THE INFLUENCE OF MACROECONOMIC ON THE FIRM VALUE: INVESTMENT DECISION AS THE MEDIATING VARIABLE

(Research on Listed Manufacture Companies in the Period of 2009 – 2012)

THESIS

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ABSTRACT

Oktavia Rahajeng Lestari, Post Graduate Program, University of Brawijaya, Malang, "The Influence of Macroeconomic on The Firm Value: Investment Decision As The Mediating Variable (Research on Listed Manufacture Companies in the Period of 2009 – 2012)". Supervisor: Prof. Eko Ganis Sukoharsono, S.E, Mcom-Hons, Ph. D.Co-Supervisor: Dr. Kusdi Raharjo, DEA.

Each company has objective to maximize their value, so that they can attract more investors to invest their money to the company and they can get fund from the third party such as bank easily. The firm value can be represented by firm's share price. Share price of a firm is determined by fundamental factors such as volume of the share that being traded, transaction value of the share trade, and the volatility of share price. Besides that, share price of a firm also is determined by Macro fundamental factors (1) economic factors, (2) social, culture, demography and environment factors, (3) political, government and law factors, (4) technology, and (5) competition. These factors are un-controllable so that a firm cannot manage these factors. A firm only can minimize the influence of this factors on the firm by choosing the best internal financial decision.

Some formulation problems are determined: Does macroeconomy has direct impact on firm value?; Does macroeconomy has impact on investment decision?; Does investment decisions has impact on firm value?; and Can investment decision be mediating variable in relationship between macroeconomy and firm value?. Therefore the purpose of this research is to investigate the influence of macro economy on the firm value with investment decision as the mediating variable. This study is tested in Indonesia Stock Exchange as one of emerging market.

Research type of this research is explanatory research through confirmatory research or using hypothesis test. The sample in this research is the manufacture companies listed on the Indonesia Stock Exchange in 4-years period from 2009-2012. Structural equation modelling with Partial Least Square (PLS) is used in this study.

This research found a significantly negative influence between macroeconomy and investment decision, and a significantly positive influence between investment decision and firm value. This paper also analyze whether investment decision can mediate the relationship between macroeconomy and firm value. The result showed that macroeconomy has a significant negative direct effect on the firm value. When investment decision appears on the relationship of macroeconomy and firm value, macroeconomy does not have significant negative influence on the firm value anymore. This result showed that when macroeconomy condition goes down, a firm can retain its value because that firm still earn the profit from its investment and that firm makes the best investment decision.

Keywords: Macroeconomy, Investment Decision, Firm Value, Emerging Market, Partial Least Square

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About all, the researcher believe that 'Not that there is no crack ivory", there are too much wrongness of this thesis. Hopefully the lack of it can be used as reference to achieve perfection. Thank you so much

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CHAPTER I

INTRODUCTION

1.1. Research Background

Management of a company has a heavy task to manage their resources effectively and efficiently so that they can reach their objectives by improving their operational performance. The main objective of financial management is to maximize the firm value so the main concern of financial manager is make financial plan about how they get funds and use those funds to maximize the firm value (Brealey, et. al, 2011). Each company has objective to maximize their value, so that they can attract more investors to invest their money to the company and they can get fund from the third party such as bank easily. A company which has high value in the bank's sight easy to get fund from bank because if that company bankrupt and it doesn't have enough cash to pay their debt and they can sell their current assets to pay their debt. Besides that, a company which has high value can rise up its stock market price then finally it can attract investor to invest their money in the company. Keown et al (1985) stated that a high stock price will reflect the value of good firm, in addition to the shareholders will prospers, it will attract investors to invest.

The investors consider to buy a firm's stock because they want to earn a maximum profit. Maximum profit means investors can earn the best return on their investment but they do not need to use high risk exposure to overcome the embeded unexpected risk. Nevertheless, before investors decide in which firm they want to make investment they need to know the value of the targeted firm first. Investment in a firm which has good value will

minimize the unexpected risk. A firm include in the good firm if that firm can generate high operational profit and give the dividend to their shareholder periodically so that they can increase their stock market price in the capital market. Besides that, firm value can be represented by firm's share price. Share price of a firm is determined not only by internal factors but also by external factors. Internal factors and external factors are fundamental factors that are common used by investors in the capital market to make their investment decision. Beside fundamental factors, technical factors are also important factors that can affect the share price. The examples of these factors are volume of the share that being traded, transaction value of the share trade, and the volatility of share price.

Macro fundamental factors in the capital market analysis terminology called by country's fundamental factors. These factors are un-controllable so that a firm cannot manage these factors. A firm only can minimize the influence of this factors on the firm by choosing the best internal financial decision. Factors that are including in the macro fundamental factors are (1) economic factors, (2) social, culture, demography and environment factors, (3) political, government and law factors, (4) technology, and (5) competition (David, 2003). This research limits the macro fundamental factors in macro economy fundamental factors with inflation rate in Indonesia, interest rate that is determined by Indonesian government, exchange rate of Indonesia Rupiahs against the other currencies especially U.S. Dollar, and Gross Domestic Product (GDP) as the indicators. It causes economic factors are macro fundamental factors that have the greatest impact on the company's operation and financial and also usually used by

the agent of capital market in determining their decision. The unstable and uncertainty economic condition of Indonesia because of crisis gives un-conducive situation for the success of company's financial and company's operations. Inflation rate, interest rate, exchange rate, and Gross Domestic Product (GDP) tend to influence capital market not only directly but also indirectly.

Inflation is the condition when the demand of consumer goods decreases because the price of consumer goods increases and the purchasing power of society decreases. Inflation can affect the firm performance because when the inflation rate increases so the price of the consumer goods also increases. The increasing of consumer good's price makes firms produces their product at a high cost. Firms must buy the raw materials more expensive than the price before the inflation. To accommodate the increasing of production cost, firms increase its product prices so that firm can avoid the loss. Meanwhile, the decreasing of consumers' purchasing power causes the decreasing of demand, and finally the firms' sale decrease. The decreasing of firm's sales pushes the firm to reduce its production activity that causes the decreasing of firm sales. The limitation of firm's sales makes the firm faces the difficulties to generate profit and finally the firm can avoid the decreasing of firm profit. The decreasing of firm's profit gives a signal for investors that the performance of that firm decreases. This condition pushes the investors to invest their money to other profitable investments. Because there are not investors who interested to buy the firm's share, so the price of firm's shares will decrease. The decreasing of share price also will lower the firm value.

Interest rate is one of the government instruments to stabilize the economic condition. Government will increase the interest rate when the inflation rate increases. By increasing the interest rate government expects that society will be interested to save their money to the bank and investor will be interested to invest their money on the government obligation or deposit their money to the banks that have lower risk than invest their money in the capital market. This condition causes the transaction and share trading in the capital market decrease, and the performance of capital market decreases as well. The decreasing of capital market performance will push most of the share's prices in the capital market decrease. The decreasing of share price shows that the firm value is decreasing.

The exchange rate influences the price of goods especially the price of imported goods. If a firm buys its raw materials from foreign countries so the firm will consider about the exchange rate. If the value of Indonesian Rupiah depreciates against the US Dollar so the firm that buys raw materials from foreign countries will get loss because the price of raw materials becomes expensive. The expensive raw materials price will increase the cost of production and the firm will increase the price of goods so that the unit sales of its products will decrease. The decreasing of unit sales will decrease the firm's profit and the firm value. It can be stated that the exchange rate will affect on the firm's value. The exchange rate volatility not only influence the firm which buy the raw materials from foreign countries but also influence the firm which sell its product to the other countries. The exchange rate potentially reducing the firm's profit. As stated above the decreasing of profit can be a signal for investors that the performance of firm

is decreasing. If the amount of investors who are interested to buy firm's shares decrease so the value of firm will be decreased also.

Gross domestic product influences the buying power of citizen. If the GDP increases so the amount of money that can be used by the citizen to do consumer activities and investment activity also increase. This condition will give advantages for the firms because its sales will increase and finally firms can increase its profit. The increasing profit can be used by the investors as the positive signal. The investors excites to buy the firm's stock and it will drive the increasing of firm's stock price. The increasing of stock price reflects the increasing of firm's value. The increasing of GDP has influences like two blades. One side the increasing of GDP will cause the increasing of firm's profit because the increasing of citizen buying power will drive the increasing of firm's total sales. The other side is the increasing of GDP will drive the increasing of price. The increasing price also happen at the raw material pricce. The increasing raw material price can decrease the firm's profit because its cost to produce its product will increase. The decreasing of profit can drive investors think that the firm's condition is declining.

Besides macro fundamental factor there is the other factor that is existed at the capital market analysis. This factor is called micro fundamental factor. Micro fundamental factors in the capital market analysis are called as firm fundamental factors. These factors are controllable so that a firm can manage it to increase and maximize their value. Micro fundamental factors can be grouped as firm's decision factor and firm's performance factor. Firm's decision factors stressing at decision of financial management such

as funding decision, investment decision and dividend decision (Weston and Copeland, 1992). By choosing the best internal financial decision a firm can retain its profit although the macroeconomy condition is bad. The greater profit that can be earned by the firm so more secure the shareholder wealth. In this research only considers investment decision as the micro fundamental factor because investment activity can help firm to increase its profit.

Investment activities is the important firm's financial function because by doing investment firm can generate additional profit. The greater additional profit can maximize the firm value because the shareholder also will get higher profit. Investment decision can minimize the influence of macroeconomy on the firm value if a company can choose which investment activity that gives the greater profit. For example if a company invest its money to the real asset such as new building to build new plant. When oil price is getting higher and the distribution cost getting expensive, the company will not be affected by those conditions. It is because that company already build new plant that closer with the demand area so that the firm does not necessary to spend a lot of money as the distribution cost. The less distribution cost will affect on the firm's profit. The high profit indicate that the firm can give high wealth for the shareholder. Because of that investor will be interested to buy the firm's share. The increasing demand will cause the increasing of share price and firm value.

This research emphasize at the fixed asset investment because the sample for this research is manufacture industry. Manufacture industry need a lot of space and machine to produce its product and keep its products. Because of that the measurement of investment decision in this

research uses Book Value of Gross Property, Plant, and Equipment to the Book Value of Assets (PPE/BVA), Market Value to Book Value of Assets Ratio (MVA/BVA), Market to Book Value of Equity Ratio (MVE/BVE), Capital Addition to Assets Book Value Ratio (CAP/BVA), and Capital Addition to Asset Market Value Ratio (CAP/MVA) as its indicators.

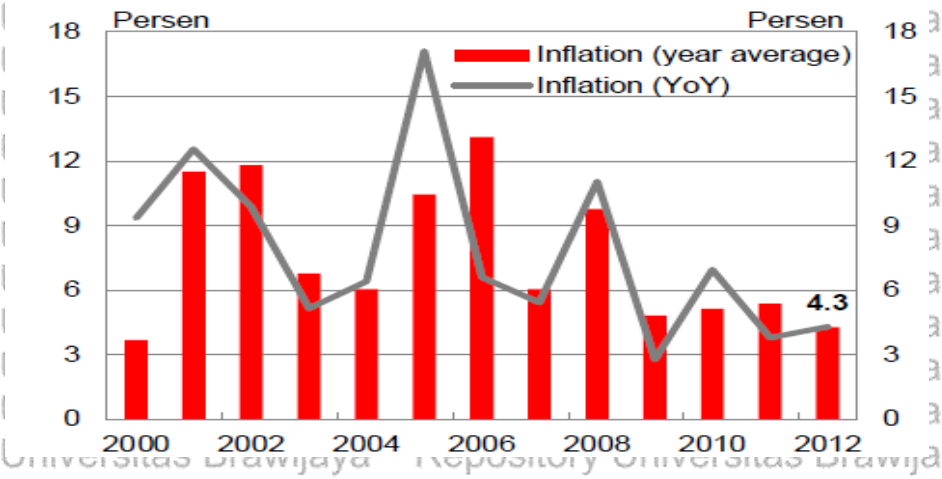
There are a lot of financial management researches that contribute to the development of financial theory. The most popular research that gives a big contribution for financial theory is capital structure theory by Modigliani and Miller (1958 and 1963) and agency theory by Jensen and Meckling (1976). Those theories are created by a result of empirical research to answer the current phenomenon that is happening and rising in the business activities. Company as the object of business activity has an important role in the empirical research to create a new theory that can be used as the guideline for the manager to make decision for their business. Because of that, the firm's operation as the implementation of firm's decision has an important role in the firm's life. The objective of firm's policy and decision is to expand their business through the improving of firm's performance and firm's value.

This research chooses Indonesian company as the population because according to the International Monetary Fund (2012) Indonesia is one of the emerging markets with good economy prospect in the future. The global FDI flow pattern is move to the emerging market. In 2001 until 2007 total FDI inflow to the emerging country is increase become 31.5% and FDI inflow to the developed country decrease become 65% (Indonesian Central Bank, 2008). As the emerging market Indonesia is also affected by the

changing of global FDI flow pattern. Investment performance continued to improve in 2012 reached 10.7% compared to the previous year by 8.8%. The allocation of the investment improvement especially is in sector of industry and follow with mining sector and plantation sector. Survey result of Japan External Trade Organization (JETRO) in 2008 also stated Indonesia is an interesting business place because Indonesia has a huge market and also offer the cheaper production cost.

Generally the domestic economy condition of Indonesia for last five years showed improvement as describe at the figure 1.1. This condition can be seen by the increasing of economic growth, the restrained inflation rate and the stability of exchange rate. In 2006 the economic growth of Indonesia ever restrained because of the increasing of fuel price at the last 2005, but Indonesia can overcome this condition and the economic growth of Indonesia reach 6.3% in 2007. Indonesia has a high economic growth in 2012, that is 6.3%, because the increasing of consumption and investment. Factors that can increase the consumption are the increasing of middle class, the increasing of consumers trust, the improvement of the citizen's buying power and the availability of consumer financing. Inflation rate in Indonesia increases until two digits in 2005 when Indonesian government increases the fuel price. Indonesian central bank consistently drives its policy by determining the suitable interest rate to reach the lower and stable inflation rate in Indonesia. The effort of Indonesian Central Bank was succeed to manage the inflation rate in Indonesia. This is proven with the inflation rate in August 2008 decrease become 0.51%, lower than inflation rate at July 2008 in the amount of 1.37%. The average inflation rate in 2012

is the lowest interest rate during 12 years. The average inflation rate in 2012 in 4.3% because Indonesia has a strong economic growth, and there are not the volatile of good prices that are regulated by the Indonesian government.



Source: Indonesia Central Bank

Figure 1.1

The Volatile of Inflation Rate in Indonesia

This research uses Indonesian manufacture companies as the sample of research because during 1996 to 2006 the number of medium and large manufacture industries tend to increase as describe in table 1.1. When crisis hit Indonesia economy in 1997/1998 the number of manufacture firm decrease, but when Indonesia succeeded to overcome the crisis the number of manufacture firm start to increase again. According to the business scale, around 70% of manufacture industries are categorized in medium industry. From 2004 industry firms that are categorized in big scale continue to decrease compared with the total of industry in Indonesia. It is caused by the increasing of medium industry firm ratio compared with the total of industry firm in Indonesia. The appearance of medium industry in Indonesia increase

rapidly when Indonesia government renew their policy and regulation in starting new business at 2008. Industry firm that produces food and beverage, textile, clothes, and furniture are dominated the type of industry firm in Indonesia. The percentage of those firms compared with the total exist industry in Indonesia is over 50%. During 2012 the growth of big and medium manufacture firms in Indonesia tend to increase although the improvement percentage is slight.

Table 1.1

The growth of big and medium manufacture industry firms

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Ags	Sep	Oct	Nov	Dec
2011	0.83	-5.54	9.95	-3.47	4.37	3.52	3.07	-5.8	-0.11	2.33	-6.11	1.52
2012	-0.13	2.80	-3.00	0.90	4.77	1.37	3.96	-9.54	8.76	10.04	-3.26	0.01
2013	0.00	-2.38	1.52									

Source: Indonesia Central Bureau of Statistics

According to the description of theory about internal financial decision and several previous researches about macro economy, internal financial decision, firm performance and firm value above the researcher interested to do research about those variables with the research title is **The Influence of Macro Economy on The Firm Value: Investment Decision as The Mediating Variable.** And according to the description about Indonesian economic condition and the condition of manufacture industry in Indonesia above the researcher interested to analyze the manufacture industries in Indonesia during 2009 until 2012.

1.2. Research Question

According to the discussion above the research questions of the study as follows:

1. Does macroeconomy has direct impact on firm value?
2. Does macroeconomy has impact on investment decision?
3. Does investment decisions has impact on firm value?
4. Can investment decision be mediating variable in relationship between macroeconomy and firm value?

1.3. Research Purpose

The main objective of this research project is to find a sustainable effect of macro economy on the firm value and to know whether investment decision can be mediating variable in relationship between macroeconomy and firm performance or not. The following is an outline of the specific purposes of this research:

1. To know the direct impact of macroeconomy on the firm value.
2. To know the direct impact of macroeconomy on the investment decision.
3. To know the direct impact of investment decision on the firm value.
4. To know that investment decision can be mediating variable on the relationshipship between macroeconomy and firm value.

