can be reflected through the stock price. The higher the stock price this means shareholder prosperity will increase (Ngatemin et al., 2018)

Strategies for increasing certain company values require companies to expand to foreign markets, because foreign markets provide better opportunities in terms of increasing the company's cash flow (Madura, 2009: 13). Ways - ways that companies can do to expand their market share to international markets, namely by conducting international trade, franchising agreements (franchising), licensing agreements (licensing), acquisition of existing companies, joint ventures (joint ventures), and the establishment of new subsidiaries overseas.

International trade has an impact on increasing competition and fluctuations in market prices resulting in increased business risks that must be borne by the company. The risks faced by companies in their transactions can be caused by systematic factors such as fluctuations in interest rates, foreign exchange rates and commodity prices which have a negative impact on cash flows, company value, and can threaten the survival of the company (Putro, 2012)

Business risk will have an impact directly or indirectly on the condition of the company (Sherlita, 2006). Risk is very important to be managed so that the company can survive, one way to manage and overcome this risk is called risk management. Managing risk or maybe minimizing the risk of multinational companies requires risk management (Hanafi, 2009: 8). Companies often deliberately take certain risks because they feel they have the potential benefits behind these risks. Risk management is carried out through several risk identification processes, risk evaluation and measurement, and risk management. This type of risk can be identified by measuring the exposure faced by the company. Exposures that can be faced by the company can be foreign exchange exposure, transaction exposure, economic exposure and accounting exposure.

Significant foreign exchange exposure is faced by multinational companies due to a delay in the settlement of trade transactions that the company does. These exposures are caused by a time lag in transactions denominated in foreign currencies. Multinational companies also bear the risk of exchange rate fluctuations which result in fluctuations in the value of the company. The biggest risk of multinational transactions is caused by fluctuations in foreign exchange rates which have a direct impact on sales turnover, product pricing, and the level of profit of exporters and importers. Fluctuations in foreign exchange rates also cause uncertainty in the value of assets and liabilities, and can threaten the survival of the company, to anticipate the negative impact of the risk of fluctuations in foreign exchange rates and protect the interests of shareholders, so multinational companies do hedging policies with derivative instruments (Levi, 1996).

Hedging method is one way to minimize financial risks that are often faced by multinational companies. Hedging is a strategy that can be used by companies to reduce or eliminate business risks by still being able to earn profits in a business transaction. The application of hedging policies is able to cover losses from the position of the initial assets with the profits derived from the use of hedging instruments. Before hedging is carried out, the hedging party only has a number of initial assets, after the hedging is done, the hedger will have a number of initial assets plus the value of the hedging instrument, also called a hedging portfolio (Sunaryo, 2009: 23).

Hedging strategies used by companies for financial transactions can be done with derivative instruments. Derivative instruments are one of the alternatives in the capital market that plays a role. Derivatives are contractual agreements between two parties to buy or sell a number of goods (both financial and commodity assets) on a certain date in the future at a price agreed upon at this time (Utomo, 2000).

Research by Suriawinata (2004) found evidence that the hedging policy of the company is a value enhancing activity or activity to increase the value of the company, where it is evident that the market provides more value to companies that carry out hedging programs. Aretz (2007) states that corporate hedging decisions can increase company value by reducing cash flow volatility which has an impact on decreasing the probability of companies dealing with bankruptcy and financial distress. The company's risk management strategy using hedging can also help companies provide cash flow availability and the need for funds to invest so the company avoids underinvestment problems. Hedging is said to be able to help companies provide funds when companies have the opportunity to invest in a project and have a positive net present value of the company, but the company does not have the cost to fund the project, hedging can be used as a suggestion to help companies provide cash flow for the investment.

The use of hedging policies with derivative instruments has increased in recent years in developed countries. Empirical studies of the determinants of hedging policies are still limited and require more extensive research, especially in developing countries (Khediri, 2010).

Indonesia is included in the category of developing countries, the use of hedging policies is one of the methods used by companies to reduce risks that can be caused by adverse fluctuations in foreign exchange rates. This study uses a sample of manufacturing companies listed on the Indonesia Stock Exchange from 2013 to 2016, because manufacturing companies in the world of economy are very proactive companies in terms of protecting their products and assets from fluctuations in foreign exchange rates, so companies tend to hedge. Active manufacturing companies make export-import transactions so that manufacturing companies have greater foreign exchange exposures and in financial statements will be recorded in foreign currency assets / liabilities (Fitriasari, 2011). The following is a graph of manufacturing trend hedging from 2013 to 2016.

