

THE INFLUENCE OF FINANCIAL CRISIS AND FINANCING DECISION ON INVESTMENT DECISION IN INDONESIAN MANUFACTURING COMPANY

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ABSTRACT

At the time of the global financial crisis, many companies throughout the world were affected, making it difficult for companies to make financing decisions on their activities in conducting business activities and also followed concerns in making investment decisions. This is because at the time of the crisis and after the global financial condition was still not stable.

The purpose of this research is to find out whether the global financial crisis influences company decisions in financing their activities in conducting business activities and in making investment decisions. The number of samples in this study were 94 Indonesian manufacturing companies with 752 data points listed on the Indonesia Stock Exchange. Data used from 2004 to 2011. Data analysis techniques used were Difference-in-means before and after global financial crisis with Stata as the statistical tool.

The result of this research is the global financial crisis have positive and direct impact on investment decision in Indonesian manufacturing companies. Indonesian manufacturing companies also enjoyed surplus of capital inflows from the shock caused by global financial crisis which decrease the debt to equity ratio. But the opposite, financing decision have indirect and negative effect on investment decision in Indonesian manufacturing companies.

INTRODUCTION

In past 10 years, the biggest economic crisis in the world happened. The global financial crisis happened in United States of America because of low quality housing credit crisis or people known as *subprime mortgage* loan which actually began to be seen at the end of 2006. Basically, creditor will conduct feasibility analysis such as credit score to determine whether the debtor is eligible for a debt loan or not. But in the *subprime mortgage* case the creditors compete to give housing loans to the debtor who have

credit score lower than the standard score. Beside the credit score, *subprime mortgage* loan can be seen from several other things such as high *Loan to Value* ratio, incomplete documents, high *Debt to Income* and *Payment to Income* ratio (Subprime Mortgage AS, 2007).

It turned out that the *subprime mortgage* case was not finished there but instead affected financial sector to cause a crisis where various kind of international financial institutions were undoubtedly reputable such as Lehman Brothers and AIG

bankrupt in 2008. Because the situation at that time was getting worst then the impact was not only felt by the economic sector in the United States of America, but also in almost all countries around the world marked with the stock price was collapse and also many financial institutions in many countries around the world was closed because of bankruptcy. This happened because the economy in almost around

world is connected to United States of America.

In figure 1.1 below, according to Financial Crisis Inquiry Commission (2011), majority of subprime loans came from securitized. The subprime shares reached its peak in 2006 where the shares amounting to 23.5 percent of the total mortgage market and decreased dramatically in 2007 amounting to 9.2 percent and the lowest occurred in 2008 amounting to 1.7 percent.

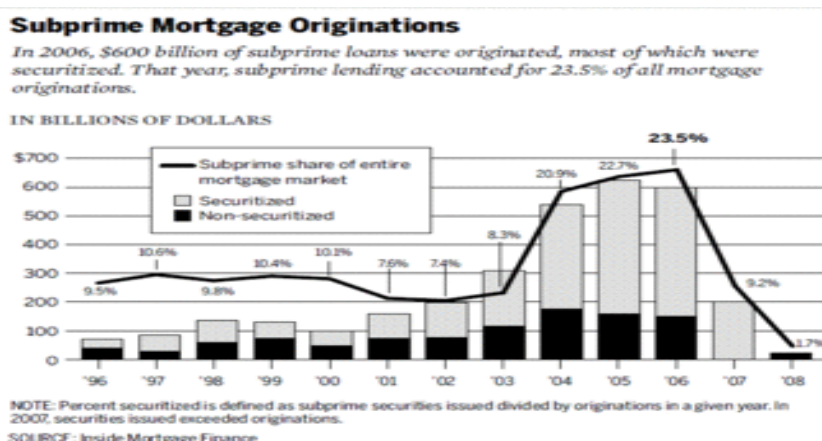


Figure 1.1 Subprime Mortgage Originations
 Source: Financial Crisis Inquiry Commission Report

Figure 1.1 is data taken based on United States. According to figure 1.1 above and supported by Duchin, Ozbas, and Sensoy (2009), the sign of the crisis already there since end of 2006 and from there it getting worst and significantly decreased until the lowest happened in 2008. Before crisis period that used in this research started from year 2004 until 2007 and after crisis period that used in this research started from year 2008 until 2011.