1.4. Benefit of Research

The researcher does this research to answer the phenomenon that appears from the result of previous research and the development of firm's value that is observed by the phenomenon of the Indonesia economic

empirical condition using inflation rate, interest rate, and exchange rate as variable, and also phenomenon of empirical condition of manufacture industries in IDX using debt equuity ratio, Market to Book Value of Equity Ratio (MVE/BVE), and dividend payout ratio as the indicators of firm's internal decisions and price to book value and price earning ratio as the descriptions of firm's value. Because of that the result of this research must give advantage for science development, for decision maker, and for the agent of capital market in long term and short term.

According to the research background, research problem, and research purpose so this research expects to give benefits such as:

1. Theoretical Contribution
   a. The result of this research can give explanation about step by step influence process of macro economy fundamental factor on the firm value.
   b. The result of this research can give explanation about step by step influence process of macro economy fundamental factor on the firm's investment decisions.
   c. The result of this research can give explanation about step by step influence process of investment decisions on the firm value.
   d. The result of this research can be referenced for the next research about the process of influence other variables of macro economy fundamental factor on the firm value and using the investment decisions as the mediating variables.

2. Practical Contribution

a. For the agent of capital market, the result of this research can be used as the information about the influence process of macro economy fundamental factor on the firm value.

b. For the agent of capital market, the result of this research can be used as the information about the influence process of the investment decision on the firm value.

c. Because most of firm value determines by share market price so for investor the result of this research can be used as the decision base on doing investment in capital market.

3. Organizational Contribution

a. The result of this research for the firm can be used as the consideration in decision making related to investment decision, funding decision, and also decision of company's profit distribution.

b. The result of this research for firm's financial manager can be used as the consideration in determining the investment decision to face the macroeconomy changes.

c. The result of this research can be used as the consideration in determining of company's decision priority to increase the firm value.

1.5. Structure of Thesis

To provide an overview of this research, the researcher provides a brief overall description of the systematic discussion as follows:

1. **CHAPTER 1: INTRODUCTION**

   This chapter describes the background of research problems, research question, research purpose, benefit of this research and systematic of thesis.

2. **CHAPTER 2: LITERATURE REVIEW**

   This chapter describes the empirical theory from previous researches and also theoretical reviews that are used as the basis of this research, including definition of firm value and definition of price earning ratio and price to book value as the firm value's indicators to measure it, definition of macroeconomic and its indicators to measure it, and definition of investment decision and its indicators to measure it.

3. **CHAPTER 3: CONCEPTUAL FRAMEWORK AND HYPOTHESIS**

   This chapter describes about the conceptual framework of this research, regarding with the hypothesis model of this research.

4. **CHAPTER 4: RESEARCH METHOD**

   This chapter describes the type of research, research location, population and sample, source of research data, method of data collection, research variables, definition of research variables, and method of data analysis.

5. **CHAPTER 5: RESULT AND DISCUSSION**

   This chapter presents the result of this research, which is called the presentation of data includes the result of partial least square and the hypothesis testing about the influence of macroeconomic on the firm value with investment decision as the mediating variable.

6. CHAPTER 6: CONCLUSION AND RECOMMENDATION

This chapter describes the general conclusion about the result of research that have been implemented about the influence of macroeconomic on firm value with investment decision as the mediating variable for the period 2009 – 2012, and give some recommendations for the next researchers, for investors, and also for firms.

CHAPTER II

LITERATURE REVIEW

2.1 Previous Research

The relationship between macro economy and investment decision, and the value of the firm is very interesting to be researched. Because of that, there are many previous researches about the relationship between macro economy and investment decision, macro economy and firm value, and also about the relationship between investment decision and firm value. Those previous researches are summarized below.

Sudiyatno (2012) with the research title is "The Company's Policy, Firm Performance, and Firm Value: An Empirical Research on Indonesia Stock Exchange". This study examined the role of company performance in determining the direction of the relationship between the company's policies and value the company. The goal is to identify where the role of company performance as a variable that is affected by the company's policies and influence the value of the company. The samples of this study are manufacturing firms that are listed on the IDX in 2008 to 2010. This study uses financial leverage as the proxy of funding decision, capital expenditure as the proxy of investment decision, incentive manager as the proxy of dividend policy, Return on Asset as the proxy of company's performance, and Tobin's Q as the proxy of firm's value. This research find some result that support the previous theory. The first result showed that financial leverage has a significant negative effect on the significance level less than 1% of the company performance, and a significant positive effect on the

value of the company. The second result showed that incentive managers have an insignificant positive effect on the company performance, and a significant positive effect on the value of the company. The third result showed that capital expenditure has a significant positive effect on the company performance, and an insignificant negative effect on the firm value. The last result showed that the company's performance has a positive significant effect on the value of the company.

Nowak (1998) with the research title is “Finance, Investment and Firm Value in Germany and the US: A Comparative Analysis”. This study investigates the impact of financial, investment, and dividend decisions on the value of stock corporations in Germany and the US. The methodology is based on a cross-sectional approach proposed by Fama and French. In general, the evidence shows that relations for the German firms are statistically similar to those found for their US counterparts. In both countries, corporate investments create value in excess of cost, but the US industrial sector seems to be more efficient in making value-enhancing investments. Robust statistical methods are applied to verify the results. They do not change the main conclusions.

Hutchinson (2002) with the research title is “Investment Opportunity Set, Corporate Governance Practices and Firm Performance”. This research has purpose to know are there any influences of corporate control on the relationship between firm’s investment opportunities and firm’s performance. The research method of this research is multiple regression analysis. The sample of this research are collected from 437 of the top 5007 companies listed on the Australian Stock Exchange from 1998 to 1999. The

results of this research accept all of its hypothesis. The first result showed that the negative relationship between firms' investment opportunities and firms' performance is weaker for firms with a higher proportion of non-executive directors on the board. The second result showed that the negative relationship between firms' investment opportunities and firms' performance is weaker for firms with higher managerial shareholdings. The last result showed that in the firms with higher level of managers' remuneration the negative relationship between firms' investment opportunities and firms' performance is weaker than in the firms' with lower level of managers' remuneration.

Liow (2005) with the research title is "Macro economy Risk Influences on the Property Stock Market". This research has purpose to provide an analysis about the relationship between expected risk premia on the property stocks and some major macro economy risk factors as reflected in the general business and financial conditions. This research employs a three-step estimation strategy to model the macroeconomy risk variable, those are principal component analysis (PCA), GARCH (1.1) and GMM. Macroeconomy risk variable in this research consist of GDP growth, INDP growth, unexpected inflation, money supply, interest rate and exchange rate. This research relates the macroeconomy risk variable to the first and second moments on property stock excess return of four major markets those are Singapore, Hong Kong, Japan and the UK. The macroeconomy risk is measured by the conditional changes on macroeconomy variables. The result of this research showed that the expected risk premia and the conditional volatility of the risk premia on the property stocks depend on the

variation of time (time varying) and linked to the conditional changes of the macroeconomy risk factor dynamically. However, there are some disparities in the significance, as well as direction of impact in the macro economy risk factors across the property stock markets. Consequently, in international property stock markets there are opportunies for risk diversification.

Campello (2008) with the research title is "The Real Effects of Financial Constraints: Evidence from A Financial Crisis". This research has purpose to analyze are there any differentations on the corporate spending plans between firms that has financial constraint and firms that do not have financial constraint. The researcher gathers firm-level information using a survey of CFOs or managers. This survey is conducted in the fourth quarter of 2008. The survey approach enable the research to directly ask managers whether the cost or availability of credit constrained their decisions. The result of this research showed that financial constrained firms planned to reduce or cut their spend especially in the tech spending, employment, and capital spending. Firms that has fnancial constrained also spend more cash, drew more heavily on lines of credit for fear banks would restrict access in the future, and sold more their assets to fulfill their cost operations. The result aof this research also showed that the difficulty and inability to borrow external fund caused many firms to neglect the attractive investment opportunities. The survey showed that during the credit crisis of 2008 almost constrained U.S. CFOs saying their investment in attractive project was restricted and more than a half of the respondents said they cancelled or postponed their planned investments.

Castro and Kalatzis (2010) with the research title is “Financial Development and Financial Constraints On Firm’s Investment Decisions”. The purpose of this research is to investigate the relationship between financial development, financial constraints and their effects on investment decisions, using a set of longitudinal data from 665 Brazilian firms over the 1998-2006 periods. The main firm-level variables used in this research are: investment rate, cash flow, sales, short-term debt, long-term debt, debt and firm‘s size. The main country-level variables are the long-term interest rate, the logarithm of GDP and the level of financial development. The main results of this research indicate that financial development has an important role in reducing firm‘s financial constraints and its dependency on internal funds when considering firms classified as financially constrained, but leaves unconstrained firms unaffected. Financially constrained firms also showed higher dependence on cash flow than unconstrained firms in their investment decisions.

Paunov (2012) with the research title is “The Global Crisis and Firms’ Investments in Innovation”. This research has purpose to analyze the impact of the global crisis on the business innovation capacities in the longer term. The samples of this research are firms at eight Latin American countries in 2008 until 2009. The result of this research showed that crisis led many firms to stop ongoing innovation projects. The regression results showed that firms with access to public funding were less likely to abandon the investments on innovation. The reduction and or cancellation on innovation investment were also possibly done by the younger firms and bussiness supplying foreign multinationals or suffering export shocks.

Saman (2010) with the research title is "Macroeconomic Uncertainty and Investment – Empirical Analysis for Romania". This research has purpose to analyze the relationship between the uncertainty of macroeconomic and total investment. This reseacrh was done in Romania with research period on 2000 until 2008. As the variable of macroeconomic uncertainty, the researcher considers different measures of price and exchange rate volatility from autoregressive conditional heteroskedastic (GARCH) models. Those measures are known as a linear term and a quadratic term in the total investment equation. The result of this research proved a nonlinear effect of macroeconomic uncertainy on the total investment.

The table bellow provide the research previous related to the influence of financial performance and dividend policy to firm value.

Table 2.1 Previous Research Mapping

No.	Researcher	Title	Result of Research
1.	Bambang Sudiyatno and Elen Puspitasari (2012)	The Company's Policy, Firm Performance, and Firm Value: An Empirical Research on Indonesia Stock Exchange.	NI, ROA and ROE for firm performance and firm value have a significant and positive effect on the value of the company use Tobin's Q
2.	Eric Nowak (1998)	Finance, Investment and Firm Value in Germany and the US: A Comparative Analysis.	German firms and their US counterparts corporate investments create value in excess of cost, but the US industrial sector seems to be more efficient in making value-enhancing investments.
3.	Marion Hutchinson and Ferdinand. A. Gul, (2002)	Investment Opportunity Set, Corporate Governance Practices and Firm Performance.	• The negative relationship between firms' investment opportunities and firms' performance is weaker for firms with a higher proportion of non-executive directors on the board. • The negative relationship between firms' investment opportunities and firms' performance is weaker for firms

			with higher managerial shareholdings. • In the firms with higher level of managers' remuneration the negative relationship between firms' investment opportunities and firms' performance is weaker.
4.	Liow, Kim Hiang; Ibrahim, Muhammad Faishal; and Huang, Qiong. (2005)	Macro economy Risk Influences on the Property Stock Market.	The expected risk premia and the conditional volatilities of the risk premia on property stocks are varying depend on time and dynamically linked to the conditional volatilities of the macro economy risk factors.
5.	Campello, Murillo; Graham, John R.; and Harvey, Campbell R. (2010)	The Real Effects of Financial Constraints: Evidence From A Financial Crisis.	The constrained firms tend to postpone or cancel their investment when thefinancial crash exist because they get difficulties to borrow money from external parties.
6.	Kalatzis, Aquiles Elie Guimaraes; and De Castro, Fernanda. (2010)	Financial Development and Financial Constraints on Firm's Investment Decisions.	The financial development has an important role in reducing firm's financial constraints and its dependency on internal funds when considering firms classified as financially constrained, but leaves unconstrained firms unaffected.
7.	Paunov, Caroline. (2012)	Global Crisis and Firms' Investments in Innovation.	firms with access to public funding were less likely to abandon the investments on innovation. The reduction and or cancellation on innovation investment were also possibly done by the younger firms and bussiness supplying foreign multinationals or suffering export shocks.
8.	Saman, Corlina. (2010)	Macroeconomic Uncertainty and Investment–Empirical Analysis For Romania.	The macroeconomic uncertainty, volatility in price and exchange rate, has a nonlinear effect on the total investment.

2.2 Firm Value

Every firm in the entire world has an objective to maximize their value. Because of that, the firm's manager must decide the best decision so that can increase their firm's value. Each financial decision will

affect to the firm's financial performance. If their financial performance is good, so they can attract more investors to invest their money. Finally, the rising of investor can affect to their share price and raise their value. Morton (2003) says that there are three primary reasons why every entrepreneur and executive should understand how organizations are valued and master the process of valuation. They are: (1) Make decisions to optimize company value when you *run* a business (2) Obtain the best price and terms when you *buy* a business and (3) Obtain the best price and terms when you *sell* a business.

Despite the wide diversity in types of organizations and management priorities, the decisions that affect cash flows are generally one of three types or elements, which, together, form an integrated economic framework. These, in the order in which they initially occur, are funding, investing and operation. Funding decisions, initially deals with the types of debt and/or equity to use for early financing of the organization. Investing decisions, initially deal with trying to obtain the correct combination of labour and capital to allow the organization to run as efficiently as possible. Initial operating decisions, such as at what price to sell the product, which market to target, and what level of service to provide, allow the organization to plant a stake in the ground against which to measure subsequent financial performance.

2.2.1 Price Earning Ratio

Price earning ratio measure how much investor are willing to pay per dollar of current earning. The higher price earning ratios are often taken to mean that the firm has significant prospects for future growth.

Price earning ratio showed the comparison between closing price and earning per share (Brigham, 1999: 92)

2.2.2 Price to Book Value

Price to book value is an accounting number that reflects historical costs. This ratio measured firm value that is given by market to the management and firm as a countinuously growth firm (Brigham, 1992). In a loose sense, the price to book value ratio therefore compares the maket valueof the firm's investments to their cost. A value less than 1 mean that the firm has not been successful overall in creating value for its shareholders.

2.3 Macroeconomic

This research uses panel data that are merging with cross section data and time series data so sensitivity approach is needed to determine the macroeconomy indicators of each firm. The macroeconomy indicators of each firm can be calculated by doing regression between macroeconomy indicators and stock return of each firm during the research period to get Beta (β) of macroeconomy indicators.

2.3.1 Inflation Rate

It is commonplace to say that .inflation poses one of the most serious economic problems of our time. Many people are outraged by the social injustices which it implies. Many are alarmed by the realization that, although temporarily stimulating, it causes instability and thus reduces efficiency and retards the growth of an economy in the long run.

Inflation is the rate of increasing in prices over a given period of time. Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. But it can also be more narrowly calculated—for certain goods, such as food, or for services, such as a haircut, for example. Whatever the context, inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year.

There is first the obvious distinction between mild and severe inflations, depending both upon the magnitude of the annual price rise and the length of time it continues. A price rise of 1 or 1.5 percent a year, even if continued for several years, need not be taken very seriously because of the inherent inaccuracy of price index numbers. An average price rise of 2 or 3 percent a year, if continued several years, cannot be called negligible. It is not serious if it lasts only a few years and follows, or is followed by, a price decline of the same order of magnitude, or at least by a prolonged period of stable prices. But, if there are no reversals of the price rise and only short spans of stable prices, even an annual price rise of 2 or 3 percent is bound to become a serious problem. A price rise of the order of magnitude of 2 or 3 percent a year is often called creeping inflation. If it lasts long, we call it chronic. And chronic creeping inflation can be either continuous or intermittent. In later stages of galloping inflation, the stage of hyperinflation, the velocity of circulation of money goes up because

people reduce cash balances to a minimum and eventually shorten contract periods.

2.3.2 Interest Rate

The interest rate is often used as a measurement of the income earned by the owners of capital. The interest rate is called a deposit or investment interest. Similarly, the interest rate is used as a measurement of the cost of capital to be issued by the company to use the proceeds of the owners of capital, is called the interest on the loan (Iswardono, 1999). Therefore, the real interest rate is a price they are willing to be paid by people who need money, and this happens in the money market and capital market.

According to the quantity theory of inflation, the major cause of the emergence of excess demand caused by the addition of the amount of money in circulation. Increasing the money supply without offset by increasing the amount of goods on offer causing the goods prices to be high. As a result, the value of money decreases, and the people are not interested in saving money, people would prefer to keep the goods. People's interest to save money makes the government rise the interest rate, so the interest rate is high.

According Sunariyah (2006), the interest rate has several functions in the economy, as follows::

a. As an attraction for savers individual, institution, or organization that has surplus funds to be invested.
b. The interest rate can be used as a control tool for the government to fund investment in economic sectors directly.

c. The interest rate can be used as a monetary tool to control the supply and demand of money circulating in an economy.

d. The government can manipulate the interest rate to increase production, as a result, the interest rate can be used to control the rate of inflation.