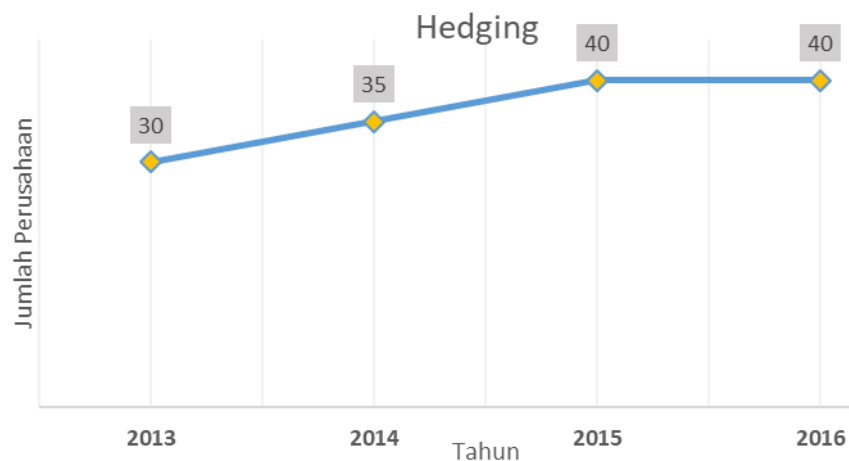


Figure 1. Graph of Development of Use of Hedging

Source: Processed data from annual report

Based on the graph above it can be seen that the development of Indonesian manufacturing companies in hedging each year has increased. Starting from 2013 there were 30 companies that carried out hedging activities, then until 2016 manufacturing companies that carried out hedging activities were 40 companies. The development of the use of hedging policy in manufacturing companies in Indonesia which continues to increase each year can be explained by a theory regarding the motivation for implementing hedging policies in a company. The theory is based on two paradigms, namely maximizing shareholder value (shareholders value maximization) and maximizing manager satisfaction (manager utility maximization). Some of the

rationale in the shareholders value maximization theory is the tax incentive or savings hypothesis, the hypothesis of reducing transaction costs related to bankruptcy risk, the hypothesis of increasing debt capacity that also increases tax debt protection (debt-tax shield)) and the hypothesis of reducing the problem of underinvestment and substitute assets (asset substitution) related to agency problems between shareholders and creditors. The manager of utility maximization theory has two hypotheses, the first risk aversion hypothesis explained that managers have risk aversion and the two reputation signaling hypotheses that use hedging as one way to communicate manager's reputation, capabilities and competencies to the labor market (Tufano, 1996).

Generally it can be said that corporate hedging policies are more motivated by the company's desire to maximize shareholder value (shareholders value maximization), by avoiding financial distress to reduce underinvestment problems. Hedging as a financial strategy will ensure that the value of foreign exchange used to pay (outflow) or a number of foreign currencies that will be received (inflow) in the future is not affected by changes in fluctuations in foreign exchange rates that harm the company, thus hedging decisions of companies can reduce the risk of financial distress (Fitriasari, 2011).

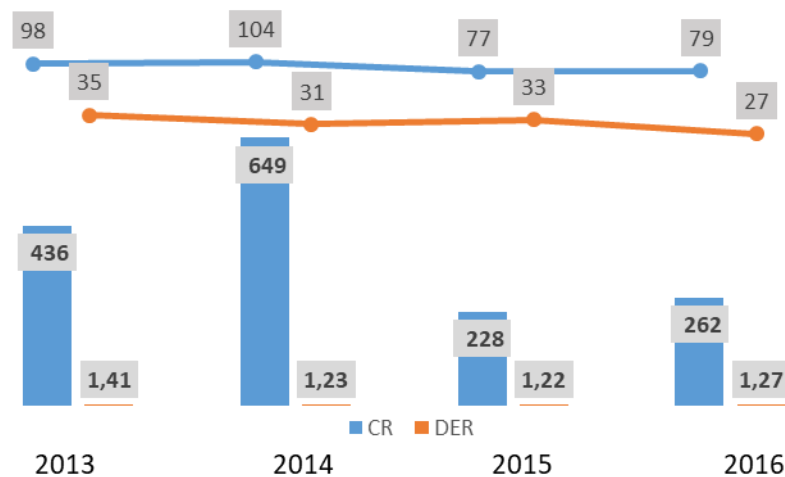


Figure 2. Graph of Leverage and Liquidity
Source: Processed data from annual report

Figure 2 shows the trend of two financial distress indicators, namely liquidity calculated with the current ratio and leverage calculated by the debt to equity ratio (DER) for manufacturing companies found on the Indonesia Stock Exchange during the period of 2013 to 2016. Both indicators have a trend fluctuating but has a tendency to decline in the last three periods, the 2016 liquidity indicator shows the average liquidity level of Indonesian manufacturing companies

at 262 percent and there are 79 companies that have liquidity levels below the industry average and this shows 79 companies have risk higher financial distress.

The next indicator is leverage in 2016 for the average leverage of Indonesian manufacturing companies as much as 1.27 percent and there are 27 companies that have a higher level of leverage than the industry average and have a higher risk of financial distress.

The phenomenon shown in Figure 1.2 makes this study focus on financial distress and underinvestment hypothesis, where financial distress is a measurement that indicates difficulties in returning debt to creditors, or can be referred to as a measure of corporate bankruptcy (Putro, 2012). Financial distress can also be said as a condition where the company is unable to pay all its obligations or there is no fund to pay off long-term and short-term debt of the company at maturity (Hasymi, 2007). Financial distress occurs before a company experiences bankruptcy because financial distress is the stage of decreasing the company's financial condition before the company is liquidated (Widarjo 2009).