But the other issues that happens during global financial crisis is many company afraid to do the investment. Most of the company have perception when crisis happens then every investment decision

taken will be ended as loss. Also the financing decision used to fund company activities quite hard to decide whether using company internal funds, using external funds such as debt, or using mix internal and external funds to finance company activities.

Figure 1.2 shows economic growth percentage in Indonesia before global financial crisis happened and 2 years after the crisis. Based on the figure 1.2 below, the economic growth percentage starts from year 2004 which is before global financial crisis happened until year 2009 which is 2 years after the crisis economic growth in Indonesia was quite stable.

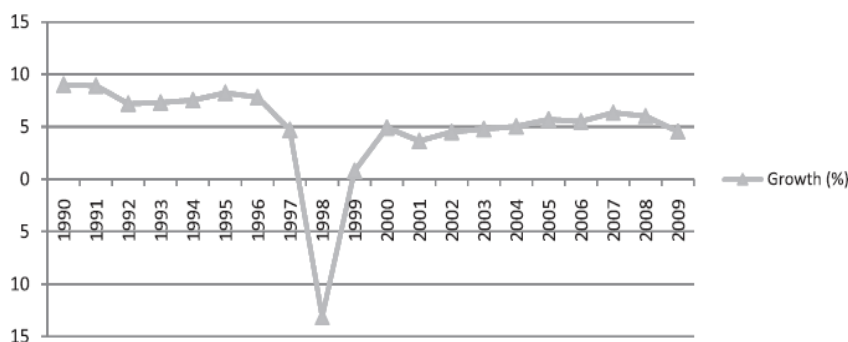


Figure 1.2 Economic Growth Percentage in Indonesia
Source: CEIC and WDI (in Hill and Basri, 2011)

Because at that time, impact of the global financial crisis was not too much felt by the Indonesian society. In this study, researcher is going to show the Indonesian manufacturing company financial statements before and after the global financial crisis and the impact on financing decision and investment decision taken by manufacturing company operating in Indonesia before 2004 which researcher decided as the year before crisis in this research.

LITERATURE REVIEW

Financing Decision

Financing decision refers to how company finance their activities. There are two methods that company can choose how to finance company activities. First method is using the internal source such as profit or retained earnings to financing company activities and the second method is using fresh money from external funding such as debt. This action requires important role of managers to minimizing the financial costs and maximizing shareholders equity. According to Myers and Majluf (1984, in Hsu, K., & Hsu, C., 2011) when a company making financing decision by using external funding, then shareholders will think that the company is rated overvalued. With that perception, shareholders will prefer sell their stocks and value of the company will decrease.

Other financing decision perspective came from Korajczyk and Levy (2003), they prefer company which have limited assets

better to finance company activities using internal funding or company equity for the purpose of minimizing debt and also minimizing risk of default on debt. The company which categorized as large companies and have more than enough assets better to finance company activities using external funding such as debt (Korajczyk and Levy, 2003), this statement also supported by Gertler and Gilchrist (1994, in Kudlyak and Sanchez, 2016) argued that large companies will have more capability to make debts than small companies.

Investment Decision

Decision making always aims to get return of investment as high as possible in the future, but to get the expected return company as an investors need to conduct research about cash inflow and cash outflow also the calculations about when and where to invest also how much capital or money they should invest. Besides, investment is not only in the form of money but also in other assets forms such as expansion and inventory investment. Investment decision basically is an expectation of someone about what will happen in the future.

According to Higgins (2006) stated that to know company financial condition is important to analyze financial ratios from the company financial report. Other additions come from Siallagan and Machfoedz (2006) that stated about the use of financial ratios to predict the future condition and become a guide for the

investors.

According to Keynes and Fisher (1936 and 1930, in Eklund, 2013) stated that investments will be made until the NPV (Net Present Value) of expected revenues in the future at certain margin equal to the opportunity cost of capital. From investment theory above, we know that net present value become the standard requirement for financial aspect in the company.