Factors that affect the general level of interest rates in addition to the inflation forecast, the desired level of asset liquidity, and the state of demand and supply (Brigham and Houston, 2001: 158) are:

a) Central bank policy.

b) The magnitude of the budget deficit and revenue expenditure.

c) Foreign trade balance.

d) Level of business activity.

Theoretically it can be said, that investors are willing to invest for getting profit or capital gain without incurring risks, changes in interest rates can affect stock prices through 3 (three) ways, that are:

a) Changes in interest rates affect the company's general condition and profitability of the company's ordinary dividends and stock prices.

b) Changes in interest rates affect the relationship between the acquisition of bonds and dividend gains from shares and therefore there is a relative attraction between stocks and bonds.

c) Changes in interest rates affect the psychology of investors with respect to investment property that affect stock prices.

2.3.3 Exchange Rate

When the currency of any one country is used as a medium of settlement for an international transaction, its value has to be fixed with the other country currency. The determination of the exchange rate is the fixing of a price or value of one currency in terms of another currency. Krugman and Maurice (1994) stated "the exchange rate essentially indicates how many units of one currency can be exchanged for one unit of the other currency or vice versa". Nopirin (1996 : 163) stated that "exchange rate is the exchange of two different currencies, so that will get the value or price ratio between those both currencies". Salvator (1997 : 10) stated that "exchange rate is the price of a currency in term of another currency".

Exchange rates are not usually fixed permanently. The value of a currency may change upward or downward because of a variety of factors. When the value of currecncy is revised or change upward, it is said to have appreciated. Appreciation of a currency implies that it has become more expensive in terms of other currencies. When the price of a currency is changed downward, it is said to have undergone depreciation. A currency, upon depreciation, becomes less expensive in terms of another currency.

2.3.4 Gross Domestic Product

Economic growth shows the establishement of people's living in a year. Mankiw (2003) stated "Economic growth can be known by the increasing of individual income so that they can consume many kinds of goods and services". There are many previous studies used

Gross Domestic Product (GDP) to measure the economic growth and or used it as the indicator of macroeconomy variable. Barsky in Mankiw (2005; 15) stated that "GDP is market value of goods and services which is produced by the economic during exact period". Gross Domestic Product (GDP) is the gross amount of a country production in the form of goods and services (Jami, 2006). Gross Domestic Product (GDP) is useful to summarize the economic activities of a country in a single value during exact period (Mankiw, 2003). There are two ways to see GDP statistically, the first is GDP as the individual income at the economy, the second is GDP as the total output of goods and services at the aconomy. (Mankiw, 2003)

2.4 Investment Decision

Investment Opportunity Set or known as IOS is one of the proxy of investment decision. Myers (1977) introduced the IOS for the first time as the way to achieve the firm's purpose that is maximize the firm's value. Myers (1977) explained that a firm is the combination between a set of assets which are had by the firm and the opportunity of firm to make investment activities in the future. Myers (1977) stated that investment opportunity set gave a broader direction about the relationship between firm's value and the firm's consumption in the future. Investment opportunity set is one of the investment decision that is combining assets in place and the future choice of investment. Gaver and Gaver (1993) said IOS is the firm value that is depended by future cost that already determined by the firm, and at the present day it is the investment choices which has greater expected return.

IOS as the proxy of investment decision is a combination between firm growth (Smith and Watts,1996). IOS can be measured by combining the proxies of asset in place and the firm's future growth opportunity that are described by the market value. Kallapur and Trombley (1999) said that the firm's investment opportunity can not be observed by the external parties. Gaver and Gaver (1993) also said that investment opportunity can not be measured, so if we want to measure it we need some proxies (Hartono, 1999). Those proxies are follows:

1. Proxy based on price
   Stock price is the best proxy for firm performance because it can describe the firm performance at past and future prospect. Woorlridge (1983) said stock price is not only reflect the firm performance information but also market information.proxy based on price means the growing firm relatively has market value higher than its asset in place. Ratio that include at price proxy are market to book value equity, market value of asset to book value of asset, Tobin's Q, price earning ratio (PER), ratio of property, plant and equipment (fixed asset) to firm value, ratio of depreciation to firm value and market value of equity plus book value of debt.
2. Proxy based on investment
   Firm that has high IOS also has high investment level which will convert become in place asset (Kallapur and Trombley, 1999). Investment activity is expected to be able give higher investment opportunity to the firm in the future. Proxy-based investment form a ratio that compares a measurement of the investment that has been invested in fixed assets or operations produced as result of assets that have been invested. Ratio that is related with proxy of investment are capital expenditure to book value of asset ratio, capital expenditure to market value of asset ratio, investment to net sales ratio, the ratio of R&D expense to sales, the ratio of R&D expense to total asset, ratio of capita additions to firm value, investment intensity, ratio capital addition to asset book value, investment to earning ratio, log of firm value, and ratio of R&D expense to firm value dan ratio R&D investment.
3. Proxy based on variant
   Proxy-based variant is based on an option will become more valuable as the variability of returns based on the increasing in assets (Kallapur and Trombley, 1999). Subekti and Indra said proxy based variant is depend on the idea that an option will be more valuable if we use measurement variability to assess the option growth. Proxy based variant that already used in researches are variance of return (Gaver and Gaver, 1993; Smith and Watts, 1992; Kallapur and Trombley, 1999; Jones and Sharma,2001),

Asset bethas (Skinner, 1993; and Kallapaur and Trombley, 1999) and the variance of asset deflated sales (Ho, Lam and Sami, 1999).

Investment decision in this research stressing to the real assets because the sample of this research, those are manufacture firms, need a lot of fixed assets in its activity. Manufacture firm needs more space to save its product, needs more machine to produce more product, etc. Investment decision in this research is measured by using five indicators, those are:

2.4.1 Market to Book Value of Equity Ratio (MVE/BVE)

Market to book value of equity ratio (MVE/BVE) reflect how the market evaluate a firm, whether it can use its capital in running business to maximize the firm's profit. If a firm can manage its capital well and generate more profit so the opportunity of that firm to grow will be greater. The better and bigger growth will attract more investors to invest their money to the firm. Market value of equity can be known by multiplay the number of outstanding share and the price of firm's shares.

2.4.2 Market to Book Value of Asset Ratio (MVA/BVA)

Market to book value of asset ratio (MVA/BVA) is based on the concept that the firm growth is reflected by the fluctuation of its share price, and market evaluate the firm growth according to the book value of share price (Kallapur and Trombley, 1999). This ratio is expected to reflect the company's investment opportunities through the assets of the firm where the firm's growth prospects are reflected in the changing of stock prices due to the investors' evaluation of the value of the assets of the firm.

2.4.3 Book Value of Property, Plant, and Equipment to the Book Value of Total Asset (PPE/BVA)

Book value of property, plant and equipment to the book value of total asset ratio (PPE/BVA) showed the proportion of fixed asset compared with firm's total asset. The firm investment activity on fixed assed can be known from this ratio. Investment on fixed asset is related with the operational activity, for example a firm buy new machine so that its production will be greater and it can fulfill its demand.

2.4.4 Capital Addition to Book Value Asset Ratio (CAP/BVA)

Capital Addition to book value asset ratio showed the existance of additional productive assets. Productive assets means assets that can be used to increase the firm's profit by producing its product such as production machine. The additional productive assets also showed the firm's potential growth (Kallapur and Trombley, 1999).

2.4.5 Capital Addition to the Market Value Asset Ratio (CAP/MVA)

Capital Addition to Book Value Asset Ratio is used as the proxy of Investment Opportunity Set (IOS) because firm which in growing level has a higher level of investment activity (Kallapur and Trombley, 1999). If a firm give some capital addition in its business so the firm can make investment activity easily. The company which provide more capital will not get financial constraint when it will make investment activity.

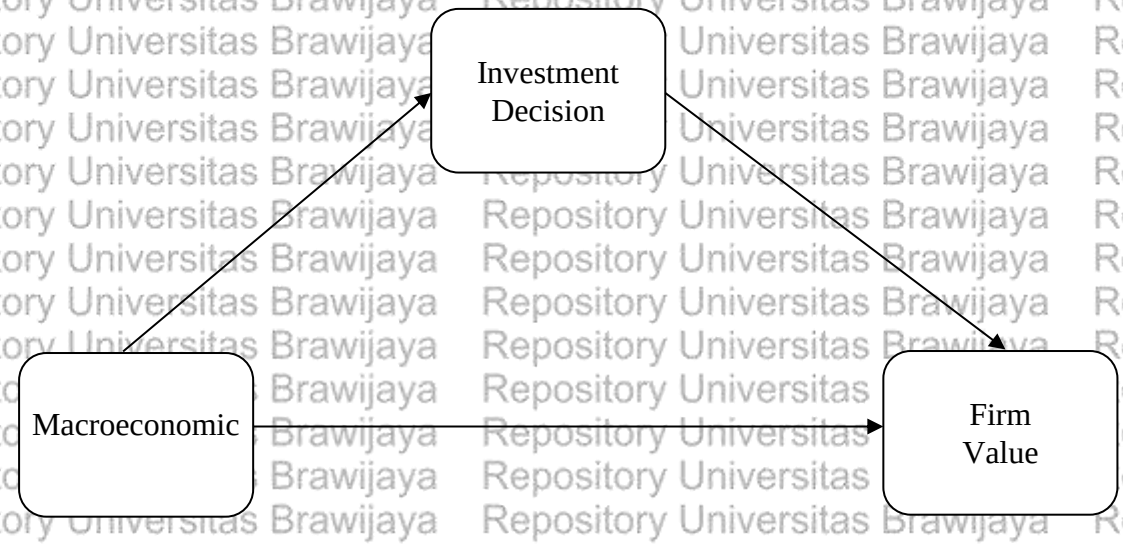
CHAPTER III

CONCEPTUAL FRAMEWORK AND HYPOTHESIS

3.1 Conceptual Framework

Figure 3.1

Conceptual Framework



3.1.1 Macroeconomic and Firm Value

Macro economy condition has close relationship with the business activity. Macro economy indicators such as inflation rate, interest rate and exchange rate can influence the price of goods, interest cost, and tax policy. Inflation rate can increase the price of goods that are required by the firm to run its productivity and its business such as the price of raw material. Interest rate can increase the interest cost of firm especially if the firms use the external funds or buy the raw material in credit. Exchange rate can increase the firm's cost because exchange rate can

increase the price of raw material especially if the firm buy those raw materials from foreign country.

Inflation as the macro economy indicator shows economic condition weakness of a country because the price of general goods in that country increase and the buying power of its citizen decrease. The increasing price also happens in raw materials price that is needed by the firm to run its productivity and its business. When inflation rate becomes higher, the price of raw materials also increases. The increasing of raw materials price will increase the production cost. Firms need to adjust the increasing of production cost by increasing the product price. The increasing of inflation rate beside increasing the price of goods also decreasing the purchasing power of citizen. Because of that if the firm increase its product price, the firm total sales will decrease. Many people difficult to buy the firms' product in expensive price so that the firms' total sales will decrease. The decreasing of total sales will decrease the firms' profit.

The increasing of product price will decrease the purchasing power of citizen because the citizen's income also decreases. The decreasing of citizen's purchasing power will lessen the firm's profit because the firm's unit sales decrease. If the firm's profit decreases so it indicates that the firm's performance decreases.

3.1.2 Macroeconomic and Investment Decision

The activity of investment in a firm is based on the strategy of economic development set at the level where it held and based on the investment programs or projects. The investment, regardless of which

investment programs will be developed and done within a firm, the details in order to implement investment programs in more investment projects. The definition of project investment is a complete and autonomous action involving the achievement of its investment and exploitation of its long life. Therefore, the establishment and the use of fixed assets represent the implications of that production on the company. An essential factor of firm's policy continuity and firm's growth of business investment are contributing to the construction or the purchasing of production assets and marketing. The realization of investments requires significant funding needs, and leading to impairment of long-term. Therefore, the efficiency of investment projects should be compared with the yield on the investment capital. The existance of risk make the decision of investment is like a wager on the future of the firm.

Investment decision is a very difficult thing for leaders of all firms. By its characteristics, the decision affects the investment of a firm for a long time horizon, if not forever. In the idea of adopting an investment decision we can use simple criteria or criteria based on discounting. The recently category, net present value criterion (NPV) is most often used, since the objective answer is to maximize the value of the firm called by the theory of modern finance.

A variety of macroeconomic factors affect the firm investment. Domestic and global economic cycles are likely to affect firms' investment decisions, as marginal returns from firm investment are likely to be cyclical. The volatility of inflation increases uncertainty about returns from firm investment, which may also make firm doubt to

undertake investment. Finally, real interest rates have a direct impact on firm investment as they determine financing costs.

3.1.3 Investment Decision and Firm Value

Investment decision and firm's financial include in micro fundamental factors that are used to make firm valuation. Investment decision is the firm's decision about the using of fund or capital expenditure to make some investments. Investment decision includes investments in short-term assets (current assets) and long-term assets (fixed assets). Short-term assets are usually defined as assets with maturities of less than one year or less than one business cycle, in which case the funds are invested in short-term assets expected to be received back in the near future or less than one year and received at the same time. The objectives of company invest in short-term assets are to be used as working capital or operating company. Examples of short-term assets are inventory, receivables, and cash. Long-term assets are defined as assets with maturities of more than one year, in which case the funds are invested in long-term assets to be received back in time more than one year and gradually return.

Investment decision objective is to get additional profit from their investment by using their free cash flow. Financial manager of a company tend to use their free cash flow to create investment rather than save their free cash flow. It causes financial manager belief that a company will get more profit than they let their free cash flow settle in their cash or bank. If the company invest in a lot of projects and also real assets, so the company's revenue will much more than they are not

invest on any projects or real assets. It will influence in their financial performance because the total profit that can be generated by the company is not big.

Many researchers have already done by many researches about investment decision. Cho (1998) found that investment is an important determinant of corporate value which in turn, effect of the ownership structure. Sudiyatno (2012) stated that capital expenditure as the proxy of investment decision has a significant positive effect on the company's performance has a negative effect, but not significant effect on firm value. Zion (1984) found that the market value of a firm is affected by its research and development and investment policy. Nugraha (2013) found that there is a significant positive influence of investment opportunity set on corporate value. Hutchinson (2001) found that investment opportunity set has a negative relationship with the firm performance. Uno and Kamiyama (2010) stated a shorter investment horizon has a positive impact on firm value.

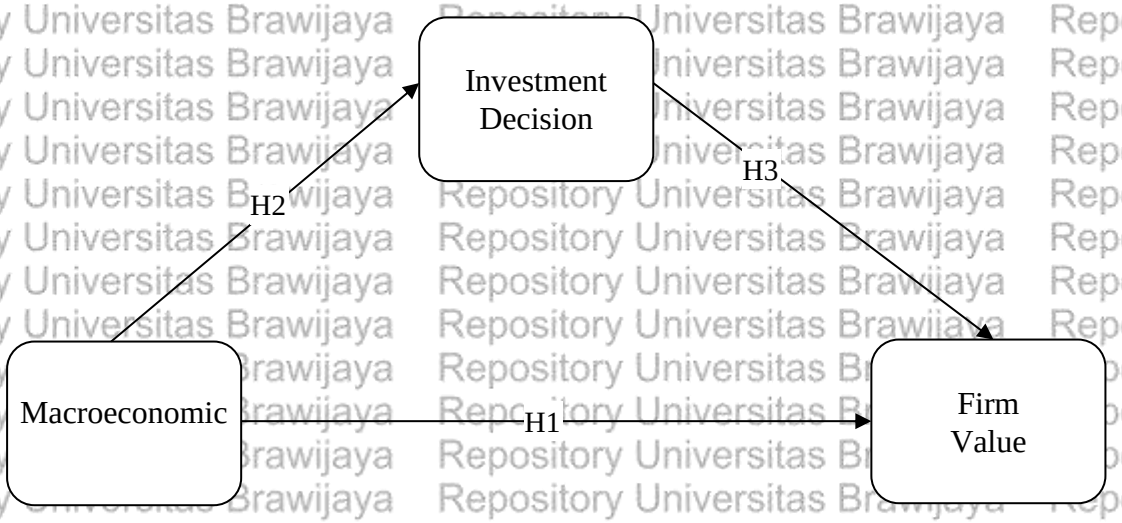
3.2 Hypothesis

To make comprehensive about theory track that is used by the researcher easily, so according to the theoretical background and proposition the researcher can make research hypothesis. The using of research hypothesis is to arrange empirical model about the relationship between variables in the model. The research hypothesis that is created by researcher is not all from the preposition. Research hypothesis should suitable with the aim of this research that already stated before.

According to the conceptual framework above, researcher developed the hypothesis framework as following:

Figure 3.2

Hypothesis Framework



3.2.1 Macroeconomic has Negative Significant Impact On The Firm Value.

The indicators of macro economy that have concern from business entity in capital market are inflation rate, interest rate, exchange rate, and gross domestic product. Those four macro economy variables are potentially to increase or decrease the firm's performance and firm value. Those factors are external factors that cannot be controlled by the firm. It means firm can not do anything to manage the macro economy condition to give more advantages for the firm.

