ERASMUS UNIVERSITY ROTTERDAM

ERASMUS SCHOOL OF ECONOMICS

Master Thesis Financial Economics

The Stock Market Effects of Foreign Direct Investment Deregulation Towards Cumulative Abnormal Return in Indonesia

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Finish date: July 2020

PREFACE AND ACKNOWLEDGEMENTS

This research is inspired by the current condition of the Indonesian stock market. To the best of my knowledge, not much research has been conducted on the policy-induced phenomenon and anomaly that occurred in the Indonesian stock market. Compelled to uncover these policy-driven phenomena and anomalies lying dormant in plain sight, I decided to start this research. With the limited resources about the Indonesian stock market that I had, I was thankfully able to finish this research and came out with a compelling result that can help sharpen the analysis of future generations of policymakers. This research represents a step forward into the unknown, in which macroeconomic policy effect on the stock market is now quantifiable and measurable in Indonesia, such that policymakers are now able to analyse the impact a policy has for market players.

In doing this thesis, a lot of support, prayers, and help are given to the researcher as he tries to complete this research. Thus, I would like to give my appreciation to everyone who helped me in my endeavour to finish this research. I would like to thank God for giving me the strength, knowledge, and persistence to finish this Master thesis. I would like to thank Ami, Abi, Nenek, Bolang, and my sister, who always gave their prayers and thoughts for me so that I could smoothly and successfully finish this thesis. I would like to thank Dr. Jan Lemmen as my Master thesis supervisor. Without your knowledge and expertise in this field of research, I would not be able to finish this Master thesis. My sincerest gratitude for your patience, guidance, time, and trust that you give me so that I could finally finish this research. Lastly, to all my friends that supported me in finishing this thesis, especially to my dearest companion Ayasha, I would like to give my sincerest gratitude for always sticking up with me in my toughest moments.

ABSTRACT

The government of Indonesia announced a Foreign Direct Investment (FDI) deregulation enacted on the 18th of May 2016. The implementation of this new policy is bound to increase FDI, which would increase the firm's value and its stock return. This Master thesis observes whether abnormal return exists within the time period of the deregulation and the determinants of said abnormal return. The result shows evidence that positive cumulative abnormal return existed in the time period before the deregulation (-2, 0) with a value of 1.09%, 0.97%, and 1.31% for the full sample, newly opened, and unchanged data sets respectively. Furthermore, results show that only the book to market ratio and profit margin could become the driver of cumulative abnormal return with a low explanatory power of 5.01% for newly opened data sets. However, no variables are capable of being the driver of cumulative abnormal return in the full sample and unchanged data set. Industry fixed effect also has a significant influence on cumulative abnormal return, but only for the newly opened sectors. There is no evidence found that supports industry fixed effect significant influence on cumulative abnormal return in the full market and unchanged data sets.

Keywords: Cumulative Abnormal Return, Event Studies, Deregulation, Foreign Direct Investment, Financial Market