Global Financial Crisis

Economy crisis in 2008 or mostly known as Global Financial Crisis is the biggest economic crisis in the world happened in the past eight decades. It happened because of the housing credit loans in United States of America called *subprime mortgage* where the creditor take high risk to give the loans to the debtor who are below the requirement standard to take the credit.

Based on Bank Indonesia report on Chronology and Background of Global Financial Crisis (Bank Indonesia, 2009), is as follows:

In August 2007, BNP Paribas unable to disburse securities related to *subprime mortgage*. The Fed and ECB injected fund to each market at USD 24 billion and almost 95 billion euros. The Fed also lowered the interest rates to 4.75%

In October 2007, bank and financial institutions such as Citibank suffered huge losses. Bank of England injected fund of 10 billion pounds because of huge amount of bank withdrawal (bank run). Again, the Fed lowered the interest rates for 0.25% to 4.5%

In December 2007, the Fed made partnership agreement with five central banks namely Bank of Canada, Bank of England, ECB, Bank of Japan, and Swiss National Bank. Again, the Fed lowered the interest rates for 0.25% to 4.25%

In January-March 2008, global stock market down and again The Fed cut the interest rates for 2% to 2.25% and continue fund injection. One of the biggest investment bank named Bear Stearns acquired by their

competitor JP Morgan Chase because of huge losses.

In September-October 2008, US government decided to save Fannie Mae and Freddie Mac, which became the biggest bailout program in US history so far. Lehman Brothers declared bankrupt, AIG also collapsed. The Fed decided to give bailout of USD 85 billion that gave bad impact at many sectors in US and Europe. At last, US with England and Germany government declared financial sector rescue package worth total USD 700 billion and 100 billion pounds plus five bank central lowered their interest rates for 0.5%

In November-December 2008, Ukraine, Pakistan, and Iceland received financial assistance from IMF (International Monetary Fund), followed by Hungary and Belarus. US officially declared in recession by NBER (National Bureau Economic Research) and The Fed continue lowered interest rates until 0.25%, which is the lowest level in history.

In January-February 2009, Unemployment rates in US 7.2% the biggest in last 16 years. China exports are reported experienced the biggest decline in past ten years. England officially declared to be in a recession.

At the end, US senate approved economic rescue package worth USD 838 billion and in the same month US Treasury announced a bank rescue package worth USD 1.5 trillion.

Other way to recover from crisis period, central bank also purchase long term securities from the government and other crucial securities available in the market with the purpose to stimulus economy become better specifically increasing money supply in the society and also lowering the interest rates is known as quantitative easing. According to Christensen and Rudebusch (2012, in Christensen and Gillan, 2018) quantitative easing by the FED seems success to reduce the impact of mortgage rates.

According to Gertler and Gilchrist

(1994, in Kudlyak and Sanchez, 2016), because at that time hard to make consistent predictions to boosting company financial, then large size company did contract a lot of small company as response of limited cash and shocked about the crisis.

Relationship between Variables

Relationship between Global Financial Crisis and Financing Decision

During the global financial crisis, a lot of companies and business owners very confused to make a decision about financing company activities at that time because the situation continuously getting worst. According to Duchin, Ozbas, and Sensoy (2009), company with high cash reserves feel the impact of smaller declining when crisis happened because the company can finance their activities using internal equity while company with limited cash reserves feel the impact of higher declining when crisis happened because the company need to finance their activities using external debt which there also high possibility firms could not pay off their short-term debts.

Naturally global financial crisis came from the financial industry, so global financial crisis definitely has an impact on financing decision. Hoang et al. (2018) recorded changes in the micro company which related to the crisis. According to Hoang et al. (2018) found even though having indirect and not systematic relationship with the cause of the crisis, micro company in French reduce their debt after the crisis happened and trying to use internal finance from equity and profits. Beside that they also start to sell unnecessary and unused assets then focusing more on their basic competence.

Relationship between Global Financial Crisis and Investment Decision

When global financial crisis happened a lot of investors and business owners hesitate to do the investment because situation at that moment continuously getting worst. According to Campello,

Graham, and Harvey (2009, in Duchin, Ozbas, and Sensoy, 2009) company ignored many profitable investment opportunities during the crisis because of the external cost increased. It strengthen the assumption that when global financial crisis happened, it influence investment decision making taken by the company at that time.