Investors prefer do the investment activity in the stable environment because the stable environment provide the conducive condition and certainty. Unstable environment tends to show the high

uncertainty and less security, so that investors do not interest to do investment activity. Because of that, un-conducive political condition, safety and the high uncertainty environment will cause investment climate worst, and economic growth slow down because real sector cannot rise. In macro side, this condition will affect to the decreasing of the whole economic activity, so that disturb the firm's activity, decrease the firm performance, investment becomes more risky, and the performance of capital market also decreases.

Inflation rate in this research represents the real sector in influencing the firm's value. Inflation can be known through the increasing of consumer product's price. This condition causes the demand of consumer goods decreases because the buying power of society decreases. Beside it influences individually, inflation also influences the firm. Inflation that causes the increasing of good's price makes firms produce their product in a high cost. Firms must buy the raw materials more expensive than before the inflation. To accommodate the increasing of production cost, firms increase its product prices so that firm can avoid the loss. Meanwhile, the decreasing of consumers' buying power causes the decreasing of demand, and finally the firms' sale decrease. The decreasing of firm's sales pushes the firm to reduce its production activity that causes the decreasing of firm performance. This condition will happen on almost firms and causes the investments in real sector decrease. The firm performance and firm value also decrease.

According to the economic theory of demand, if the consumer good price increases, so the demand of that good also will decrease.

However, this theory is not suitable with the condition of capital market. For example, shares, the increasing of share price will attract many investors so that the demand of those shares will increase. This condition happens because of the investors' opinion that the increasing of share price will give investors much profit. The increasing of share price in the capital market becomes an indicator that the firm which is issues those shares has a good performance and high value. The increasing shares price indicates that the manager succeeds to improve the firm performance and can generate much profit. If the firm gets much profit, so the investors will get much return for their investments. Investors, beside expect the maximum return from the dividend they also expect the return from the capital gain. Capital gain is the difference between share price when investors buy the shares and share price when the investors sell the shares.

The impact of inflation in the investment activity and the price of good will influence the firm's operational activity. The firm's activity will decrease because the firm cannot sell its product and finally the firm's profit decreases too. The decreasing of firm's profit gives a signal for investors that the performance of that firm decreases. This condition pushes the investors to invest their money to other profitable investments. Because there are not investors who interested to buy the firm's share, so the price of firm's price will decrease. The decreasing of share price also will affect the firm value.

According to the description above, we can conclude that inflation has impact on the investment activity and share price in capital

market. Investment activity in capital market will increase if the inflation rate is low. The increasing of investment activity will be followed by the increasing of share price and firm performance. Conversely, the investment activity in the capital market will decrease if the inflation rate is high. The decreasing of investment activity will be followed by the decreasing of share price and firm performance. It can be said that the changing of firm performance and share price on the contrary with the changing of inflation rate.

Interest rate is one of government ways to trade-off the inflation rate. If inflation rate is increase so government will increase the interest rate. The decreasing of interest rate will affect the decreasing of raw materials price because the payment of raw materials uses the lower interest rate. The decreasing of raw materials price will decrease the firm's cost of goods sold. This condition can stimulate the unit sales of the firm because the firm can sell their product with the price at the same level or lower of society buying power. The increasing of unit sales will affect the increasing of firm's profit. The increasing of firm's profit shows that the firm's performance is good so that many investors decide to invest their money on the firm. More huge the amount of investors that invest their money to the firm will be caused the increasing of firm's share price. Finally the increasing of firm's share price indicate that its firm value also increases.

Exchange rate, as the third indicator of macro economy after inflation rate and interest rate, is the value of Indonesia Rupiah if it is measured with US Dollar ($).The improvement of Indonesian Rupiahs

value means that the value of Rupiah appreciates against the US Dollar. Conversely, the decreasing of Indonesian Rupiahs value means that the value of Rupiah depreciates against the US Dollar.

The exchange rate influences the price of goods especially the price of imported goods. If a firm buys its raw materials from foreign countries so the firm will consider about the exchange rate. If the value of Indonesian Rupiah appreciates against the US Dollar so the firm that buys raw materials from foreign countries will get gain because the price of raw materials becomes cheap. The cheaper raw materials price will decrease the cost of production and firm can decrease the price of goods so that the unit sales of its products will increase. The increasing of unit sales will increase the firm's profit.

Gross Domestic Product (GDP) as the fourth indicator of macroeconomic shows the economic growth of a country. GDP shows total revenue of each people in a country. The increasing of GDP will cause the increasing of people wealth because their total revenue also increase. The increasing of their total revenue caused the increasing of their buying power. People tend to spend their money to consume the consumer goods. This situation drives the increasing of good price, not only consumer good's price but also the raw material price. The increasing raw material will suffer the firm because its cost of good sale also increase. Finally, the firm will increasing its product price. The increasing of its product price will decrease its profit because many its sales decreased. Investors who wants to invest their money to the firm will consider again their decision, because the decreasing profit indicate

that the firm performance is not really good. If the number of investors who interested to buy the firm's stock decrease so the firm's stock price also decrease. The decreasing of firm's stock price showed that the firm value is decreasing.

3.2.2 Macroeconomic has Significant Negative Impact On The Investment Decision.

The classical theory of Knight (1921) emphasizes that entrepreneurs have the ability to recognize and seize investment opportunities in uncertainty and make profits through resource integration. Therefore, uncertainty is the very source of corporate profits. Macro economy is an uncontrolable factor which influence the investment decision of a firm. This is caused by macroeconomic factor tend to influence the cost of firm operationals and activities. Financial manager who manage the firm financial by taking the best financial decision should consider about the macroeconomic condition. The best investment decision is investment which can generate highest additional profit but need less cost to do that investment.

Inflation rate as the macro economy indicator means that the price of goods increase. Investment activities are differing become two types, first in the form of real investment such as buy fixed asset, acquire the other firms, etc or in the form of financial instruments such as option, stock index, etc. Buying fixed asset such as property and new machine included as the investment activities because by buying those fixed asset, firm can produce much more products so that it can fulfill the demand. If a firm plans to make an investment in the form of fixed asset

when inflation rate increased, so that firm sould spend much money to buy the fixed asset. Firm which has financial constraint will postpone or cancel to buy the fixed asset. When firm decides to postpone and or cancel to buy the fixed asset, the investment activity of that firm will decrease.

Interest rate as the next macroeconomic indicator is the government policy to trade-off the increasing of inflation rate. Interest rate influences the investment decision if the firm lend some money to the external parties such as bank to do the investment activity. For example firm which has financial constraint and want to buy new machine to increase its production will consider to lend some money from bank to buy that machine. The increasing interest rate will cause the increasing of firm's cost because firm should payback the money to the bank with higher interest rate. The higher cost makes the firm's profit decrease and this condition reflect the value of firm decrease. Firm with financial constraint will consider again its decision to buy the new machine by borrowing money from the bank. Financial manager will prefer to postpone or cancel their plan to buy new machine.

Exchange rate also can influence the investment decision like interest rate especially for the firm that make foreign investment. If a firm plan to make foreign investment, so the financial manager will consider about the exchange rate at that time. If the domestic currency depreciate so the price of foreign investment will be higher. Because of that firm will decide to postpone or cancel the investment and choose to make domestic investment rather than foreign investment.

Gross Domestic Product can influence the investment decision of a firm. In one hand the increasing of GDP will give advantage for the firm but the other hand it can gives disadvantage for the firm. The increasing of GDP will increase the buying power of citizen so that it can stimulate the increasing of firm's sales and firm's profit. Firm can use its profit to make some new investment decisions so the profit of firm will greater. The increasing of GDP can cause the increasing of price if the firm cannot fulfill the demand. The increasing of price is the sign of the increasing of inflation rate. The impact of inflation rate on the investment decision already described before.

3.2.3 Investment Decision has Positive Significant Impact On The Firm Value.

Investment decision is the using of cash to fund the long-term capital that its advantage and profit will be achieved by the firm several years later. Investment decision includes decision to buy fixed assets, the cost to manage the production waste, promotion cost, research and development cost, and corporate social responsibility cost. Investment decision is one way of firm to develop and expand its business so that the firm can compete with the other firms and still exists.

Manager as an agent is responsible to run the business has a possibility to diverge from the shareholder's interest. Managers will endeavour to develop the firm through their decision and their policy especially their decision when there are several choices to make investment. When the firm has several investment choices, manager has two choices to accept it or refuse it. The manager's choice depends on

the availability of fund and the manager's characteristic when facing the risk.

When manager decided to accept the investment so manager should provides some funds to finance that investment. Manager accepts the investment because that investment has positive NPV. A higher NPV will generate a higher profit addition for the firm. The profit addition will increase the firm's assets in the future because firm can get the investment's benefit in the future.

McConnel & Muscarella in Sudiyatno (2010) state investment decision has a positive relationship with firm's value. It means if firm increases its investment so the firm's value also increases. The firm's value will increase because the firm's profit also increases because the positive NPV will provide additional profit for the firm. The increasing profit can be a positive signal for the investors so that they interests to buy the firm's stock. The increasing demand of its stock will drive the increasing of firm's stock price.

3.2.4 Investment Decision Can be Mediating Variable On The Relationship Between Macroeconomic and Firm Value

Macroeconomic condition will affect the firm value negatively. It means when macroeconomic condition gets worst so the firm value will decrease because the decreasing of firm value will be used as the signal for the investors. The demand of firm which has decreasing profit will be decreased.

Firm still can retain its value if it can make the best investment decision which can make additional profit for the firm. Firm already made

a best investment decision before the economy crush happen, so the firm still get additional profit but does not need to spend much money as its cost. Investment decision also can eliminate the influence of macroeconomic on the firm value if the firm can choose the investment which can give additional profit but need less cost when crisis is happened.

Firm profit is one of several ways to retain its value at the investors sight. As long as a firm can generate profit so it will get investors trust that the firm can maximize investors' wealth. Because of that a firm which can make additional profit from its investment activities although during the crisis can retain its value. Those firms will not be affected by the macroeconomic condition that getting worst.

CHAPTER IV

RESEARCH METHOD

4.1 Research Type

Research type of this research is explanatory research through confirmatory research or using hypothesis test. This research explains the relationship between variables and explains the statistic data so that readers can understand the meaning of statistic data and get the idea of the influence of macroeconomic and internal financial decision on the firm value. According to Sudarma (2003), explanation of the study was to test the hypothesized relationships among variables. The basic aim of the research is to explain the explanation, especially about the relationship causal exogenous variables on the endogenous variables. According Sugiyono (2002), explanatory research is explained and described the causal relationship between the research variables through hypothesis testing.

4.2 Research Location

This research took place in *Pojok Bursa Efek Indonesia* because in this research the researcher only used secondary data from Indonesian Stock Index (IDX), official website of Central Bank of Indonesia, yahoo finance, and Central Bureau of Statistic (BPS). This research location is chosen by the researcher because of several reasons. The first reason, IDX is the only one market share in Indonesia that trades all of the listed company's stock in IDX completely. The second, the data provided in IDX are complete and easy to get. The third, data in IDX are accurate and reliable because the data are already widely published through ICMD. The researcher accesses the official

website of IDX, BPS and Indonesian Central Bank to get information and data about financial performance of company in manufacture sector (the firm's annual report), data about interest rate, inflation rate and exchange rate during research time, 2009 – 2012. From yahoo finance, the researcher gets data about firm's share price and companies that divides their dividend to their shareholders periodically.

4.3 Population and Sample

Population is a collection of individuals or objects of research that have similar qualities and characteristics. Based on the quality and characteristics of the population can be understood as a group of individuals or research objects who have at least one common characteristic (Cooper, Emory, 1999). Populations of this study are all publicly traded companies in the manufacture sector, listed on the BEI (*Bursa Efek Indonesia*) during the research period (2009-2012) and annually registered on the Stock Exchange and complete data on ICMD for three (3) years for about 140 firms.

The sampling technique used in this study was non-probability. Sample selection method used was purposive sampling, where the researcher has a certain criteria or goals for the sample to be studied (Indriantoro, 1999). Samples were taken by purposive sampling, where the sample must meet the following criteria:

1. The manufacture company that are listed in BEI on December 2009 until December 2012.
2. The manufacture company that always earn profit during the research period that is 2009 until 2012.

3. The manufacture company that distributed its dividend periodically on 2009 until 2012.
4. The company's share must be traded at least once in a months.
5. The availability of data.

According to the criteria above, the researcher defined sample 30 companies in manufacture sector that are listed in the Indonesia Stock Exchange. The total sample for four years, from 2009 until 2012, is 120 units.

4.4 Source of Data

The type of data that is used by researcher in this research is secondary data. This secondary data are already published by Indonesian Stock Exchange (www.idx.co.id) in 2009 until 2012. Besides data from Indonesia Stock Exchange, the researcher also gets the data from central bank's report (www.bi.go.id) in 2009 until 2012.

The researcher gets data about the firm's financial condition that are already published by Indonesia Stock Exchange. Those data are firm's share price, total shares that are issued by the firm, firm's equity, property, building, and equipment, profit after sales, and total asset. The published data by Central Bank Indonesia are: inflation rate in Indonesia, interest rate in Indonesia, and exchange rate of Indonesian Rupiahs against US Dollar. The published data by BPS are: gross domestic product of Indonesia.

4.5 Method of Data Collection

Method of data collection in this research is making documentation. The researcher recorded data included in Indonesia Stock Index (www.idx.co.id) for company's financial statement or company's

financial performance, and the official website of Bank Indonesia (www.bi.go.id) for data of inflation rates, interest rates, gross domestic product, and exchange rates.

4.6 Research Variables

Hypothesis testing and data analysis in this research can be identified from the used variables in this research model, those are:

1. Dependent variable (Y) is variable that is affected by independent variable. Dependent variable in this research is firm value.
2. Independent variable (X) is variable that gives affects to other variables. Independent variable in this research is macro economy.
3. Mediating variable (Z) is a variable that explains a relation or provides a causal link between other variables. Mediating variable in this research is investment decision.

4.7 Definition of Operational Variables

Operational definition is given for avoiding bias on the research object, research measurement, research instrument, and data collection. Therefore, it needs clear variables to define this research. Operational definitions from this research are as follows:

4.7.1 Macroeconomic

Inflation rate is the relative real value of price changing. In this research, inflation rate is measured by the real inflation rate during the research period from 2009 to 2012. This research uses panel data that are merging with cross section data and time series data so sensitivity approach is needed to determine the inflation rate of each firm. The

inflation rate of each firm can be calculated by doing regression between inflation rate and stock return of each firm during the research period to get Beta (β) of inflation rate.

Interest rate in this research is real interest rate that is measured by the SBI (*Suku Bunga Bank Indonesia*) interest rate which is the benchmark of the general level of interest rates both deposit rates and lending rates. Same as the way of inflation rate treating, sensitivity approach is needed to determine the interest rate of each firm. The interest rate of each firm can be calculated by doing regression between interest rate and stock return of each firm during the research period to get Beta (β) of interest rate.

Exchange rate is the value of Indonesia Rupiah (Rp) if it is valued with US dollar ($). In this research, the exchange rate is measured by the real spot exchange rate of Indonesia Rupiah against the US Dollar ($). It is the same as inflation rate, sensitivity approach is needed to determine the exchange rate of each firm. The exchange rate of each firm can be calculated by doing regression between exchange rate and stock return of each firm during the research period to get Beta (β) of exchange rate.

Gross Domestic Product (GDP) Gross Domestic Product (GDP) indicates the gross amount of goods and services produced within the country (Jami, 2006). GDP in this research is GDP data from BPLS. It is the same as the others macroeconomic indicators treating, sensitivity approach is needed to determine the Gross Domestic Product (GDP) rate of each firm. The GDP of each firm can be

calculated by doing regression between GDP and stock return of each firm during the research period to get Beta (β) of GDP.