Underinvestment problems in a company arise when external risks affect the company's internal cash flow which results in a decrease in the company's ability to fund certain investments (Myers, 1977). Risks from external factors such as fluctuations in interest rates, commodity prices and the exchange rate negatively affect the company's internal cash flows. When companies make profitable investments, they will look first at their internal cash flows. Companies with insufficient internal cash flow will reduce profitable new investments compared to trying to obtain external funding to finance the investment.

The company applies hedging policies to reduce fluctuations in cash flows and minimize financial distress conditions (Smith and Stulz, 1985; Haushalter, 2000). The application of hedging policies can protect companies from costs caused by financial difficulties by reducing transaction costs and eliminating underinvestment problems (Jim and Jorion, 2007).

Research conducted by Shaari et al., (2013) and Nguyen et al., (2002) uses leverage as a proxy for financial distress. Leverage is a debt ratio or often also known as a solvency ratio is a ratio that can show the ability of a company to fulfill all financial obligations of the company if the company is liquidated. Modigliani and Miller (1963), states that a company has an optimal level of debt and seeks to adjust its actual level of debt towards the optimal point, so that the company is not at an overlevered or underlevered level of debt. debt that is too high causes the company to have a higher risk of default, in other words, the company's risk of financial distress will be experienced by higher companies. The high risk of financial distress faced by the company shows the company's performance is not good, it can provide a bad image for the company and can reduce the value of the company.

Research conducted by Chaudry et al., (2014) found that significantly leverage negatively affected the value of the company, because the higher the level of debt the company made the company faced with a higher risk of default. The research conducted by Janor et al., (2017) also found similar results. In contrast to the results of the research conducted by Hermuningsih (2013), it was found that leverage had a positive and significant effect on firm value, because it was considered that companies that have a high level of debt are companies that are optimistic about company performance and have promising future prospects.

Aretz et al., (2007) states that there is a tendency for companies that use more debt in their capital structure to hedge. A company with a higher leverage ratio indicates that the company is facing the risk of financial distress. Suriawinata (2005) also states that higher leverage ratios indicate higher financial distress costs, so the greater the motivation of companies to implement hedging. Hedging can provide a very important contribution in helping companies deal with financial distress (Shaari et al., 2013). Sola et al., (2012) found the application of good risk management, one of which is implementing hedging can increase company value because by applying hedging can maintain the volatility of the company's internal cash flows.

Liquidity indicates the company's ability to meet short-term financial obligations on time. The company will always be liquid, if the current funds owned by the company are of greater value than debt (Paranita, 2011). The more liquid a company reflects that the company is good at fulfilling its short-term obligations, so the company avoids financial distress (Ameer, 2010). Research conducted by Du et al., (2016) found a positive influence between liquidity and firm value, because the higher the liquidity the company can maintain the stability of operations and research and development activities of companies that can increase the value of the company in the market (Jonathan, 2003). In contrast to previous research, Pradipta (2012) in his research found that liquidity ratios have a negative influence on the company's stock price, this is caused if companies with high liquidity ratios will be more confident to use funding from outside the company so that the company will focus on settlement of obligations not to provide profits to shareholders.

The application of derivative instruments as an effort to do hedging can help companies by maintaining the stability of the company's internal cash flows (Tuzcu, 2015). This stability can maintain the company's ability to fulfill all its short-term obligations, so that the company will avoid financial distress. The stability also illustrates that the company is in good performance and management, this positive synergy will always increase the value of the company (Huang, 2015).

Growth opportunities are a measure of a company's opportunity to invest in the future (Myers, 1977). The growth opportunities of a company are inherent and cannot be directly observed (Gaver and Gaver, 1993), then growth opportunities are measured by proxy. Previous research by Nance et al. (1993), Gay and Nam (1998), Graham and Rogers (2002), Nguyen and Faff (2002), Paranita (2006), Ameer (2010) and Chiorean et al. (2012) use different proxies for growth opportunities (market-to-book value of equity, book-to-market value of equity, price earnings ratio, capital expenditure, dividend yield, R & D expenses and firm size).

Underinvestment hypothesis predicts a positive relationship between growth opportunities and the use of derivatives (hedging). Underinvestment will generally be faced by companies that have greater growth opportunities that increase the motivation of companies to hedge (Allayannis and Ofek, 2001).

In this study growth opportunities are measured using individual proxies, namely market to book value equity (MBVE). This proxy was chosen based on the results of the study of Smith and Watts (1992), Gaver and Gaver (1993), and Sami et al., (2004) which showed that MBVE was proven to consistently have a high correlation with the realization of growth in the company.

Kallapur and Trombley (2001) state that market to book value of equity (MBVE) is a proxy for price-based growth opportunities. MBVE describes the company's internal capital obtained through shares. MBVE is used as a proxy for growth opportunities because it has a significant correlation with the realization of growth opportunities Ahmad et al. (2012). Companies that are able to manage their capital well in running a business will increase the growth opportunities of these companies, where this can be shown from the increase in the market price of their shares which can also increase the value of the company (Norpratiwi, 2007). Research conducted by Setiyawati (2016) found growth opportunities to have a negative effect on the value of the company, this is because the growth of companies requires high capital, so the profits generated by companies are more used to make investments than distributed to shareholders through dividends.