According Fernandes and Ferreira (2017) there is changes in the company behavior to do the investment in human capital after the crisis happened. By using employer and employee data in Portugal, they found that after the crisis company prefer to use contractual labor that permanent labor, company prefer to play safe and reduce long-term commitments. Similar way of thinking can be used in investment decision because most of the company prefer to buy long-term assets that also required long-term commitments. In other words, we can assume that global financial crisis have direct relationship with investment decision.

Duchin, Ozbas, and Sensoy (2009) also provided information about how global financial crisis affect investment decision in company with different cash reserves. Gonzalez (2016) also provided other proof between global financial crisis and investment decision through creditor rights, he shows in country which has strong creditor rights then company prefer to reduce their investment decisions. This due to creditors monitoring effect and the use of debt agreement. In short, in strong creditor rights country companies prefer to lower their investment decision because creditors constrain them to take high risks investment, especially during and after the crisis.

Relationship between Financing Decision and Investment Decision

Financing decision and investment decision are two different things. Financing decision is about how the company finance the activities, whereas investment decision is about why managers want to spend company assets. According to Fisher's

Theorem in Kaaro (2001), mostly managers will prioritize more on investment decision rather than financing decision. In additional, pecking order theory (Myers, 1984; Myers and Majluf, 1984, in Hsu, K., & Hsu, C., 2011) argue that both of financing decision and investment decision have purpose to maximize profits for companies and shareholders.

There are many researches that explains about relationship between financing decision and investment decision. Most of them using agency theory that can cause negative relationship between financing decision and investment decision.

Financing decision usually explained by using debt to equity ratio and related with the risks borne by the company. The higher the debt or loan made by company then the risk will be higher too. So, if company debt is too high then shareholders are trying to detain management from doing too many investment because it will only increases the risks and sacrifice shareholders money.

High debt to equity ratio also can lower the firm value, especially when company do not give any dividend to shareholders. This also related to low shareholders protection in developing countries like Indonesia. According to Porta et al. (2012) in low shareholders protection countries majority shareholders may decide based on their own interest including taking risky investment decisions that may be also sacrifice minority shareholders money, that's why lower firm value given by minority shareholders. Therefore, financing decision may have indirect relationship with investment decision.

Company with high debt to equity ratio also will get extra monitoring from the

creditors through debt agreement. The use of debt agreement also proved importance of investment decision, because company will not be able to take risky investment decision if the creditors think it too risky for them. This also provide another relationship between financing decision and investment decision.

Relationship between Global Financial Crisis and Indonesian Economic

During global financial crisis, many countries around the world experienced economy recession. But in that time, it did not happened in Indonesia. Indonesian economic growth is remained stable during the global financial crisis as shown through figure 1.2 (Economic Growth Percentage in Indonesia) in chapter 1.

According to Hill and Basri (2011), there are some factors that can explain why when global financial crisis happened it does not really affect Indonesian economic growth. First, there is good management from the governments and policymakers where they worked together to review and revise some regulations especially banking systems regulations to minimize the risks. Second, Indonesia at that time is smaller participant in global trade and also the financial sector not influenced by United States because virtually it did not have any connection. Third, Indonesian economy at that time influenced by strong Chinese economy because China economy influence and support economy in Indonesia. This provide that global financial crisis does not really affect Indonesian economic since the root of the crisis came from United States and at that time economy in Indonesia mostly influenced by China economy.

Research Framework

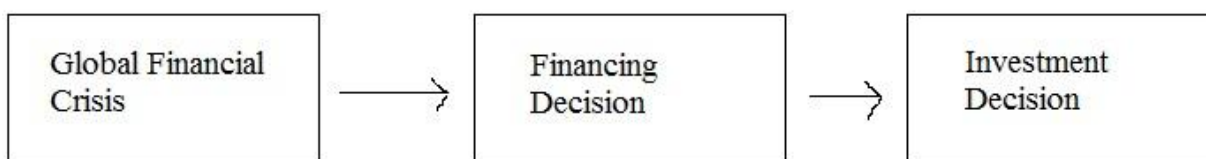


Figure 2.1 Research Framework

Hypotheses

Based on Research Framework above, there comes hypothesis as follows:

H1: Global Financial Crisis influence Financing Decision in Indonesian Manufacturing Company

H2: Global Financial Crisis has positive influence on Investment Decision in Indonesian Manufacturing Company

H3: Debt-Equity Ratio influence Investment Decision in Indonesian Manufacturing Company

METHODOLOGY

Research Design

This research is using quantitative methods which leads to objective measurement. The method using in this research called differences in differences, where mainly compare the amount of investment made and capital budgeting decisions of each company in the data. Data that will be used in this research study obtained from registered Indonesian manufacturing company in Indonesia Stock Exchange chosen as this research object study. The data that used from year 2004 until 2011 with 2008 being the cutoff for global financial crisis, following Duchin, Ozbas, and Sensoy (2009). Therefore, each data start from year 2004 until 2007 are considered as before crisis period and each data start from 2008 and so on are considered being in the crisis period. Researcher is going to conduct two different tests, first is mean comparison test of each variable (investment decision, financing decision, and other control variables) and second is panel regression with firm fixed effect for each variable.

The variables of interests are investment and financing decision before and after the crisis. Other variables including firm size, profitability (ROA), and investment opportunity (Q) were added as control variables. Statistical tool in this research is using Stata. After the result from

statistical test come out then the researcher is going to explain the result and then make the conclusions. Regression model is as follows:

$$ID = \beta_{DER} + \beta_{SIZE} + \beta_{ROA} + \beta_Q + \beta_{GFC*DER} + \beta_{GFC*SIZE} + \beta_{GFC*ROA} + \beta_{GFC*Q} + e$$

Where ID means investment decision, β means coefficient, DER means debt-equity ratio, SIZE means company scale based on total assets, ROA means return of assets, Q means investment opportunity, GFC*DER means debt-equity ratio after global financial crisis happened, GFC*SIZE means company scale after global financial crisis happened, GFC*ROA means return of assets after global financial crisis happened, GFC*Q means investment opportunity after global financial crisis happened, e means constants.

Variables Identification

This research using two exogenous variables, three control variables, and one endogenous variable. The details of the variables are as follows:

1. Exogenous variable: Global Financial Crisis and Financing Decision
2. Control variable: Firm Size, Tobin's Q, and Profitability
3. Endogenous variable: Investment Decision

Operational Definition and Variable Measurement

The operational definition of each variable used in this research is as follows:

Global Financial Crisis

Global financial crisis is one of the biggest crisis in past few decades. In this research this variables used as a dummy variable to mark year before crisis and year after crisis happened, where '0' explained year before crisis happened and '1' explained year after crisis happened.

Financing Decision

Used to know the proportion of debtors and shareholders that influence

financing decision by Indonesian company before the crisis happened and after the crisis happened. In this case, researcher using debt to equity ratio to measure the company funding is mostly using external debts or equity.

Formula: $DER = \text{Total Liabilities} / \text{Total Equity}$

Firm Size

In this research, researcher using firm size as a control variable. Measurement of firm size can be seen through how much assets the companies had. To make the digit number of total assets smaller, then LN formula used.

Formula: $SIZE = \text{Ln}(\text{Total Assets})$

Tobin's Q

In this research, researcher using Tobin's Q as a control variable to know the investment opportunity at that time. Measurement of Tobin's Q can be calculated by dividing market value with total assets of the company. Tobin's Q ratio is between 0 to 1, when the ratio is more than 1 means that firm categorized overvalued.

Formula: $\text{Tobin's Q} = \text{Market Value} / \text{Total Assets}$

Profitability

In this research, researcher using profitability as a control variable. Measurement of Tobin's Q can be seen through two sides. First is using ROA and second is using ROE. ROA can be calculated by dividing net income with total assets of the company. ROE can be calculated by dividing net income with total equity of the company.

Formula: $ROA = \text{Net Income} / \text{Total Assets}$

Investment Decision

Investment decision in this research aim to see how much money that manufacturing companies in Indonesia invest before and after crisis happened. To make the digit number of total money invested smaller,

then LN formula used.