4.7.2 Investment Decision

Investment decision is the manager decision to use the firm's fund to make investment that can generate additional profit for the firm. The investment can be buying new machines, new buildings as firm's new plant, or acquiring other firms to enlarge firm's operation. In this research, the investment decision is measured with several ratios, those are:

1. Book Value of Property, Plant, and Equipment to the Book Value of The Asset Ratio (PPE/BVA)

   This ratio shows the existing investment on productive fixed asset as company's asset in place. Asset in place means the securities, real estate, and other property that a company already owns, and therefore does not need to buy in order to execute a particular investment strategy. This ratio compares the book value of firm's property, plant, and equipment with the total asset of the firm. The formula of PPE/BVA ratio is below:

   $$\text{PPE/BVA} = \frac{Book\ value\ of\ fixed\ asset}{Book\ value\ of\ total\ asset}$$

2. Market to Book Value of Equity Ratio (MVE/BVE)

   The rationale of this ratio is market assess the return of company's investment in the future is bigger than expected return form its equities. This ratio compares the market value of firm's stock or equity which can be got by multiplaying the number of outstanding

share and the price of firm's shares, with the total equity of firm. The formula of MVE/BVE ratio is below:

$$\text{MVE/BVE} = \frac{number\ of\ outstanding\ share \times clossing\ price}{total\ equity\ of\ firm}$$

3. Market Value to Book Value of Asset Ratio (MVA/BVA)

The rationale of this ratio is the company's growth prospect reflected in the stock price. Market assesses the growth company lower than its book value. This ratio compares the market value of firm's stock and firm's asset with the total asset of firm. The formula of this MVA/BVA ratio is below:

$$\text{MVA/BVA} = \frac{(total\ asset - total\ equity) + (outstanding\ share \times CP)}{total\ asset}$$

4. Capital Addition to Asset Book Value Ratio (CAP/BVA)

This ratio shows the flow of company's additional share capital which can be used for additional investment of productive assets. This ratio compares the changing of fixed asset book value from this year and a year before with total asset of firm. The formula of CAP/BVA ratio is below:

$$\text{CAP/BVA} = \frac{BV\ fixed\ asset t_t - BV fixed\ asset_{t-1}}{total\ asset}$$

5. Capital Addition to Asset Market Value Ratio (CAP/MVA)

The rationale of this ratio is a growing company has a higher investment activity than an un-growing company. This ratio compares the changing of fixed asset book value from this year and a year before with the market value total asset and firm's shares. The formula of CAP/MVA ratio is below:

$$\text{CAP/MVA} = \frac{BV fixed\ asset_t - BV fixed\ asset_{t-1}}{(total\ asset - total\ equity) + (outstanding\ share \times CP)}$$

4.7.3 Firm Value

Increasing of corporate value is the major objective of all companies because the higher corporate value will affect on the shareholder's welfare. Several formulas to understand the corporate value are as follows:

a. Price to Book Value

Price to book value describes magnitude of market price deserved book value in the company. Higher value of this ratio indicates that market trust to the company's prospect on the future. PBV is measured by using closing price of common stock divided by equity per share.

b. Price Earnings Ratio

According to Iturriaga and Sanz (2001), price earning ratio is measured as the ratio of market price per share to earning per share.

Table 4.1 Recapitulation of Operational Definition

No	Variable	Indicator	Measurement
1.	Macroeco-nomy	1. Inflation Rate	Betha Inflation Rate $\Delta SR = \alpha + \beta IF + \varepsilon$
		2. Interest Rate	Betha Interest Rate $\Delta SR = \alpha + \beta IR + \varepsilon$
		3. Exchange Rate	Betha Exchange Rate $\Delta SR = \alpha + \beta ER + \varepsilon$
		4. GDP	Betha GDP $\Delta SR = \alpha + \beta GDP + \varepsilon$
2.	Investment Decision	1. CAP/BVA	$\frac{\Delta BV\, fixed\ asset}{total\ asset}$
		2. CAP/MVA	$\frac{\Delta BV\ fixed\ asset}{MV\ asset}$

		3. MVA/BVA	$\frac{MVA}{Total\ asset}$
		4. MVE/BVE	$\frac{MVE}{Total\ equity}$
		5. PPE/BVA	$\frac{BV\ fixed\ asset}{BV\ total\ asset}$
3.	Firm Value	1. Price Earning Ratio (PER)	$\frac{Stock\ Price}{EPS}$
		2. Price to Book Value (PBV)	$\frac{Stock\ Price}{Book\ Value}$

4.8 Method of Data Analysis

Technique of data analysis in this research is path analysis. Path is a statistical procedure that is used to describe the relationship among multiple variables simultaneously (Hair et al., 1995).

Partial Least Square (PLS) will be used as the method of analysis in this research. The main reason using PLS method is variable that is used in this research including latent variable which is cannot measure directly and only through indicator to measure. PLS is an alternative method in path. PLS will be used when basic concept of theory too weak and indicator measurement unable to fill ideal measurement model. In addition, PLS has been choosen based on research consideration, namely, this research has three latent variables which establish with formative indicator. The small total sample also one of consideration using PLS. Reflective model asumes construct or latent variable influence indicators, where casual relationship from construct to indicator. While, formative model asumes that indicator influence construct, where casual relationship from indicator to construct (Ghozali,2006). This research using formative indicator because this

research using secondary data. Beside that each variables that are used in this research cannot be measured directly, we should know the value each indicator first than we can measure the value of variable. PLS-SEM is the preferred method when the research objective is theory development and prediction (Hair et al., 2011). PLS analysis has step as follows:

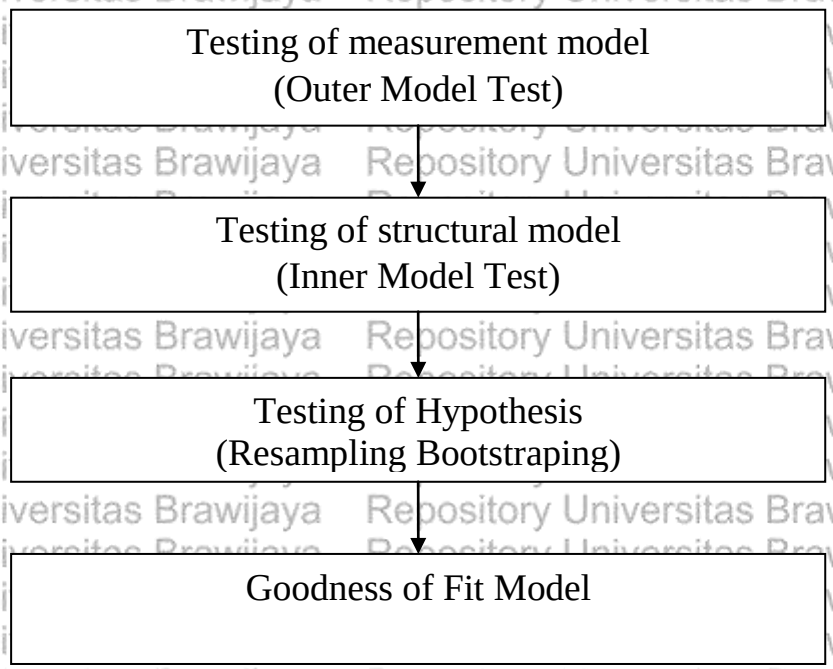


Figure 4.1 PLS analysis steps

1. Outer model test

Formative indicator is used as dependent variable (endogenous variable) and independent variable (exogenous variable). This study asumes that indicators are not correlated, so internal consistency reliability measurement (cronbach alpha) not required as reliability test on formative construct (Ghozali, 2006). This is different with reflective indicator which using criteria, they are, convergent validity, composite reliability and discriminant validity. Basically, formative construct is

regression analysis from indicator to construct thus coefficient of regression and coefficience of significance are using to assess it. When all the indicator weights are significant, there is empirical support to keep all the idicators in the measurement of latent variable. If both the weight and loading are non-significant, there is no empirical support to retain the indicator in the measurement of latent variable and its theoritical relevance should be questioned. It means the indicator should be dropped or deleted from the model measurement (Hair et al., 2011).

2. Inner model test

Inner model test or structural test is used to know relationship among construct, significant value and R^2 from research model. Structural model will be evaluated using R^2 for dependent construct (endogenous variable) and t-test and also significance of path coefficient on structural model. R^2 values of 0.75, 0.50, or 0.25 for endogenous variables in the structural model can be deascribed as substantial, moderate, or weak, respectively (Hair et all, 2011). In addition, PLS also will be evaluated using Q^2 or predictive relevance for constructive model. Q^2 will measure observation value based on result in the model and also its parameter estimation.

Meanwhile, accepted and rejected hypothesis criteria as follows:

1. Asses significance value and outer weight each indicators. Weight value which suggested are positive and t-statistic greater than 1.645 (p-value < 0.1). Indicator which has value less than this requirement but the outer loading of its indiactors still greater than 0,5 the indicator should be retained. Indicator which has insignificant value and has

outer loading less than 0,5 should be dropped out from model and then re-analysis.

2. Alternative inner weight from relationship on latent variable. Weight value should be positive with t-statistic greater than 1.645 (p-value < 0.1).

3. Alternative hypothesis (Ha) has accepted if weight value from relationship on each latent variable showing positive value with t-statistic greater than 1.645 (p-value < 0.1). Contrarily, H0 failed to be rejected if weight value from relationship on each latent variable showing negative value with t-statistic greater than 1.645 (p-value < 0.1).

T-table value which decided in this study is 1.645 (p-value < 0.1). Further, it will used as cut-off value to accepting or rejecting hypothesis. Model of hypotesis testing is as follows:

Outer Model

Macroeconomic (X) = $£_{X1}$IF + $£_{X2}$IR + $£_{X3}$ER + $£_{X4}$GDP + ζ_1

Investment decision (Z) = $£_{Z1}$CAP/BVA + $£_{Z2}$CAP/MVA + $£_{Z3}$MVA/BVA + $£_{Z4}$MVE/BVE + $£_{Z5}$PPE/BVA + ζ_2

Firm Value (Y) = $£_{Y1}$PBV + $£_{Y2}$PER + ζ_3

Inner Model

Investment decision (Z) = $\alpha + \beta_{12}X + \varepsilon_1$

Firm value (Y) = $\alpha + \beta_{13}X + \beta_{21}Z + \varepsilon_2$

The symbol explanation:

X = Latent exogenous variable (independent variable);

Z = Latent mediating variable

Y = Latent endogenous variable (dependent variable)

$£_X$ = Indicator loading of independent variable

$£_Z$ = Indicator loading of mediating variable

$£_Y$ = Indicator loading of dependent variable

ζ = Measurement errors for indicators of latent variable (Outer model)

β = Path coefficient

ε = Random disturbance term (Inner model)

3. Mediator variable test

Mediation refers to an indirect effect of an independent variable on a dependent variable that passes through a mediator variable (Shrout & Bolger, 2002). Mediator variable test is a test to prove whether a variable can be mediating betweeen the relationship the two other variables. According to Baron and Kenny (1986) there are two requirement to establish a mediating model, those are:

a. In the first equation the mediating variable must be influenced by the independent variable.
b. In the second equation the dependent variable should be influenced by the independent variable.
c. In the third equation the dependent variable should be influenced by the mediating variable.

A variable functions as a mediator variable when it meets the following conditions:

a. The relationship between independent variable and presumed mediating variable is significant. This path between independent variable and mediating variable is called with path a.

b. The relationship between mediating variable and dependend variable is significant. This path between mediating variable and dependend variable is called with path b.

c. When Paths a and b are controlled, a previously significant relation between the independent and dependent variables (path c) is no longer significant, and a mediating variable can be conclude as the strongest mediating variable when path c becomes zero.

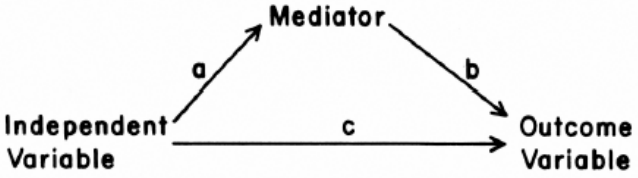


Figure 4.2 The Simple Mediating Model

When Path c is reduced to zero when mediator variable existed, we have strong evidence to say that there is a single dominant mediator. We can conclude that mediating variable totally mediates the relationship between independent variable and dependent variable. If the residual path c after the appearance of mediating variable is not zero, this indicates the operation of multiple mediating factors. It means that there are the other variables which can be a mediator between independent variable and dependend variable. We can conclude this mediating

variable partially mediates the relationship between independent variable and dependent variable. Perfect mediation holds if the independent variable has no more effect when the mediator is controlled. (Baron and Kenny, 1986).

After knowing the existance of mediating variable we should measure the significant level of the mediating variable. The significant level of mediating variable can be measured by using Sobel test. Sobel (1982) provided an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediating variable (Baron and Kenny, 1986). Sobel calculator can be used as the tool to do Sobel test. A significant mediating variable means that the variable significantly mediate the relationship between independent variable and dependent variable.

CHAPTER V

RESULT AND DISCUSSION

5.1 Partial Least Square Result

5.1.1 Outer Model Test

Outer model test is testing the value of outer weight for latent variable with formative variable. By using outer model test the suitable indicators of latent variable can be decided. Outer model test will show the outer weight and outer loading of each indicators and indicators that have outer weight out of the criterias should be deleted from the structure. According to the result of outer model test, the best indicators to measure the latent variable will be revealed. There are three steps to decide an indicator can be retained at the structure (Hair et.al. 2014). The first one is from the outer weight value. If the outer weight value is statistically significant so the variable should be retained. The second one is from the outer loading value. If the outer weight value is statistically not significant but its outer loading value is still 0.5 or higher so the indicator can be retained. The last one is if the outer weight is statistically not significant and the outer loading value is below 0.5 so the indicator should be deleted from the structure.

5.1.1.1 Macroeconomic Variable

Macroeconomic variable had measured by using four formative indicators, namely inflation rate, interest rate, gross domestic product, and exchange rate. Outer weight from macroeconomic variable is as follows.

Table 5.1 Test of Macroeconomic Variable

Macroeconomic	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
X1 Inflation	0.9525	0.1233	0.7503	1.2695	0.8540
X2 Interest	0.1941	0.1693	0.3651	0.5318	-0.2607
X3 Exchange	-0.4028	0.0060	0.4747	0.8486	-0.4016
X4 GDP	0.1569	0.2123	0.3819	0.4108	0.4803

Source: Secondary data processed, 2013

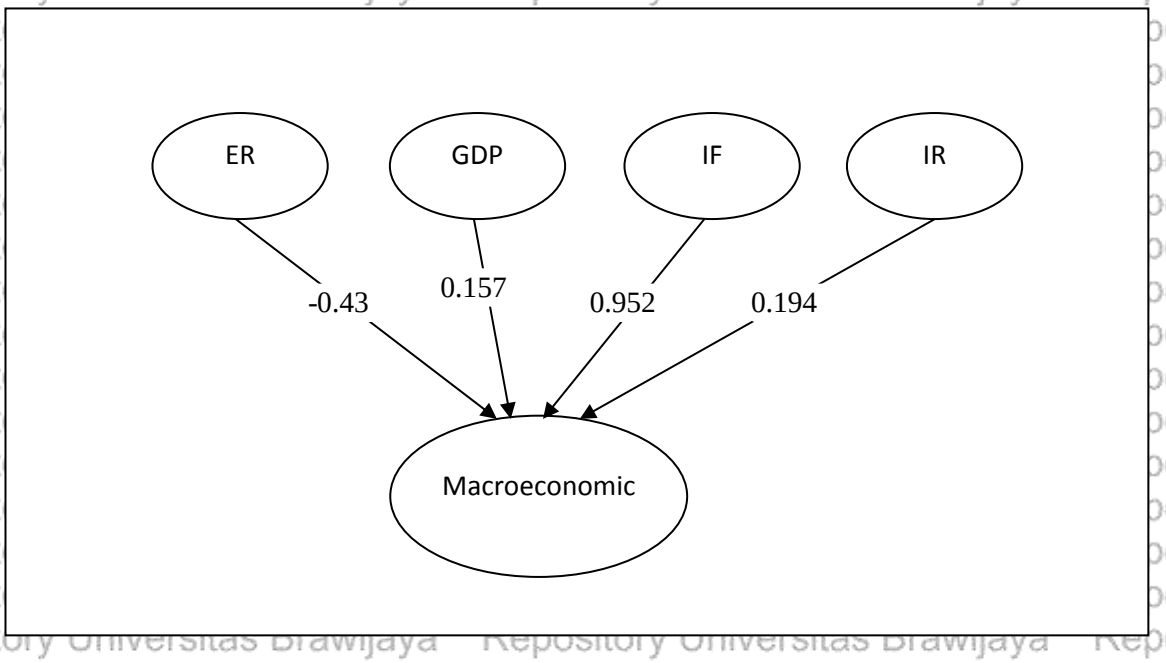


Figure 5.1 Result of Macroeconomic Variable

Table 5.1 and figure 5.1 showed that inflation rate indicator had outer weight 0.648 and t-statistic below 1.96 but the outer loading is still greater than 0.5. It indicated that inflation rate has been valid in measuring microeconomy variable. While Interest rate and exchange rate had outer weight 0.1941 and -0.4028 with t-statistic below 1.96, those are 0.5318 and 0.8486. It means those indicators have been not valid and insignificant in measuring macroeconomic variable, then both indicators have to be dropped out from analysis. Gross Domestic

Product (GDP) had outer weight 0.1569 and t-statistic below 1.96 but the outer loading is near 0.5 so it still can be retained as the indicator of macroeconomic variable. The reason why researcher retain GDP as the indicator of macroeconomic is to avoid the appearance of single indicator for macroeconomic variable. By retaining the GDP macroeconomic still has two indicators as the framer. The formative indicators are not interchangeable. Therefore, deleting an indicator may have adverse consequences for the content validity of the measurement model (Hair, Hult, et al., 2014).

5.1.1.2 Investment Decision Variable

Investment decision variable had measured by using five formative indicators, namely Book value of gross property, plant, and equipment to the book value of the asset ratio (PPE/BVA), market to book value of equity ratio (MVE/BVE), market to book value of asset ratio (MVA/BVA), capital addition to asset market value ratio (CAP/BVA), and capital addition to asset market value ratio (CAP/MVA). Outer weight from investment decision variable is as follows.