JEL Classification: G14, L43, D53

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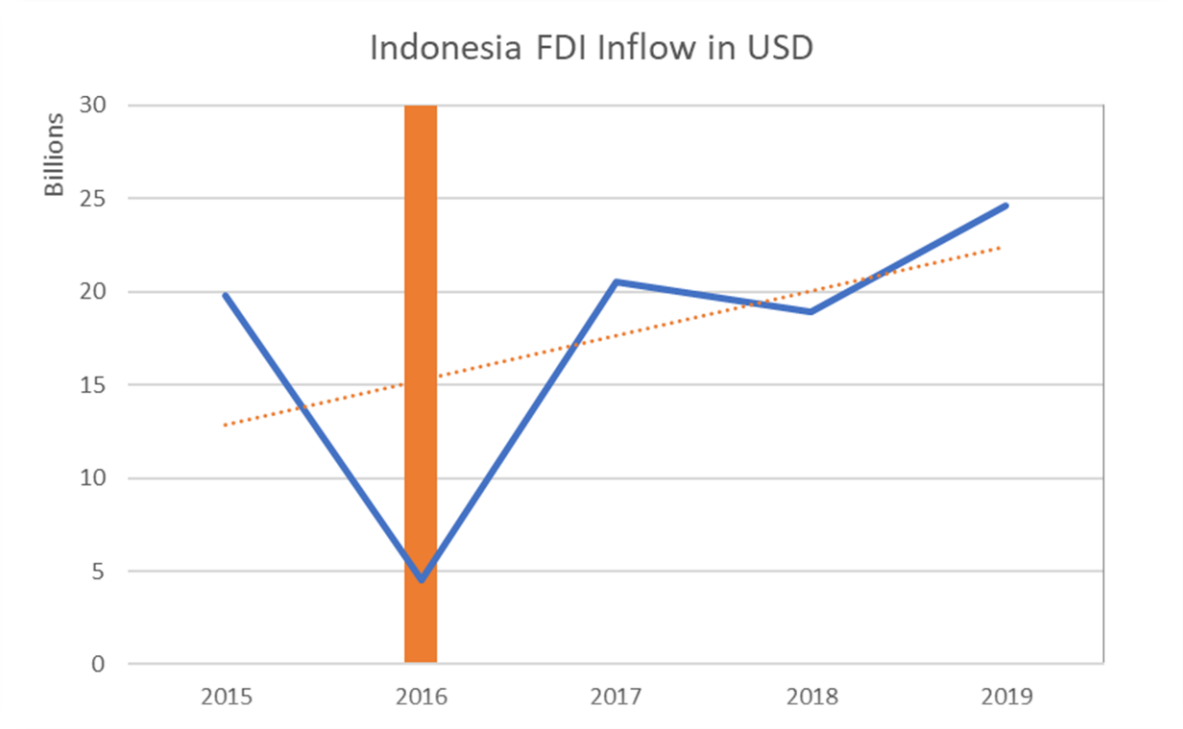
1. Introduction

With the rise of globalization, financial borders between countries are becoming less strict. This phenomenon creates the opportunity for foreign investors to diversify their portfolio of assets with a large variety of financial products originating from multiple countries. Despite the fact that the world is becoming borderless, some countries still choose to implement a protective policy. Indonesia, as one of the most lucrative emerging markets, has been restricting the movement of Foreign Direct Investment (FDI) by using a policy called Negative List. This policy prevents FDI to target several strategic industries in Indonesia, which aims to protect both domestic investors and businesses.

However, a change occurred in 2016. A deregulation of the Negative List was enacted by the government of Indonesia. The Indonesian government closed 2 business lines permanently, which are business lines related to the distribution of sea coral and marine salvage, but opened up 45 new business lines for FDI. The aforementioned 45 business lines could be categorized into several sectors which are maritime and fishery, energy and mineral resources, industry, public work, trade, tourism and creative economy, transportation, communication and informatics, and health (Molina & Nugraha, 2016; Hadiputranto, Hadinoto & Partners, 2016). This deregulation was implemented in an effort to increase foreign direct Investment.

Assuming that there is more opportunity for investors to invest in these new sectors, one would expect that there is an increase in FDI Inflows to Indonesia as the government tries to deregulate the inward foreign investment sectors. Sure enough, as depicted on the graph below, there is indeed an increase in the amount of inward FDI accompanied by a positive trendline.

Figure 1 Indonesian FDI inflow



Source: Worldbank, 2020

Based on the figure above, it is interesting to observe the impact this deregulation has towards investment return, especially in the creation of abnormal returns originated from Indonesia's whole stock market and its specific sectors. This Master thesis will try to uncover the cumulative abnormal return (CAR) that investors get around the implementation of this regulation. Hence, this Master thesis research question is interested in the consequences and drivers of the 2016 deregulation on firm value, which would be phrased as:

"What are the impact on and determinants of cumulative abnormal returns caused by the 2016 FDI deregulation in Indonesia?"

Three hypotheses will be derived from the aforementioned research question. The first hypothesis will talk about the FDI deregulation effect on CAR. The second and the last hypotheses will talk about the determinants of CAR. In this Master thesis, the analysis on the determinants of CAR will be divided into two aspects, financial ratios (firms conditions) and industry fixed effect (industry performance and riskiness).