Formula: $ID = \text{Ln}(\text{Investment})$

Type and Source of Data

This research study is using quantitative data. According to Sugiyono (2013: 13) quantitative data is variable that have characteristic in the form of numbers. Specifically the quantitative data used in this study is panel data. According to Basuki (2016) panel data is combination between *time series* data and *cross sectional* data. Source of data used in this study is secondary data. Data used in this study obtained from previous year data of Indonesian manufacturing company that available in Indonesia Stock Exchange.

Data Collection Method

Data collection method used in this research study is previous year data of Indonesian manufacturing company available and published in Indonesia Stock Exchange. Data used is data before and after global economy crisis period.

Population

According to Sugiyono (2011:117-118) population is general area consist of subject and object that have specific characteristic and quality determined by the researcher to be examined and drawn the conclusion. Population used in this research study is Indonesian manufacturing companies that registered in Indonesia Stock Exchange.

Sample

Sample is part of population (Sugiyono, 2010:215). This research is using data of 94 Indonesian manufacturing company registered and published on Indonesia Stock Exchange. The data used is 8 years period from year 2004 until 2011 which covers years before crisis happened and years after the crisis happened. Sample used in this research must shows companies Debt to Equity Ratio (DER), Return of Assets (ROA), market value, and total investment. It is creating total of 752 data points for the

panel regression.

Sampling Technique

This research study is using convenience sampling. According to Zikmund (1997, in Saleem and Rasheed, 2014) convenience sampling is one of sampling technique that collect relevant information from sample that are available. Researcher determine 2008 as the year of crisis happened. One year period start from determination is period determines the financial phenomenon. Then use equal period of time before and after crisis for comparison.

Data Analysis Technique

The data analysis technique used in this research study is panel data analysis by using Stata as the statistical tools. There are three methods that can be used to estimate the panel data, the methods are random effect model, fixed effect model, and pooled least squares model (Hill, Griffiths, and Lim, 2011). But in this research, researcher are using fixed effect model in panel regression.

Difference-in-means Before and After Crisis

In order to understand companies' behavioral changes before and after the crisis, researcher conduct a difference-in-means testing using paired t-test by comparing the difference in the means of each variables. To conduct this test, another dummy variable was created, before with

value = 1 for periods between 2004 and 2007. Using the before and after dummy, researcher calculated the means of each variables before and after the crisis and then use t-test to compare them. Using the standard mean-comparison paired t-test, with the null hypothesis is

$$H^0: \mu_k \text{ before crisis} = \mu_k \text{ after crisis}$$

Where k is number of variables, including Investment Decision (ID), Financing Decision (FD), Size (SIZE), Profitability (ROA), and Investment Opportunity (Q). For the decision rule, the cut-off is $t = 1.984$ with 95% confidence interval and (376) n-1 degrees of freedom.

DISCUSSION AND ANALYSIS

Description of Research Data

This research uses differences-in-differences method, where we mainly compare the amount of investments made, as well as capital budgeting decisions of each company provided in the data. After eliminating for companies with incomplete data, they were left with 94 firms over 8 year period (2004-2011), creating a total of 752 data points for panel regression. The variables of interests are investment and financing decision before and after the crisis. Other variables including firm size, profitability (ROA), and investment opportunity (Q) were added as control variables.

Descriptive Statistics

Table 1: Descriptive Statistics Table

	Mean (μ)	Standard Deviation (σ)	t-value ($\mu=0$)
2004-2011			
Investment Decision	24.5666	2.0975	321.1734
Debt-Equity Ratio	3.0162	21.3669	3.8710
Size	27.5302	1.5227	495.7950
ROA	0.0516	0.2056	6.8760
Q	0.0868	1.4026	16.9168
Before Crisis			
Investment Decision	12.1201	12.2151	27.2093
Debt-Equity Ratio	1.6558	17.7334	2.5605
Size	13.6692	13.7179	27.3254

ROA	0.0175	0.1408	3.4021
Q	0.3841	0.8893	11.8221
After Crisis			
Investment Decision	12.4465	12.5418	27.2141
Debt-Equity Ratio	1.3604	12.1073	3.0812
Size	13.8604	13.9133	27.3194
ROA	0.0341	0.1538	6.0788
Q	0.0483	1.2441	10.6211

Variables Descriptive Statistics & Normality

According to table 1 above, investment decision mean of Indonesian manufacturing companies before crisis is 12.1201 increased to 12.4465 after crisis. Debt to equity ratio mean before crisis is 1.6558 decreased to 1.3604 after crisis. Company size mean also increased, before crisis is 13.6692 became 13.8604 after crisis. Profitability (ROA) mean before crisis is 0.0175 increased to 0.0341 after crisis. Last is

investment opportunity (Q) mean decreased from 0.3841 before crisis became 0.0483 after crisis.