The value of the market to book value of equity, which is getting higher, shows that the motivation of companies to hedge is also increasing, this is because the company wants to avoid the risk of underinvestment problems (Clark and Judge. 2005). Hedging companies can reduce investment risk by maintaining the stability of the company's cash flow and avoiding the company from the problem of underinvestment so that the company gets the optimal profit from its investment (Aretz, 2007).

Brigham and Houston (2014: 9) state that company size is the average net total sales for the year concerned until a few years later, in this case sales are greater than variable costs and fixed costs, then the amount of income before tax will be obtained. Sales that are smaller than

variable costs and fixed costs, the company will suffer losses. According to Halim (2009: 93), the greater the size of a company seen from the total assets owned by the company, the tendency to use foreign capital will also be greater, this is because large companies need large funds to support their operations and an alternative fulfillment is with foreign capital if the capital is insufficient, this makes large-sized companies have the opportunity to develop higher and avoid the problem of underinvestment compared to companies with smaller sizes.

Geczy et al., (1997) in his study used firm size as a proxy for growth opportunities and used company assets as a measure of company size. The size of the company is seen from the total assets that are owned and can be used for company operations, if the company has a large total assets, the management is more flexible in using the assets in the company. This management's freedom is comparable to the concern that the owner has for his assets. A large amount of assets will reduce the value of the company if it is judged from the side of the company owner (Du et al., 2016). However, if viewed from the management side, the ease with which it is in controlling the company and obtaining external funding sources will accelerate the company's growth and will increase the value of the company

In contrast to the results of a study from Carroll (2015) which found that the larger the company, the more likely the company tends to do hedging activities because the larger the company will fluctuate its cash flow, and to maintain the stability of the cash flow of large companies need hedging activities. Sola et al., (2012) the application of hedging can increase the value of the company because in addition to maintaining the internal cash flow of the hedging company it can also prevent the company from the problem of underinvestment.

Research on the role of hedging decisions and their impact on the value of the company carried out in several countries shows different results, this seems to be due to the characteristics of different countries of origin. The limited research on the role of corporate hedging decisions and their effect on the value of companies in Indonesia is the basis for conducting research on the role of corporate hedging decisions in moderating the effect of financial distress and underinvestment problems affecting the value of companies in manufacturing companies in Indonesia. Manufacturing companies are companies that are very active in carrying out export-import activities so that they have a greater foreign exchange exposure, and Indonesian manufacturing companies have a hedging trend that increases every year.

LITERATURE REVIEW

The conceptual framework that underlies this research is that the main objective of the company according to the theory value of the firm is to maximize the company's wealth or value. Maximizing the value of the company is very important for the company, because by maximizing

the value of the company means maximizing the prosperity of shareholders, maximizing shareholder prosperity can be translated into maximizing the company's stock price. The stock price of a company is determined through a process of bid and demand by investors that occurs in the capital market, investors tend to behave in risk aversion as an effect investors tend to choose stocks - company shares that have a steady flow of cash in either flow or outflow with companies that have fluctuating cash flow, based on these facts, company managers will strive to increase the value of the company by reducing risk with company risk management.

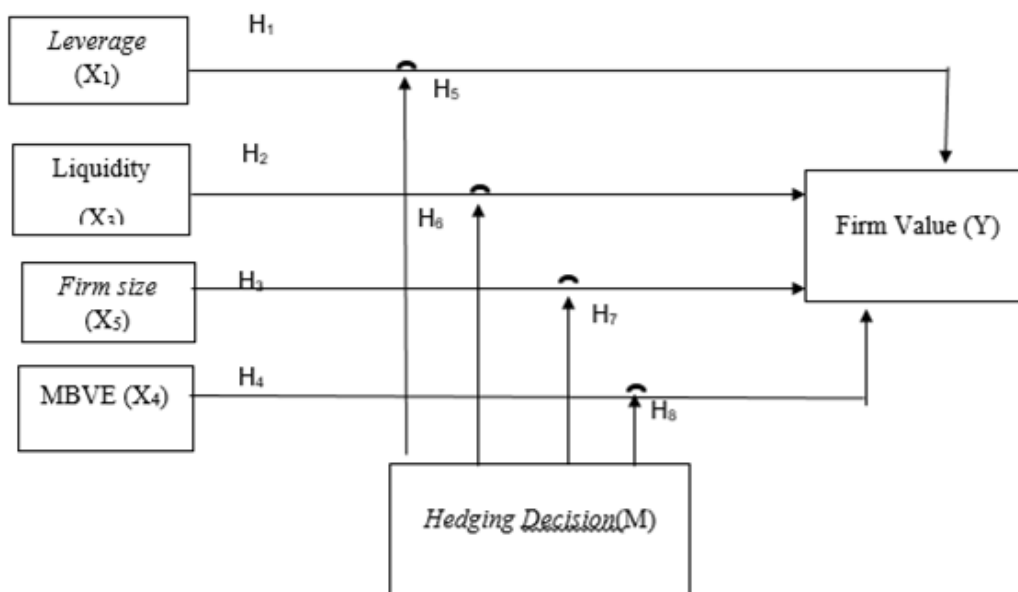


Figure 3. Conceptual Framework

METHODOLOGY

The research design used in this study is associative design, which is a study that examines the influence of a variable on other variables or knows the relationship between variables (Sugiyono, 2012). The approach used in this study is a quantitative approach with an associative form, namely to determine the effect of leverage, liquidity, firm size and market to book value of equity, on hedging decisions and firm value. The variables to be examined in this study are:

a) Company Value

The value of Indonesian manufacturing companies in this study is calculated by price to book value (PBV), Price to Book Value (PBV), which is a ratio that compares the value of shares according to the market with the book price. The scale used is the ratio, which is sourced from Indonesia Capital Market Directory (ICMD) and www.idx.co.id at manufacturing companies

listed on the Indonesia Stock Exchange for the period 2013-2016. PBV values can be formulated as follows:

$$PBV = \frac{\text{Stock Market Prices}}{\text{Book value per share}} \dots\dots\dots (1)$$

b) Hedging (Z)

Hedging is a company policy to overcome the risk of foreign exchange fluctuations that harm the company by using derivative instruments such as options, forward, future and swap. Qualitative data obtained in the annual reports of manufacturing companies listed on the IDX in the period 2013-2016 are expressed in dummy variables, if the company uses derivative instruments as hedging activities, given number 1 as a category that the company conducts hedging activities, and is given a number 0 if the company does not use derivative instruments as hedging activities.

c) Leverage (X1)

Leverage which is a long-term debt ratio that can show the company's ability to fulfill its obligations, Leverage in this study is calculated with a debt to equity ratio. Debt to equity ratio is a ratio that compares the amount of debt to equity. The scale used is percentage, sourced from Indonesia Capital Market Directory (ICMD) and www.idx.co.id at manufacturing companies listed on the Indonesia Stock Exchange for the period 2013-2016 DER ratio can be formulated as follows:

$$DER = \frac{\text{Total Amoun of debt}}{\text{Total Own Capital}} \times 100\% \dots\dots\dots (2)$$

d) Liquidity (X2)

The liquidity ratio is a ratio that reflects the company's ability to meet short-term obligations (debt). Company liquidity can be calculated with current ratio or current ratio. The current ratio is the ratio of total current debt (short-term debt) compared to current assets. The scale used is the percentage, sourced from the Indonesia Capital Market Directory (ICMD) and www.idx.co.id in the manufacturing companies listed on the Indonesia Stock Exchange for the period 2013-2016. The CR ratio can be formulated as follows:

$$\text{Current ratio} = \frac{\text{Current asset}}{\text{Current liabilities}} \times 100 \% \dots\dots\dots (3)$$

e) Firm size

Firm size is the average net total sales for the year concerned up to several years later expressed by units of ratios sourced from Indonesia Capital Market Directory (ICMD) and www.idx.co.id at manufacturing companies listed on the Indonesia Stock Exchange in the 2013-period 2016 Firm Size Ratio can be formulated as follows:

$$\text{Size} = \ln \text{ Total Assets} \dots\dots\dots (4)$$

f) Market to Book Value of Equity

MBVE describes the capital of a company and is an accumulation of assets in the form of equity owned by the company. The scale used is the ratio, which is sourced from Indonesia Capital Market Directory (ICMD) and www.idx.co.id at manufacturing companies listed on the Indonesia Stock Exchange for the period 2013-2016. This ratio can be obtained by multiplying the number of outstanding shares with the closing price of the stock against total equity formulated as follows:

$$MBVE = \frac{\text{Number of outstanding shares} \times \text{Closing Price}}{\text{Total equity}} \dots\dots\dots(5)$$

The data used in this study is quantitative data that contains data on independent and dependent variables obtained at manufacturing companies listed on the Indonesia Stock Exchange (IDX). Data obtained in the form of Indonesian Capital Market Directory (ICMD) and other historical reports on the IDX for the period 2013-2016. Population refers to a group of people or objects that have similarities in one or several things and form the main problem in a specific research. The population in this study are manufacturing companies in the Indonesia Stock Exchange with a period of time from 2013 - 2016. The types of companies that will be samples from research is a manufacturing company with several considerations, namely because financial companies are possible to use derivatives not for hedging purposes, and because the manufacturing sector is the largest sector with the variability of the sub-sector which is considered quite representative representing all public companies. Determination of samples chosen from the population, namely companies that meet several criteria with purposive sampling method. The purposive sampling technique is sampling based on the following criteria:

- 1) The company is a manufacturing company listed on the Indonesia Stock Exchange (IDX) and consistently reports its financial performance during the research period.
- 2) The company fundamentally has foreign exchange exposure arising from the import of raw materials, export sales, assets and liabilities in foreign currencies, or having subsidiaries abroad.
- 3) The company is a multinational company that also conducts transactions in foreign currencies.
- 4) Data obtained is not an outlier data.