Table 5.2 Test of Investment Decision Variable

Investment Decision	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
Y1.1 CAP/BVA	-0.0150	-0.0151	0.0549	0.2735	0.0223
Y1.2 CAP/MVA	0.0108	0.0126	0.0550	0.1971	-0.1755
Y1.3 MVA/BVA	0.1251	0.1693	0.1362	0.9189	0.9311
Y1.4 MVE/MVE	0.8918	0.8482	0.1310	6.8101	0.9984
Y1.5 PPE/BVA	-0.0231	-0.0273	0.0254	0.9094	0.2025

Source: Secondary data processed, 2013

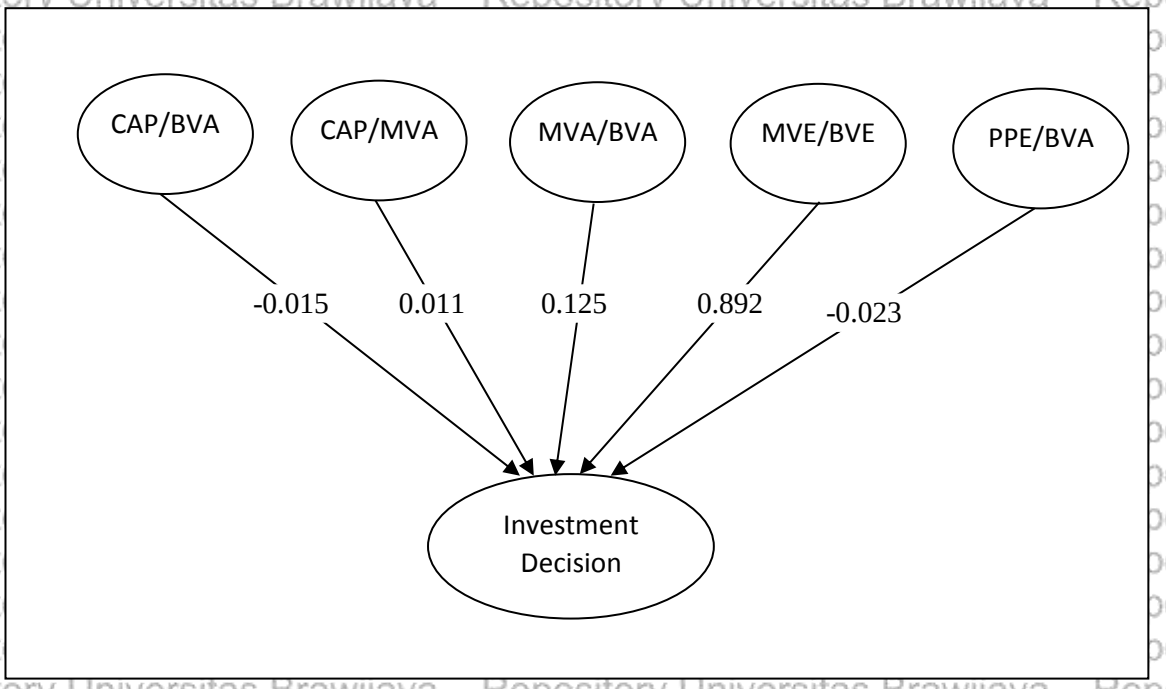


Figure 5.2 Result of Investment Decision Variable

Table 5.2 and figure 5.2 showed that CAP/BVA, CAP/MVA, and PPE/BVA had outer weight -0.0150; 0.0108; and -0.0273 and t-statistic below 1.96, those are 0.2735; 0.1971; and 0.9094. It indicates that those three indicators have been not valid and insignificant in measuring investment decision variable, then those three indicators have to be dropped from the analysis. MVA/BVA had outer weight 0.1251 with t-statistic below 1.96 that is 0.9189. It means that

MVA/BVA insignificant in measuring investment decision variable but still valid to be used as the indicator of investment decision variable because it had outer loading 0.9311, bigger than 0.5. Because of that MVA/BVA is retained in measuring of investment decision variable. MVE/BVE had path coefficient 0.8918 and t-statistic 6.8101 higher than 1.96. It means that this indicator is valid and significant in measuring investment decision variable.

5.1.1.3 Firm Value Variable

Firm value variable had measured by using two formative indicators, namely price to book value ratio (PBV) and price earning ratio (PER). Outer weight from firm value variable is as follows.

Table 5.3 Test of Firm Value Variable

Firm Value	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
Y2.1 PBV	0.9736	0.9674	0.0289	33.7249	0.9996
Y2.2 PER	0.0361	0.0416	0.0365	0.9898	0.7010

Source: Secondary data processed, 2013

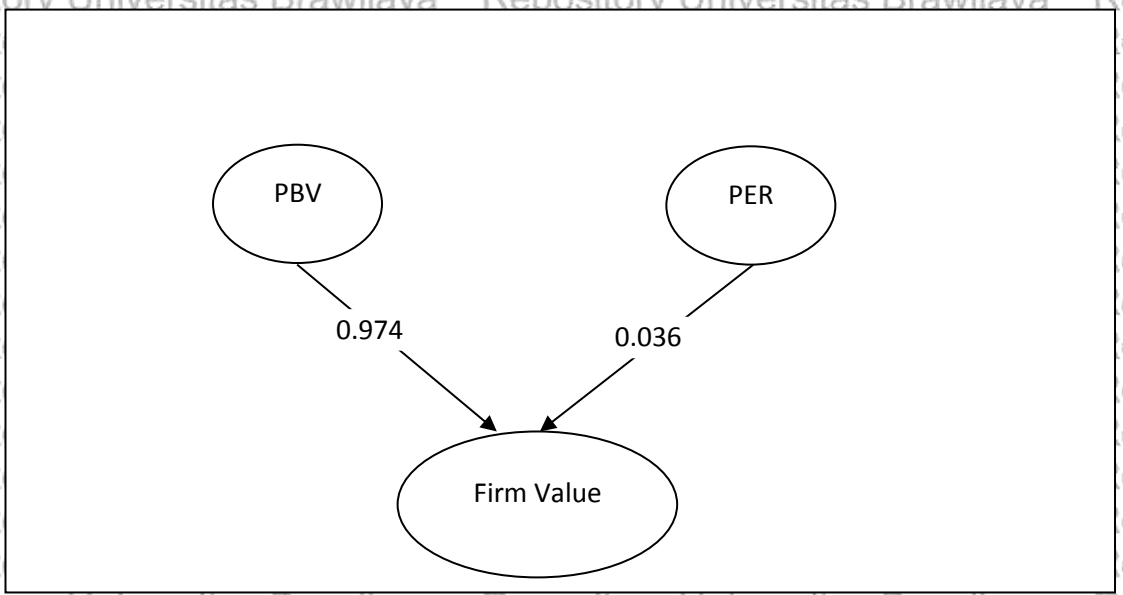


Figure 5.3 Result of Firm Value Variable

Table 5.3 and figure 5.3 showed that PBV had outer weight 0.9736 and t-statistic higher than 1.96 that is 33.7249. It means that this indicator is valid and significant in measuring firm value variable. While, PER had outer weight 0.0361 and t-statistic below 1.96 that is 0.9898. It means that this indicator insignificant in measuring firm value variable, but this indicator had outer loading 0.7010. This outer loading still higher than 0.5 so this indicator still valid and can be retained as the indicator in the measuring of firm value variable.

5.1.2 Outer Model Modification

Some of indicators that is not valid and significant already dropped and deleted from the analysis, so there is a new model that is came from the modification of previous model. The second outer model test with modification of previous model should be done. If indicators that have outer weight and outer loading out of criteria still exist so those indicators should be deleted from the analysis model and do model modification again. Outer model modification should be done until the indicators that have outer weight and outer loading out of criteria do not exist anymore, so outer model modification can be done more than once. The result of outer model modification each latent variable is as follow.

5.2.1 Macroeconomic Variable

According to the model modification macroeconomic variable that previously had measured by using four formative indicators, now it had measured by using two formative indicators, namely inflation rate,

and gross domestic product. Outer weight from macroeconomic variable at the model modification is as follows.

Table 5.4 Fit Model of Macroeconomic Variable

Macroeconomic	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
X1 Inflation	0.8745	0.2232	0.4582	2.7603	0.9575
X2 GDP	0.3003	0.7784	0.3168	0.6554	0.5418

Source: Secondary data processed, 2013

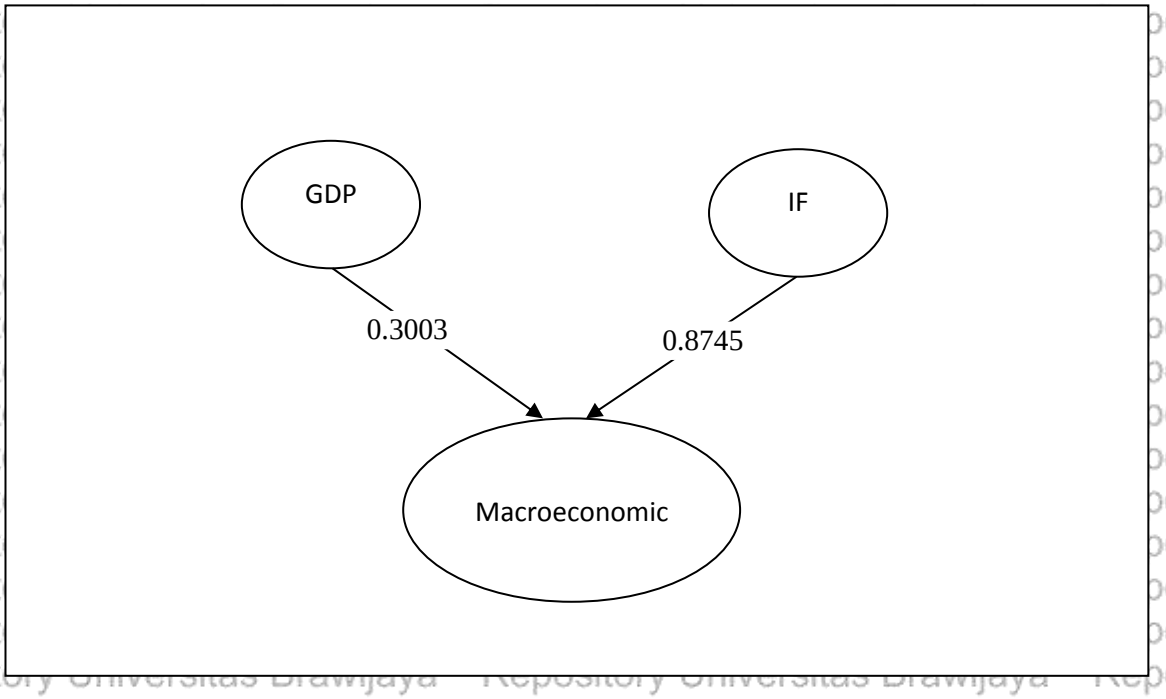


Figure 5.4 Result of Macroeconomic Variable (Fit Model)

Table 5.4 and figure 5.4 showed that Inflation rate had outer weight 0.8745 and t-statistic 2.7603, higher than 1.96. It means that inflation rate is valid and significant in measuring of macroeconomic variable. Gross Domestic Product (GDP) had outer weight 0.3003 and t-statistic 0.6554, below 1.96. It means GDP is insignificant in

measuring of macroeconomic variable but it had outer loading 0.5418, higher than 0.5. It means GDP should be retained and still valid in measuring of macroecnomy variable.

5.2.2 Investment Decision Variable

According to the model modification investment decision variable that previously had measured by using five formative indicators, now it had measured by using two formative indicators, namely market to book value of equity ratio (MVE/BVE) and market to book value of asset ratio (MVA/BVA). Outer weight from investment decision variable at the model modification is as follows.

Table 5.5 Fit Model of Investment Decision Variable

Investment Decision	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
Y1.1 MVA/BVA	0.0992	0.1258	0.1065	0.9315	0.9279
Y1.2 MVE/BVE	0.9087	0.8818	0.1030	8.8230	0.9992

Source: Secondary data processed, 2013

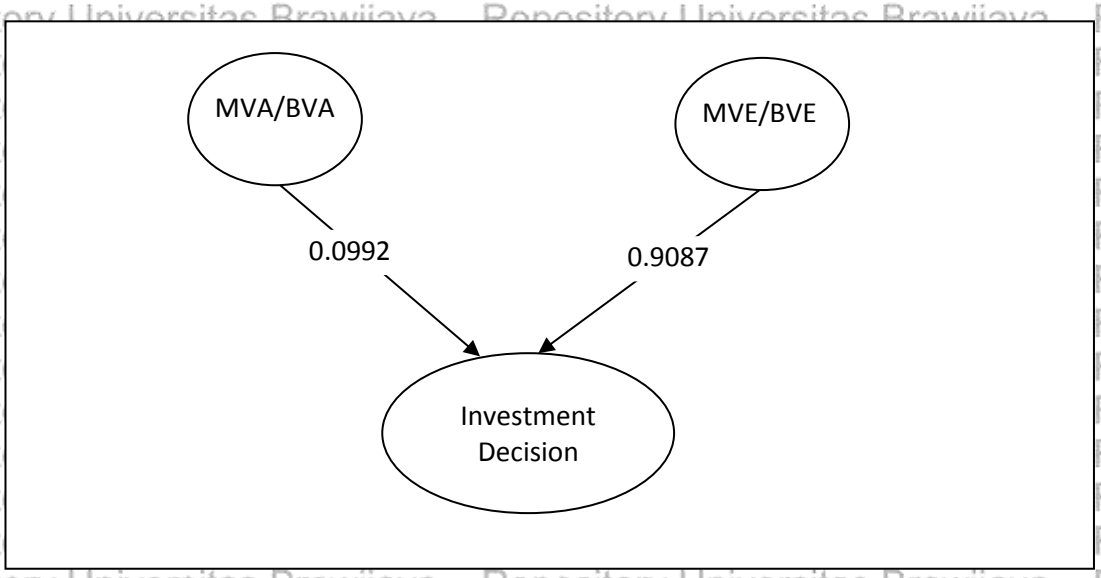


Figure 5.5 Result of Investment Decision Variable (Fit Model)

Table 5.5 and figure 5.5 showed that MVA/BVA had outer weight 0.0992 and t-statistic 0.9315, below 1.96. It means that MVA/BVA is insignificant in measuring of investment decision variable but it had outer loading 0.9279, higher than 0.5. It means MVA/BVA should be retained and still valid in measuring of investment decision variable. MVE/BVE had outer weight 0.9087 and t-statistic 8.8230, higher than 1.96. It means MVE/BVE is valid and significant in measuring of investment decision variable.

5.2.3 Firm Value Variable

According to the model modification firm value variable that previously had measured by using two formative indicators, now it still had measured by using two formative indicators, namely price to book value ratio (PBV) and price earning ratio (PER). It is caused by both of indicators at the previous model are valid and there is not any indicators dropped from the analysis. Outer weight from investment decision variable at the model modification is as follows.

Table 5.6 Fit Model of Firm Value Variable

Firm Value	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Outer Loading
Y2.1 PBV	0.9796	0.9772	0.0204	48.0773	0.9998
Y2.2 PER	0.0297	0.0328	0.0286	1.0385	0.6971

Source: Secondary data processed, 2013

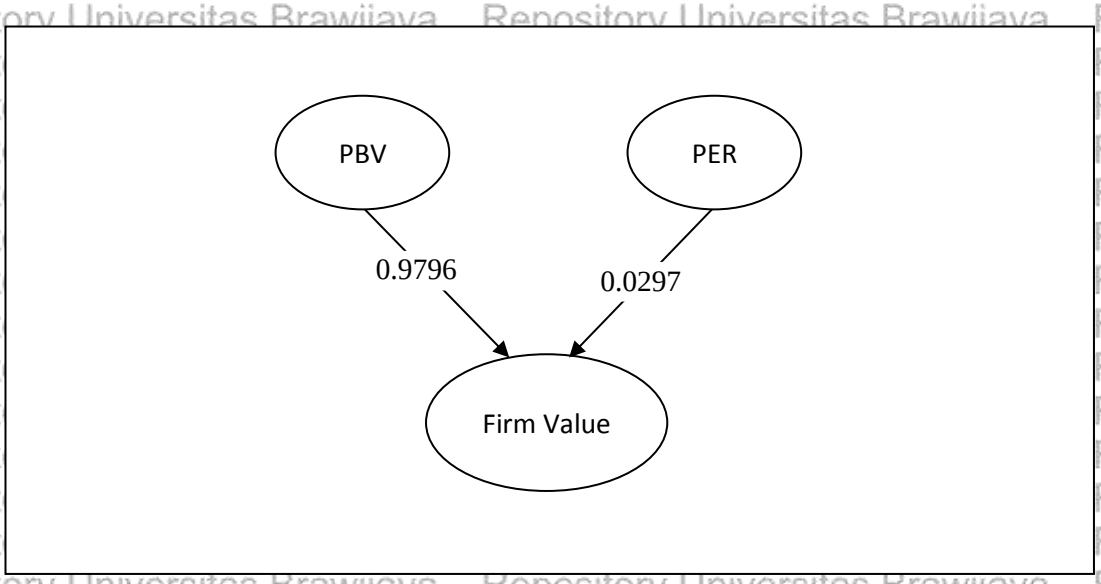


Figure 5.6 Result of Firm Value Variable (Fit Model)

Table 5.6 and figure 5.6 showed that PBV had outer weight 0.9796 and t-statistic 48.0773, higher than 1.96. It means that PBV is valid and significant in measuring of firm value variable. PER had outer weight 0.0297 and t-statistic 1.0385, below 1.96. It means PER is insignificant in measuring of firm value variable but it had outer loading 0.6971, higher than 0.5. It means PER should be retained and still valid in measuring of firm value variable.