The data is not normally distributed. In each variables the t-value is more than 1.962 which means that H_0 is rejected. In short, there is slight noticeable differences in the mean of each variables before and after global financial crisis but hardly significant.

Difference-in-means Before and After Crisis.

Table 2: Difference in means before and after crisis

	Before Crisis	After Crisis	Growth	t-Statistic (difference)
Investment Decision	12.1201	12.4465	Increase	-0.3628
Debt-Equity Ratio	1.6558	1.3604	Decrease	0.3754
Size	13.6692	13.8604	Increase	-0.1906
ROA	0.0175	0.0341	Increase	-2.1573
Q	0.3841	0.0483	Decrease	-1.6409

From table 4.2 above, there are small difference, although statistically insignificant differences between the means of each variables such as increase in investment decision and decrease in debt-equity ratio. The increase in investment decision seems to be counter of all theories that researcher found about the global economic condition, however this provides a proof of cash inflow from United States Quantitative Easing measures. Basically quantitative easing happens when central bank purchase long term securities from the government or other crucial securities available in the market with purpose to stimulus economy become better specifically increasing money supply in the society and lowering the interest rates. According to Christensen and Rudebusch

(2012, in Christensen and Gillan, 2018) quantitative easing by the FED seems success to reduce the impact of mortgage rates.

Despite the increase in investments, Indonesian manufacturing companies seems take a similarly financing decision approach like European and American external financing because their debt to equity ratio is decreased. The reduction in debt to equity ratio could be a result of the company's more conservative external financing policy, or it could came from the bank's supply crunch (Hill and Basri, 2011).

Although there are only small difference but there are increased in company investment decision, size, and profitability. Also decreased in debt to equity ratio and

investment opportunity. This is a good result because this proves that Indonesia still has resistance towards global financial crisis and

the capital inflow seen in manufacturing industry.

Multicollinearity

Table 3: Multicollinearity Test

	Investment Decision	After*Debt-Equity Ratio	Return On Assets	Size	Q
Investment Decision	1.0000				
After*Debt-Equity Ratio	-0.0322	1.0000			
Return On Assets	0.2313	-0.0716	1.0000		
Size	0.7804	-0.0062	0.0921	1.0000	
Q	0.2984	-0.0372	0.4082	0.2294	1.0000

From table 3 above, the result of multicollinearity among variables seems well because the correlation result is below the benchmark which is 0.5, except for investment decision and size which have relative high inter-correlation at 0.7804. The exogenous nature of global financial crisis (dummy variable after as proxy) provides a clear indication of a causal relationship between investments decision before and

after the crisis. Because the data came from similar sources (i.e. debt to equity ratio calculation uses debt which also use as proxy for size), it is hardly surprising to see a positive or negative correlation between variables. However, the extent of the correlations are still within an acceptable limit.

Panel Regression

Table 4: Panel Regression

	(1)	(2)	(3)	(4)	(5)
After	0.6528***	0.6555***	0.6533***	0.2631***	0.2489
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
After*Debt-Equity Ratio		-0.0010	-0.0009	-0.0006	-0.0006
		[0.706]	[0.721]	[0.774]	[0.796]
Return on Asset			0.0608	0.4179***	0.5472***
			[0.714]	[0.007]	[0.003]
Size				0.9849***	0.9501***
				[0.000]	[0.000]
Q					0.0328
					[0.471]
Company fixed effects	Yes	Yes	Yes	Yes	Yes
R ²	0.0242	0.0248	0.0269	0.6206	0.6298
N Obs	752	752	752	752	749