The reason for using purposive sampling because in this study examines the hedging activities of companies that have foreign exchange exposures, so companies that do not have foreign

exchange exposure are not included in the study sample. Based on data obtained from the IDX website, the total population of 148 companies was obtained and after sample selection with the criteria mentioned above, a sample of 34 companies and 110 companies that did not meet the criteria were obtained. The number of final samples obtained was 34 companies and 136 firm-year observations. The sample of manufacturing companies listed on the IDX in the 2013-2016 period are grouped into two, namely companies that carry out hedging activities (code 1) and companies that do not engage in hedging activities (code 0). This study uses data collection methods in the form of non-participant observation methods. In this method researchers can make observations as data collectors without having to participate in the observed phenomena. (Indriantoro and Supomo, 2011: 159). The data can be obtained in the form of ICMD and other historical reports on the IDX. For the sake of analysis, pooled data is used for 4 years from the sample companies. Data analysis techniques used are descriptive analysis techniques, classical assumption tests and moderated regression analysis (MRA). Hypothesis testing uses coefficient of determination, F test and t test.

RESEARCH RESULTS

The results of descriptive statistical analysis in this study are presented in Table 1.

Table 1. Descriptive Statistics Test Results

	N	Minimum	Maximum	Mean	Std, Deviation
DER	136	0,09	5,15	1,0718	0,92837
CR	136	0,23	4234,23	230,8835	376,74476
MBVE	136	10,75	18,34	14,8177	1,81016
SIZE	136	0,00	133,92	2,8534	14,44349
PBV	136	0,12	4,46	1,3361	1,02031
HEDGE	136	0,00	1,00	0,2941	0,45733
DER_HEDGING	136	0,00	3,37	0,3626	0,73118
CR_HEDGING	136	0,00	493,37	49,6692	93,00796
MBVE_HEDGING	136	0,00	18,34	4,7425	7,41615
SIZE_HEDGING	136	0,00	26,98	0,4670	2,73386

Source: *Data processed, 2018*

Table 1 shows the results of descriptive statistical analysis on the leverage variable (X1) which is proxied by using the debt to equity ratio to get a minimum value of 0.09 percent, namely at PT Hanson International in 2013, the maximum value of 5.15 percent is in PT Indal Aluminum Indus

in 2014. The average value of the debt to equity ratio is 1.0718 and the standard deviation is 0.92837.

The liquidity variable (X2) which is proxied by using the current ratio gets a minimum value of 0.23 percent, namely at PT Hanson International in 2013, the maximum value of 4234.23 found in PT Inter Delta Tbk in 2016. The average value the current ratio is 230.88835 and the standard deviation is 376.74476,

Variable growth opportunities (X3) which are proxied by the market to book value get a minimum value of 10.75 percent, namely at PT Inter Delta Tbk in 2016, the maximum value of 18.34 found in PT Indofood Sukses Makmur in 2015. Average value - the average of the variable growth opportunities is 14.8177 and the standard deviation is 1.81016.

Variable size (X4) which is proxied by natural logarithms get a minimum value of 0.00 percent found in PT Argha Karya Prima Ind in 2013, while the maximum value of 133.92 percent is in PT Pan Brother Tex Tbk in 2013. Value the average is 2,8534 and the standard deviation is 14,44349.

The company value variable (Y) that is proxied by using price to book value gets a minimum value of 0.12 percent found in PT Indospring Tbk in 2015, while the maximum value of 4.46 is found in PT Akasha Wira Internasi in 2013. Value the average is 1.3361 and the standard deviation is 1.0203. Hedging variable (Z) gets a minimum value of 0.00 and a maximum value of 1.00. The average value is 0.2941 with a standard deviation of 0.45733. The interaction of debt to equity ratio with hedging has a minimum value of 0.00 and a maximum value of 3.37. The average value is 0.3626 with a standard deviation of 0.73118.

Table 2. Moderated Regression Analysis Result

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig
1 (Constant)	-1,787	,827		-2,162	,032
DER	-,231	,093	-,210	-2,475	,015
CR	,001	,000	,185	2,379	,019
MBVE	,221	,056	,392	3,077	,000
SIZE	,015	,005	,206	2,803	,006
HEDGING	,135	2,219	,061	,061	,952
DER_HEDGING	,025	,242	,018	,104	,917
CR_HEDGING	,005	,002	,450	2.820	,006
MBVE_HEDGING	-,076	,130	-,551	-,584	,560
SIZE_HEDGING	,004	,028	,010	,128	,899

Source: *Data processed, 2018*

Based on Table 2, the moderate regression analysis model equation can be made as follows:

$$Y = -1,787 + -0,231X_1 + 0,001X_2 + 0,221X_3 + 0,015X_4 + 0,135Z + 0,025X_1Z + 0,005X_2Z - 0,076X_3Z + 0,04X_4Z$$

Based on the results of the moderated regression analysis equation, then the results of the analysis of the data:

- 1) The constant value of -1.778 means that if all the independent variables are constant, then the value of the company will decrease by 1.787.
- 2) The leverage variable regression coefficient (X1) which is proxied by the debt to equity ratio gets a yield of -0.231 which means that a one percent decrease in the debt to equity ratio will reduce the level of company value by 0.231 percent assuming all other independent variables are constant.
- 3) Liquidity variable regression coefficient (X2) which is proxied by the current ratio gets a result of 0.001 means that each increase in the current ratio of manufacturing companies by one percent will increase the value of the company by 0.001 percent assuming all other independent variables are constant.
- 4) Regression coefficient variable growth opportunities (X3) which is proxied by market to book value gets a result of 0.221 means that every increase in market to book value in manufacturing companies by one percent will increase firm value by 0.221 percent assuming all other independent variables are constant.
- 5) The regression coefficient of firm size (X4) which is proxied by Ln (total assets) gets a result of 0.015 which means that every increase in firm size in a manufacturing company by one percent will increase the company value by 0.0015 percent assuming all other independent variables are constant.
- 6) The hedging variable (Z) regression coefficient gets a result of 0.135, meaning that every increase in hedging activity carried out by a manufacturing company by one percent will increase the value of the company by 0.135 percent assuming all other independent variables are constant.
- 7) The regression coefficient of leverage and hedging variable (X1Z) of 0.025 means that if company leverage and the use of hedging increase by one percent it will increase the value of the company by 0.025 percent.
- 8) Variable liquidity and hedging regression coefficient (X2Z) of 0.005 means that if company liquidity and hedging use increase by one percent it will increase the value of the company by 0.005 percent.

- 9) Variable regression coefficients growth opportunities and hedging (X3Z) of -0.076 means that if growth opportunities of the company increase by one percent then the value of the company will decrease by 0.076 percent.
- 10) Regression coefficient of variable size and hedging ((X4Z) of 0.04 have meaning if the value of the size of the company increases by one percent it will increase the value of the company by 0.04 percent.

Testing the first hypothesis obtained the results of the debt to equity ratio regression coefficient value of -0.231 and a significance level of 0.015. Leverage has a negative effect on the value of the company, meaning that if the level of corporate debt increases it will reduce the value of the company, this is because the use of debt in financing the company's investment and company activities will create financial risk. Financial risks arising from the high level of debt of a company can make the company experience financial distress conditions that have a negative impact on the company. The use of debt at the level where payment of installments and interest expenses is greater than the benefits of debt will have an impact on decreasing the value of the company. The results of this study are in line with the research conducted by Wibowo and Aisjah (2012), Afza and Tahir (2012), Chen (2011), Bernadhi and Muid (2014) and Susanti (2010) which state that leverage has a significant negative effect on firm value.

Effect of liquidity on company value

Testing the second hypothesis results from the regression coefficient value of the current ratio has a value of 0.001 and a significance level of 0.019. This means H2 is rejected, this result shows that liquidity has a significant positive effect on the value of the company with hedging as a moderation in manufacturing companies in the Indonesia Stock Exchange in the period 2013-2016.

Liquidity has a significant positive effect on company value, meaning that if the level of liquidity of a company is high in the sense that the company is able to pay off its short-term obligations, the company can maintain the stability of operations, research activities and development of the company so as to increase investor confidence in investing and increase the company's value in the market. The results of this study are in line with research conducted by Du et al., (2016), Mikkelson and Partch (2003) and Indra (2013) which state that liquidity has a positive effect on firm value.

The effect of growth opportunities on company value

Testing the third hypothesis obtained the results of the regression coefficient growth opportunities have a value of 0.221 and a significance level of 0,000. This means that H3 is

accepted, this result shows that growth opportunities have a significant positive effect on the value of the company with hedging as a moderation in manufacturing companies in the Indonesia Stock Exchange in the period of 2013-2016.

Growth opportunities have a positive effect on company value, this means that the higher the ratio of equity market value to book value, the higher the growth opportunities of a company. The high stock price in a company can be seen from the size of the ratio of the MBVE of a company. Increased growth opportunities show that companies are able to manage well-owned capital when running company operations so that the company's stock price will increase. Increasing stock prices in a company can indicate that the company is protected from financial strains so that it can increase public trust which has an impact on increasing the value of the company. The results of this study are in line with research conducted by Nance et al., (1993), Gay and Nam (1983), Graham and Rogers (2002) and Clark and Judge (2005).

Effect of firm size on firm value

The testing of the fourth hypothesis results in the regression coefficient value of firm size having a value of 0.015 and a significance level of 0.006. This means that H4 is accepted, this result shows that firm size has a significant positive effect on the value of the company with hedging as a moderation in manufacturing companies in the Indonesia Stock Exchange in the period of 2013-2016.

Firm size has a positive effect on company value, this means that the increase in total assets owned by a company will increase the size of the company, making the company easier to obtain capital from outside the company and avoid underinvestment problems, besides that, the high total assets owned by the company can provide convenience for the company to accelerate the company's growth and have an impact on increasing the value of the company (Sari and Handayani, 2016). The results of this study are in line with the research conducted by Charumiti (2016), Putra (2014), and Sari and Handayani (2016).

Effect of leverage on firm value with hedging as moderating

Hedging is not able to moderate the relationship between leverage on company value because the level of significance is not fulfilled. Hedging is not able to moderate leverage on company value because companies that have a high degree of leverage tend to be more at risk of financial distress, but the company does not use hedging to protect its asset position because the company's cash flow is prioritized for making long-term debt payments. Buying a hedging instrument that is considered ineffective for the condition of the company when it has a higher level of debt compared to the assets it owns.