5.1.2 Inner Model Test

Inner model testing (structural model) was used to make hypothesis testing in the research. Inner model testing or structural model was done to analyze the relationship between latent variable. This research had three part of hypothesis testing which have relationship with structural model and had one hypothesis testing which is supposed to know the mediating effect of investment decision on the relationship

between macroeconomic and firm value. The result from hypothesis testing are as follows.

Table 5.7 Inner Model Test

	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Statement
Macro=>ID	-0.1624	-0.1909	0.0796	2.0394	Significant
ID=>FV	0.9998	1.0000	0.0010	990.5609	Significant
Macro=>FV	0.0022	0.0045	0.0066	0.3273	Not Significant

Source: Secondary data processed, 2013

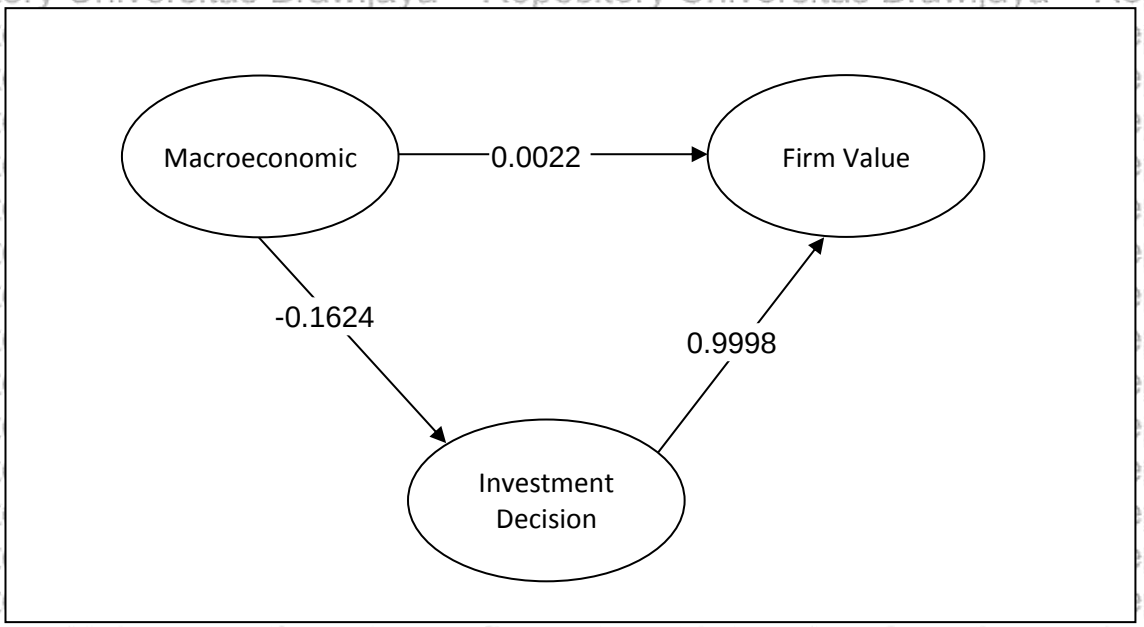


Figure 5.7 Path Diagram

Table 5.7 and figure 5.7 showed a result of hypothesis testing from this research. Then the explanation about the result of hypothesis testing are as follows.

a. The result revealed a statistically significant negative influence between macroeconomic and investment decision. Based on the result of PLS analysis has been known that path coefficient -0.1624 and t-

statistic 2.0394 are greater than 1.96 (p-value < 0.05). Negative path coefficient means the decreasing of inflation rate and GDP (as the indicators of macroeconomic) will be caused the increasing of MVA/BVA and MVE/BVE (as the indicators of investment decision).

b. The result revealed a statistically significant positive influence between investment decision and firm value. Based on the result of PLS analysis has been known that path coefficient of the relationship between invetment decision and firm value is 0.9998 and t-statistic 990.5609 are greater than 1.96 (p-value < 0.05). The positive path coefficient means the greater of MVA/BVA and MVE/BVE (as investment decision indicators) will increase PBV and PER (as firm value indicators).

c. The revealed a statistically insignificant positive influence between macroeconomic and firm value. Based on the result of PLS analysis has been known that path coefficient of the relationship between macroeconomic and firm value is 0.0022 and t-statistic 0.3273 are below 1.96 (p value < 0.05). Insignificant positive path coefficient means the increasing of inflation rate and GDP (as the indicator of macroeconomic) will decrease the PBV and PER (as the firm value indicators)

.

The fourth hypothesis that is analyzed the mediating effect of investment decision variable on the relationship between macroeconomic variable and firm value varible. Firstly researcher analyzes the direct effect of macroeconomic on the firm value to know whether investment decision has mediating role in the relationship between macroeconomic and firm

value. This step is also done to know whether macroeconomic has significant direct effect on the firm value or not. According to the mediating theory, if the variation between macroeconomic and firm value before investment decision mediates the both of its is significant and after investment decision variable mediates the both of its, the variation is become not significant at all so we can conclude that investment decision totally mediates the relationship between macroeconomic and the firm value. Otherwise, if the effect of investment variable only decrease the value of path c (the path between macroeconomic variable and firm value variable is still significant) so we can conlude that investment decision variable partially mediates the relationship between macroeconomic and firm value.

As first step, we test the direct effect of macroeconomic to the firm value to give evidance whether the relationship between macroeconomic and the firm value trully exist or not. The result of the analysis is describe as follows.

Table 5.8 Direct Effect Test

	Original sample (O)	Sample Mean (M)	Standard Error (STERR)	T statistic (|O/STERR)	Statement
Macro=>FV	-0.2904	-0.3133	0.0894	3.2486	Significant

Source: Secondary data processed, 2013

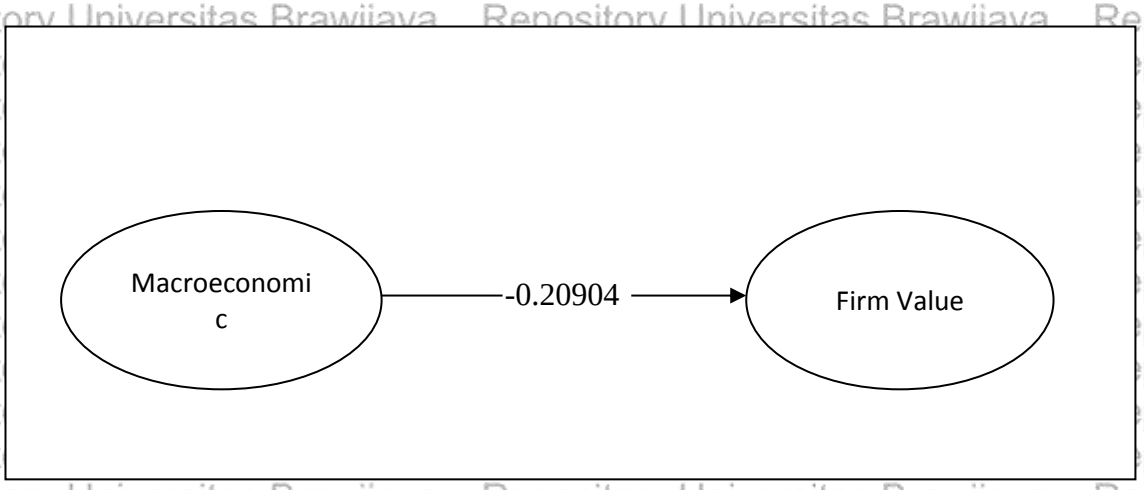


Figure 5.7 Result of Direct Effect Test

Table 5.7 and figure 5.7 showed that macroeconomic statistically had significant negative influence on the firm value. Based on the result of PLS analysis has been known that path coefficient between macroeconomic and firm value is -0.20904 and t-statistic 3.2486 are greater than 1.96 (p-value < 0.05). Negative path coefficient means the decreasing of inflation rate and GDP (as the macroeconomic indicators) will cause the increasing of PBV and PER (as the indicators of firm value).

Sobel (1982) provided an approximate significance test for the indirect effect of the independent variable on the dependent variable via the mediator (Baron and Kenny, 1986). Sobel calculator was used as the tool to measure the significant level of mediating variable. The total effect of indirect effect has t-value 2.04. It means investment decision has significant mediation role in the effect of macroeconomic on firm value. However, the kind of mediation role is full mediation. The direct effect has t-value 3.2486. Then after testing indirect effect, the t-value of direct effect decreases to 0.3273.

5.2 Hypothesis Testing

5.2.1 Macroeconomic and the firm value

The research result has been obtained insignificantly positive influence between macroeconomic and firm value. PLS analysis showed path coefficient is 0.0022 and t-statistic is 0.3273, less than 1.96 (p-value < 0.05). This indicated that the decreasing of macroeconomic condition does not affect the firm value. The result of this study does not supports the previous research by Hsing (2011) which stated that inflation rate has negative relationship with U.S. stock market index. It means if the inflation rate increase so the U.S. stock market index will decrease. Papapetrou (2001) which stated that real stock return responds negatively to the interest rate shocks. The macroeconomic condition will not have effect on the firm value if the companies make a best decision, such as in the middle of economy crush the companies can decide their investment activities so that they still can earn profit although the economic condition is getting worst. The sensitivity of one firm and the other firm to face the macroeconomic changing is different. A firm that has more access to get public credit such as from bank still can finance its operation. This condition does not work at the firm that does not have access to get public credit such as a small companies or new born companies. Paunov (2012) found that firms with access to public funding were less likely to abandon the inovation investments. Younger firms and businesses supplying foreign multinationals or suffering export shocks were more likely to do so.

5.2.1.1 Macroeconomic and the investment decision

The research result has been obtained significantly negative influence between macroeconomic and investment decision. PLS analysis showed path coefficient is -0.1624 and t-statistic is 2.0394, greater than 1.96 (p-value < 0.05). This indicated that when macroeconomic condition goes down which is means inflation rate increase and GDP also increase will cause many firms decrese their investment activity. The result of this study is supporting the previous research by Campello (2008), that find many CFOs saying their investment in attractive projects was restricted during the credit crisis of 2008. More than half of the respondents said they cancelled or postponed their planned investments as the effect of financial crisis at 2008. The result of this study also supports the previous research by Paunov (2012) that find when crisis happened many companies decided to stop on going their investment activities such as innovation project.

5.2.1.2 Investment decision and the firm value

The research result has been obtained significantly positive influence between investment decision and firm value. PLS analysis showed path coefficient is 0.9998 and t-statistic is 990.5609, greater than 1.96 (p-value < 0.05). This indicated that when a firm increase their investment activity so the firm value also increase. The increasing of investment activities means the firm can generate more profit. The increasing of profit will be a positive signal for investors to buy that firm's shares. The increasing of firm's shares indicates that

the value of that firm increases. The result of this study supports the previous research by Zion (1984) which found that the market value of a firm is affected by its research and development and investment policy, and previous research by Uno and Kamiyama (2010) which stated a shorter investment horizon has a positive impact on firm value. The result of this research supports the previous research by McConnell and Muscarella (1985) and Chan et al. (1990) that explore the second stage of Jensen and Meckling's (1976) implication concerning the link between investment and corporate value, and find evidence in support of the hypothesis that investment affects corporate value. Specifically, McConnell and Muscarella find that, on average, the stock market reacts positively to announcements of increases in planned capital expenditures and negatively to decreases in planned capital expenditures. The result of this study does not support the previous research by Hutchinson (2001) which found that investment opportunity set has a negative relationship with the firm performance. If a company make a wrong decision by choosing a non-profitable investment so that company will not earn additional profit but will get lose. Beside that investment decision can have negative relationship with firm value because the profit which will be earn by the company is not as big as with the cost that must be paid by the company to do the investment.

5.2.1.3 Investment decision as mediating variable

The fourth hypothesis that is analyzed the mediating effect of investment decision variable on the relationship between

macroeconomic variable and firm value varible, researcher analyzes the direct effect of macroeconomic on the firm value. This step is done to know whether macroeconomic has significant direct effect on the firm value or not. According to the mediating theory, if the direct effect between macroeconomic and firm value before investment decision mediates the both of its is significant and after investment decision variable mediates the both of its, the direct effect is become not significant at all so we can conclude that investment decision totally mediates the relationship between macroeconomic and firm value. Otherwise, if the effect of investment variable only decrease the value of direct impact (the direct impact still significant) so we can conlude that investment decision variable mediates the relationship between macroeconomic and firm value partially.

As first step, we test the direct effect of macroeconomic to the firm value to reveal whether the effect of macroeconomic on the firm value trully exist or not. According to the PLS analysis result, macroeconomic has significant negative influence on the firm value. It means when macroeconomic condition get worst, indicated by the increasing of inflation rate and gross domestic product increase, the firm value will decrease. The increasing of gross domestic product will cause the firm value decrease because when GDP increased, the demand also increase and if firm cannot fulfill the demand it will drive the increasing of price. The increasing of price is one of the increasing inflation rate. This result supports the previous research by Barrows and Naka (1994) found that macroeconomic has a

significantly negative impact on the hospitality stock returns. Chen (2006b) reported that among macro forces, the monetary policy variable appeared to be the only macro factor that consistently and significantly explained hotel stock returns in China, Taiwan and US. Studies by Fama (1981), Chen et al. (1986), Chen (1991) and Ferson and Harvey (1991) have documented a significant relationship between the US stock returns and real economic variables such as industrial production, real GNP, interest rates, inflation and money supply.

When investment decision appear at the relationship between macroeconomic and firm value, macroeconomic has insignificance positive influence on the firm value. Insignificant positive influence means the changing in macroeconomic condition will not influence the firm value. According to this result can be stated that investment decision fully mediated the relationship between macroeconomic and firm value. It means a company still can overcome the effect of macroeconomic condition which is going worst and retained its value if that firm can make a best investment activity. The best investment decision will still give additional profit for the firm when the economy crush happens.

This research still has several limitation. Those research limitation is follows:

1. This research uses relative a short period of time. This research only take 4 years as the research period.

2. This research only consider the investment decision as the firm's decision to overcome the influence of macroeconomic changing on the firm value.

CHAPTER VI

CONCLUSION AND RECOMMENDATION

A. Conclusion

1. The result revealed statistically significant negative influence between macroeconomic and investment decision. Based on the result of PLS analysis has been known that path coefficient -0.1624 and t-statistic 2.0394 are greater than 1.64 (one tailed). Negative path coefficient means the decreasing of inflation rate and GDP (as the indicators of macroeconomic) will be caused the increasing of MVA/BVA and MVE/BVE (as the indicators of investment decision).
2. the result asserts a statistically significant positive influence between investment decision and firm value. Based on the result of PLS analysis has been known that path coefficient of the relationship between invetment decision and firm value is 0.9998 and t-statistic 990.5609 are greater than 1.64 (one tailed). The positive path coefficient means the greater of MVA/BVA and MVE/BVE (as investment decision indicators) will increase PBV and PER (as firm value indicators).
3. The result revealed insignificantly negative influence between macroeconomic and firm value. Based on the result of PLS analysis has been known that path coefficient of the relationship between macroeconomic and firm value is 0.0022 and t-statistic 0.3273 are below 1.64 (one tailed). Insignificant positive path coefficient means the increasing of inflation rate and GDP (as the indicator of macroeconomic) will decrease the PBV and PER (as the firm value indicators).
4. The result revealed that investment decision can be mediating variable in the relationship between macroeconomic and firm value.

Macroeconomic has significant negative direct influence on the firm value. When investment decision appear at the relationship between macroeconomic and firm value, macroeconomic has insignificance positive influence on the firm value. Insignificant positive influence means the changing in macroeconomic condition will not influence the firm value. According to this result can be stated that investment decision fully mediated the relationship between macroeconomic and firm value. It means a company still can overcome the effect of macroeconomic condition which is going worst and retained its value if that firm can make a best investment activity. The best investment decision will still give additional profit for the firm when the economy crush happens.

B. Recommendation

1. This research uses relative a short period of time of 4 years. This period could be developed longer so will obtain greater sample and diversity. It will affect on result within estimating influence of research variable.
2. Future research is recommended to include some other variables which have influence on firm value such as funding decision, dividend policy, or even use different indicators in the same variable. Additional variables will give comprehensive description and result concerning about firm value.
3. For investor, the result of investment decision can be used as the consideration to assess and evaluate firm value.
4. For firm, investment decision have been proved has effect on firm value so it can be used as information to evaluate firm value. Beside that,

investment decision can be used as the evidence to show that firm still can be retain in the middle of economy crush.