Investment Decision and Financing Decision Before and After Crisis From Column 1 shows that the crisis has significant influence over companies' investment decision which can be seen from the sign of three stars (***) . The model's explanatory power increases with addition of each variables. Column 1 shows that with company fixed effect, dummy variable after can only explain 2.42 percent of variations of the data (R^2). The model's explanatory power however, is increasing with each addition of variable. Column 2 shows after adding variable debt equity ratio (DER) R^2 increased to 2.48 percent. Column 3 shows after adding variable return of assets (ROA) R^2 increased to 2.69 percent. Column 4 shows after adding variable size R^2 increased to 62.06 percent, it can be seen that company's size provides better explanatory power for investment decision compared to debt equity ratio and profitability because the R^2 is become highly increase after adding variable size. Column 5 shows after adding variable investment opportunity (Q) R^2 increased to 62.98 percent. From the panel regression table and explanation above the conclusion is all variables (GFC, DER, ROA, size, and Q) used in this research can provide explanation to investment decision by 62.98 percent.

Different from American and European manufacturing companies, Indonesian manufacturing companies actually enjoyed a surplus of capital inflows from the shock caused by Global Financial Crisis. Researcher can draw a conclusion that funds from quantitative easing might be not used in the countries suffered because of the global financial crisis but instead there is spillover happened. In other words, the funds from quantitative easing were actually used in Indonesia because of a more stable economic situation than United States at that time. This conclusion is also reinforced by Hill and Basri (2011), who found that economic growth in Indonesia is tend to be stable during global financial crisis that might be attract investors who looking for

alternative investments in stable economic growth country such as Indonesia in order to minimize risks of investments.

Company's financing decision after the crisis have negative impact on investment decision, although not significant. This is hardly surprising as the relationship between company's capital structure and investment decision is rather indirect. However, this still proves that companies with higher debt relative to its equity capital may hold back from making investment decisions after the crisis. Again, this could provide a proof of changes in company's financing policy or alternatively, Bank's supply crunch (Hill and Basri, 2011). Moreover, such result is in line with Fernandes and Ferreira (2017)'s findings where companies in countries with low creditor rights may have less constraints in regards to company's financing decision, which may explain the insignificance of the variable.

ROA (Profitability) provides significant, and positive relation with companies' investment decision. Size also, significantly. Q have only little, positive significant impact on company's investment decision.

Additional Discussion

In one of control variable which is profitability, at the beginning researcher using two different measurement using Return of Assets (ROA) and Return of Equity (ROE). But because the result of ROE is negative then researcher decided to remove it from the profitability measurement and using only ROA with the purpose to reducing confusion.

CONCLUSION

The conclusion of this research as follows:

1. Global financial crisis has positive effect on investment decision in Indonesian manufacturing companies. This can be seen through investment decision made by

- Indonesian manufacturing companies tends to increase although just slightly small amounts.
2. Global financial crisis has positive effect on financing decision in Indonesian manufacturing companies. This can be seen through debt to equity ratio decrease during and after the crisis happened where companies enjoyed surplus of capital inflows from the shock cause by global financial crisis, in other words company prefer to use internal financing to finance their activities.
 3. Debt-equity ratio has negative relationship on investment decision in Indonesian manufacturing companies. Companies with higher debt to equity ratio may hold back from taking investment decisions after crisis in order to reduce the risks of investments.

Limitation

The time constraints to conduct the research is one of the problem appears. The other constraints appears during research is many company data missing, and the data available and ready to be analyzed is data from manufacturing industry in Indonesia.

Suggestion

There are some suggestions that can be considered by future researcher who wants to make similar research:

1. In order to create more data with higher variability, quarterly data can be used
2. Using more control variables which can provide direct relationship to investment decision.
3. Test the model using different industry. Finance and banking industry maybe more suitable and more influenced by global financial crisis compared with manufacturing industry
4. Combining data from different industries in Indonesia to understand

extent of global financial crisis influence in different industries and creating dataset that are more normally distributed.

5. Manufacturing companies in Indonesia should do more good investments. Good investments here means investments with minimal risks.

Investors, commissioner, and government should strengthen their control to manufacturing companies in Indonesia to minimize the risks

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