The Effect of liquidity on firm value with hedging as moderating

Hedging is able to moderate the relationship between liquidity on firm value because the level of significance and direction of the regression coefficient are met. The company is said to be liquid if the funds held are of greater value than the level of debt held, so that the company avoids financial destructions which have an impact on decreasing the value of the company (Paranita, 2011).

Hedging is able to moderate the influence of liquidity on firm value because according to the theory of value of the firm that focuses on maximizing the company's wealth or value by maintaining assets owned by the company to avoid possible business risks that can harm the company, when the company has assets and cash flows greater than its obligations, the company can be said to have a high level of liquidity so that it can increase the value of the company, and vice versa when the company has low cash flow, hedging can be used as a tool to reduce the risk of default faced by companies due to high short-term debt which are owned.

The Effect of market to book value of equity on firm value with hedging as moderating

Hedging is not able to moderate the relationship between market to book value of equity in firm value because of the level of significance and direction of different coefficients. The greater the level of growth opportunities of a company that is seen from the value of the market to book value can indicate that the company has large equity so the company tends to avoid underinvestment problems. Companies with a high level of opportunity to grow tend not to hedge because they feel the company has a small level of risk to underinvestment problems so that the company is more focused on investing and expanding market share.

Firm size effect on firm value with hedging as moderating

Hedging is not able to moderate the relationship between firm size on firm value because the value of the significance level is different. The larger the size of the company, the company tends to avoid underinvestment problems that can reduce the value of the company because this company has more assets than the level of debt of the company. Hedging is said to be unable to moderate the relationship between firm size and company value because this company has a small size which is more at risk of being exposed to underinvestment problems using its cash flow to meet urgent company needs compared to buying derivative instruments.

IMPLICATIONS OF RESULTS

Theoretical implications

Based on the results of the analysis on empirical models of research found several important findings. Overall the theoretical implications of leverage, liquidity, firm size, growth opportunities, hedging and company value in several research findings are as follows:

First, the results of this study provide empirical contributions that hedging has not been able to moderate the influence of leverage on firm value. Hedging is not the main factor that can increase the value of the company when the company has a high level of long-term debt, this is because the use of hedging when the company has high long-term debt will actually harm the company and make the company's value decreases.

Second, the results of this study provide empirical contributions that hedging is able to moderate the effect of liquidity on firm value. Hedging can increase the value of the company when it has a high level of liquidity, this means that when a company has cash that is greater than the level of debt it has and is able to pay its short-term obligations on time, hedging can be used by the company to protect the company when expanding markets so companies avoid the risk of financial distress thus increasing the value of the company.

Third, the results of this study provide empirical contributions that hedging has not been able to moderate the firm size of the driver to firm value. This means that hedging is not the main factor that can increase the value of the company when the company has a small firm size the company will tend to finance the company's operations and pay off debt rather than buying derivative instruments so that hedging is said to be unable to increase company value.

Fourth, the results of this study provide empirical evidence that hedging has not been able to moderate the effect of growth opportunities on firm value. This means that hedging is not the main factor that is able to increase the value of the company when companies have high growth opportunities tend not to use hedging because they are perceived as having a lower risk of financial distress so that the use of hedging cannot be said to increase company value.

Practical implications

This research is expected to be able to provide an overview to companies to consider hedging as a means of increasing company value and in terms of investors, it is expected that this research can be used as consideration when wanting to invest in companies that use hedging to minimize risk compared to companies that do not use hedging.

CONCLUSIONS

Based on the results of the analysis and discussion that has been done in this study, it can be concluded that Leverage has a negative effect on company value, meaning that if the level of corporate debt increases it will reduce the value of the company, because the use of debt to finance company investment and company activities will create financial risk. . Liquidity, Market to Book Value of Equity and Firm size have a significant positive effect on firm value. This significant influence shows if the higher the level of a company's ability to meet its short-term obligations, the higher the investment opportunity and the greater the company can have an impact on increasing the value of the company in the market. Hedging is not able to moderate the influence of leverage, Market to Book Value of Equity and Firm size on the value of manufacturing companies in the Indonesia Stock Exchange for the period 2013-2016. Hedging is able to moderate and strengthen the influence of liquidity on the value of manufacturing companies in the Indonesia Stock Exchange for the period 2013-2016. The relationship between corporate hedging decisions and high company liquidity in this study proved to be able to increase company value, the company's ability to fulfill short-term obligations while maintaining the company's cash flow volatility using hedging instruments can prevent companies from financial distress, this condition improves market perceptions of company and increase the company's stock price.

SUGGESTIONS

Based on the results and discussion and conclusions in this study, the suggestions that can be given in this study are for companies that have a high level of financial distress and underinvestment. It is recommended to use hedging with derivative instruments to protect the company's cash flows and reduce the burden borne by the company. For prospective investors who want to invest in companies, they should analyze in advance whether the company has a tendency to be exposed to high financial distress and underinvestment risks and pay attention to the level of company liquidity and company risk management. For the next type of research, it is suggested to use independent variables that can influence the value of the company with hedging as moderating factors such as profitability, managerial ownership, and education of commissioners and can use other moderating variables such as profitability.

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