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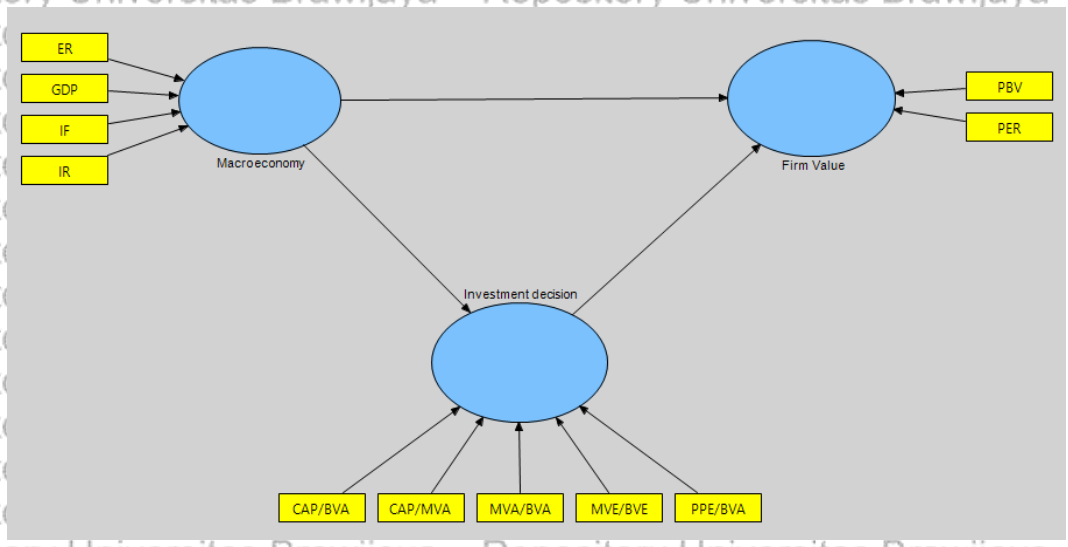
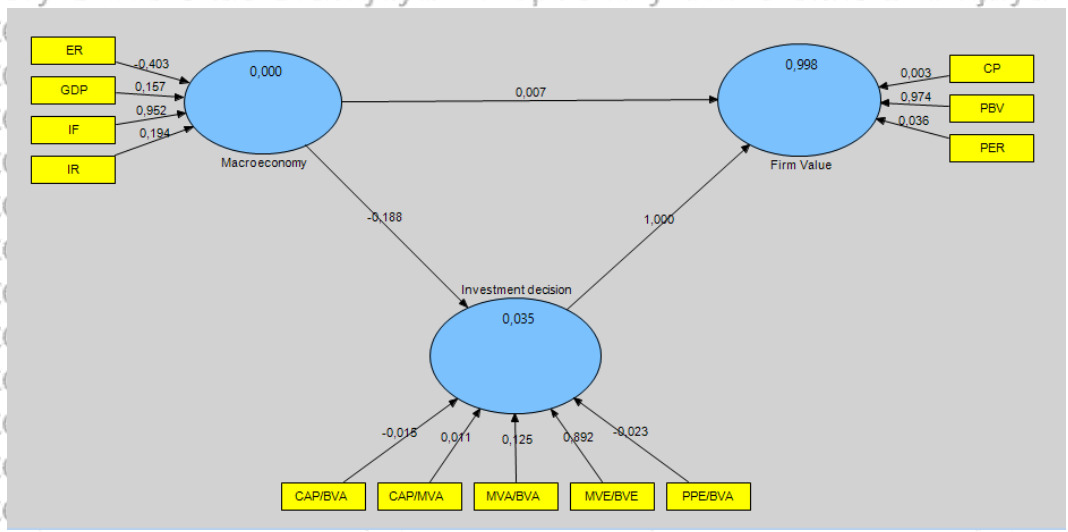
APPENDIX

APPENDIX 1 PLS RESULT

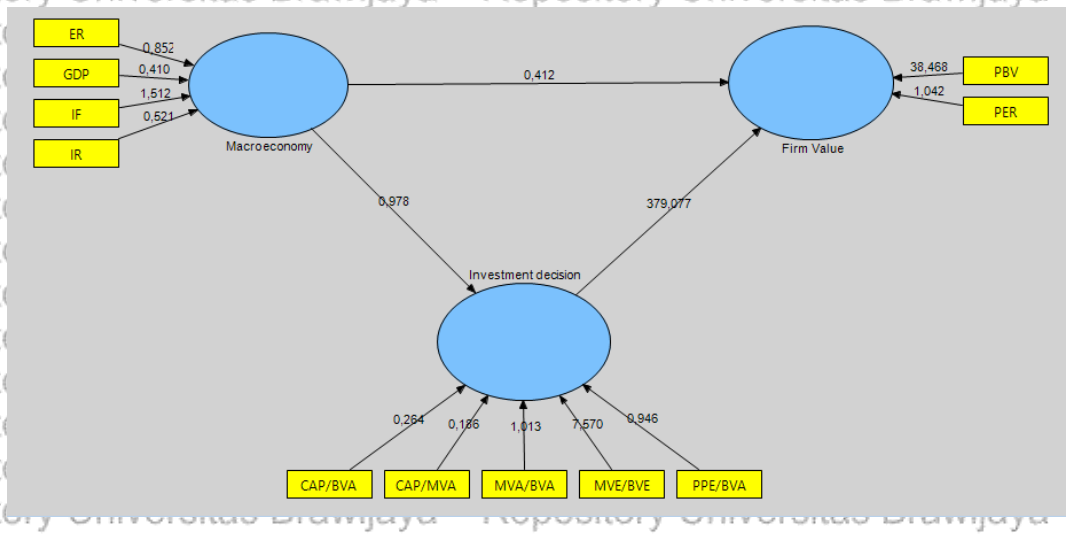
First Model



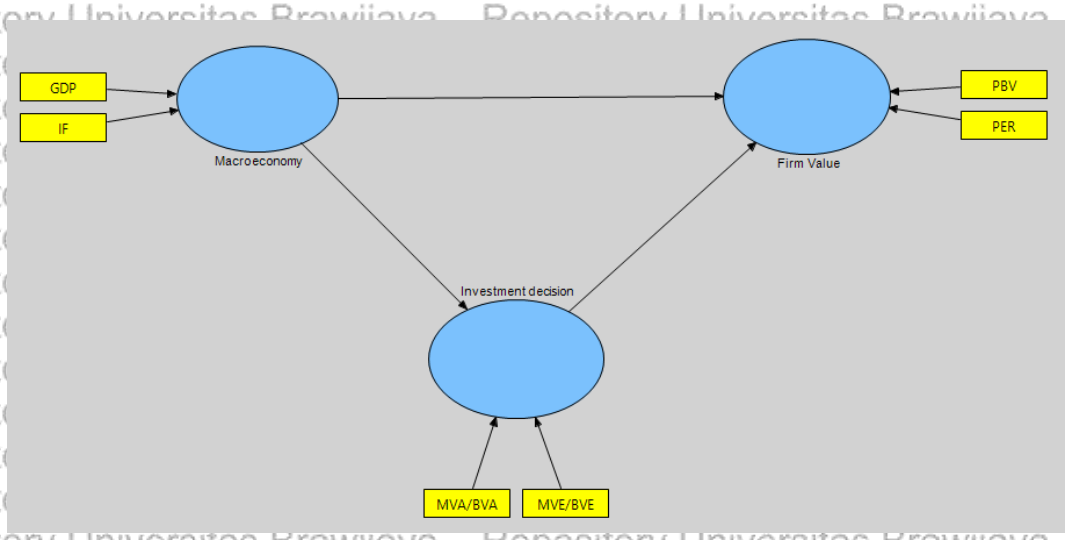
Algorithm Test



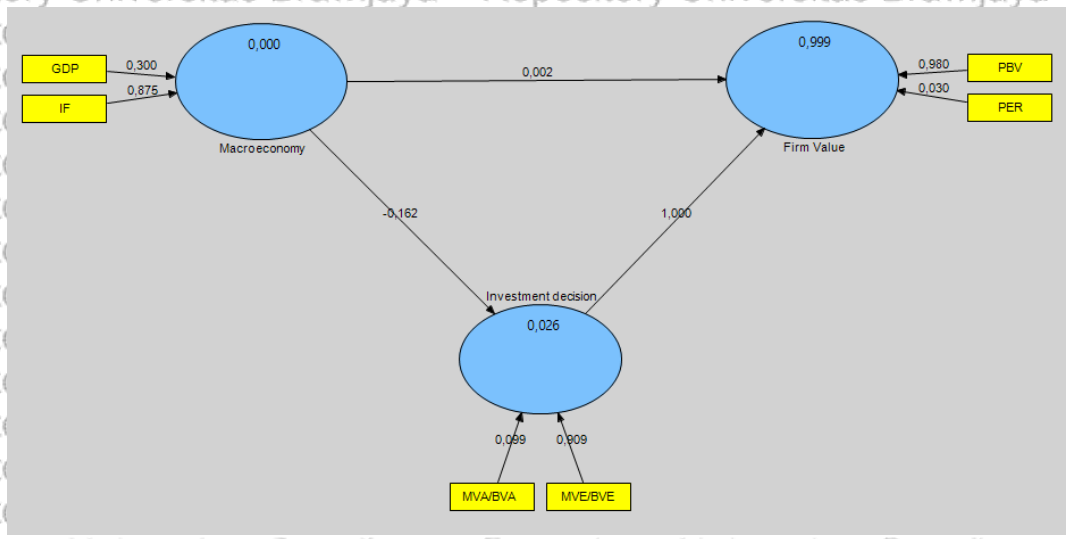
Bootstrapping Test



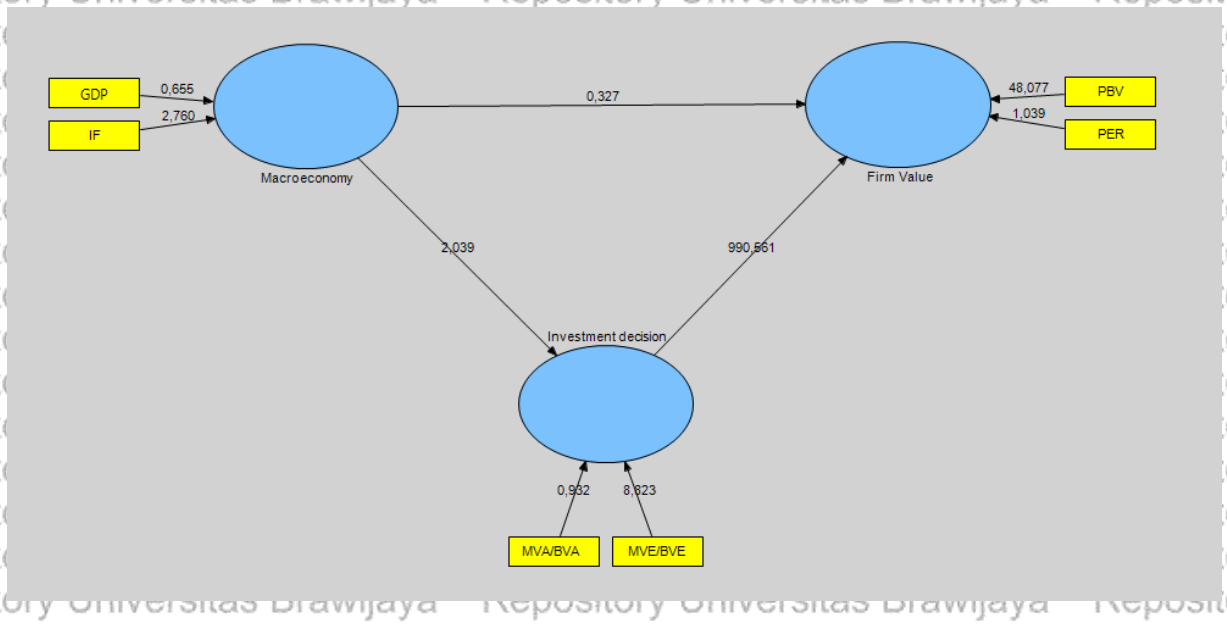
Modification Model



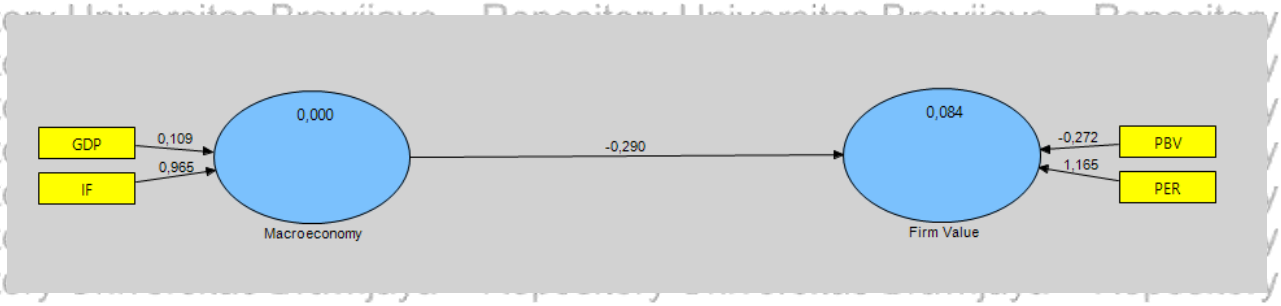
Algorithm Test After Modification



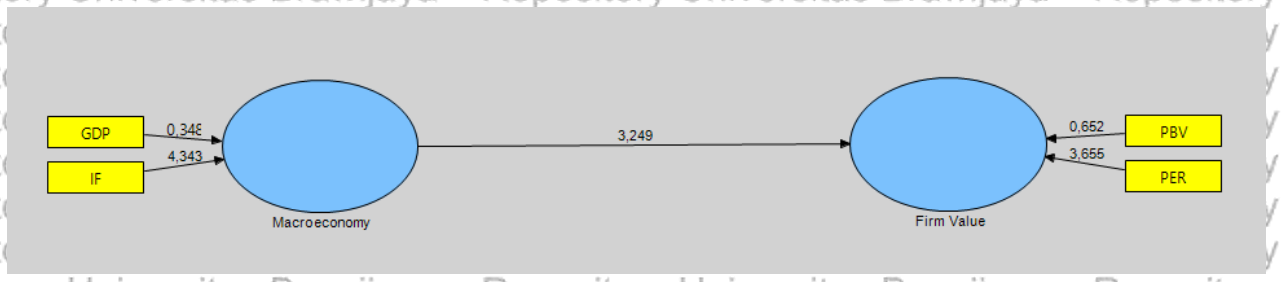
Bootstrapping Test After Modification



Algorithm of Direct Effect Macroeconomy on Firm Value



Bootstrapping of Direct Effect Macroeconomy on Firm Value



APPENDIX 2 List of Companies as Sample

No.	Code	Companies Name	Industy Classification
1.	AMFG	PT. Asahimas Flat Glas. Tbk	Ceramic, Porcelain, and Glass
2.	ARNA	PT. Arwana Citramulia. Tbk	Ceramic, Porcelain, and Glass
3.	ASII	PT. Astra International. Tbk	Automotive
4.	AUTO	PT. Astra Otoparts. Tbk	Automotive
5.	BRAM	PT. Indo Kordsa. Tbk	Automotive
6.	BRNA	PT. Berlina. Tbk	Plastic and Packaging
7.	CPIN	PT. Charoen Pokphand Indonesia. Tbk	Animal Feed
8.	DLTA	PT. Delta Djakarta. Tbk	Food and Beverage
9.	DVLA	PT. Darya-Varia Laboratoria. Tbk	Pharmaceuticals
10.	GDYR	PT. Goodyear Indonesia. Tbk	Automotive
11.	GGRM	PT. Gudang Garam. Tbk	Tobacco
12.	GJTL	PT. Gajah Tunggal. Tbk	Automotive
13.	HMSP	PT. Hanjaya Mandala Sampoerna. Tbk	Tobacco
14.	INDF	PT. Indofood Sukses Makmur. Tbk	Food and Beverage
15.	INTP	PT. Indocement Tunggal Prakarsa. Tbk	Cement
16.	JPFA	PT. Japfa Comfeed Indonesia. Tbk	Animal Feed
17.	KAEF	PT. Kimia Farma. Tbk	Pharmaceuticals
18.	KLBF	PT. Kalbe Farma. Tbk	Pharmaceuticals
19.	LION	PT. Lion Metal Works. Tbk	Metal
20.	LMSH	PT. Lionmesh Prima. Tbk	Metal
21.	MAIN	PT. Malindo Feedmill. Tbk	Animal Feed
22.	MLBI	PT. Multi Bintang Indonesia. Tbk	Food and Beverage
23.	MRAT	PT. Mustika Ratu. Tbk	Consumer Goods
24	SCCO	PT. Supreme Cable Manufacturing and Commerce	Cable
25.	SMGR	PT. Semen Indonesia. Tbk	Cement
26.	SMSM	PT. Selamat Sempurna. Tbk	Automotive
27.	TCID	PT. Mandom Indonesia. Tbk	Consumer Goods
28.	TKIM	PT. Pabrik Kertas Tjiwi Kimia. Tbk	Paper
29.	TSPC	PT. Tempo Scan Pacific. Tbk	Pharmaceuticals
30.	UNVR	PT. Unilever Indonesia. Tbk	Consumer Goods