The findings of this Master thesis would contribute a lot to the ability of the Indonesian government to evaluate and plan its policies. To the best of my knowledge, there has not

been any impact evaluation of a new government policy, such as the deregulation of the negative list that caters a lot to the industry, towards the stock market in Indonesia. Assuming no previous research has been done, filling in this discrepancy of knowledge in the impact of government deregulation on the stock market in Indonesia would heavily benefit the government of Indonesia. This Master thesis would try to contribute to this knowledge by creating this research, and hopefully, will help the government in deciding the correct form of policy in the future.

There are 3 main findings of this research. First, the result of this research suggests that cumulative abnormal return exist around the event date of the implementation of the deregulation. Second, by segregating the data set and comparing the results of each data sets, it has become apparent that no determinant could cause the existence of CAR around the event date in a market level. However, CAR might be influenced by other variables such as book to market ratio and profit margin in sectors included in the deregulation. Third, no evidence found in the support of industry fixed effect influence on cumulative abnormal return for both the full sample and unchanged data set. However, for sectors included in the deregulation, the industry fixed effect has been found to have a significant relationship with CAR. This evidence indicates that for sectors included in the deregulation, industry performance and riskiness is an important indicator for cumulative abnormal return.

In the end, to answer the questions postulated by this Master thesis, the remainder of this research would be formulated as follows; the second chapter will discuss literature review and the underlying hypotheses for this research, the third chapter will describe the data used in this Master thesis, the fourth chapter will describe the methodology used in this Master thesis, the fifth and sixth chapter will discuss about the result and the conclusion of this Master thesis.

2. Literature Review

The literature review will start with the creation of a framework on how Foreign Direct Investment (FDI) policy deregulation induced FDI inflow could lead to cumulative abnormal return (CAR). The first part of the literature review would discuss about FDI contribution towards the economy, which will be followed by the effect an improving economy has on stock price and return. I assume that this increase in price will create the abnormal return that this research is trying to observe. Next, I will gather evidence of the overall FDI deregulation effect on stock returns and prices to sum up the influence that FDI has towards it. Lastly, I will define the research hypotheses based on the literature that has been discussed.

2.1. Evidence of FDI contribution towards the economy

A plethora of researches have been conducted to find evidence of FDI contribution towards the economy, especially the relationship of FDI and economic growth. To better understand the impact of what FDI could have on the economy, I will start by shortly explaining the determinants of FDI inflows and proceed with the impact that it has on the economy by using a simple GDP expenditure theoretical model. Later on, I will present that most research suggests that the increase in welfare and growth of a country from FDI mostly uses export as its channel (Harding & Javorcik, 2011).

First, I am going to briefly explain the determinants of foreign direct investment. Variables are categorized as the determinants of foreign direct investment if, and only if, they have a significant positive coefficient when being regressed with foreign direct investment. In contrast, a negative coefficient indicates that a variable will act as an obstacle. However, such variables could differ from country to country. One of the most recent researches which uses a Malaysian economic data set to observe this relationship indicates that the most notable variables affecting foreign direct investment inflow are economic growth and financial development (Shahrudin et al., 2010). Thus the direction of the FDI would be determined by economic growth and financial development of the host country. Determinants are an important point in determining FDI, as countries that cannot create good determinants are not going to attract FDI at all. As I have mentioned before, I am just going to explain this concept briefly and I will assume that Indonesia has competitive determinants in SEA

(Southeast Asia) that could compete in attracting foreign direct investment with other countries. By using the aforementioned assumption, I would be able to assume that the deregulation will act as a complement to these variables in which it would increase the flow of FDI towards Indonesia. Evidence also suggests that open trade policies in general positively influence FDI inflow (Rasiah et al., 2017).

Before discussing the channel of which FDI could influence economic growth, I need to briefly explain on the economic theoretical model of what our economy is based on. GDP, as a total production that a country produces, is actively used as an indicator for a country's economic prowess. Two different approaches could be used in calculating GDP, which are the income and expenditure approach. The expenditure approach is most frequently used as a measurement of GDP. This approach is calculated by:

$$GDP = C + I + G + (X - M)$$

C represents the private consumption inside the country, G represents the government expenditure of the corresponding country, I is the amount of investments made inside the country, X the amount of export a country made, and lastly M is the amount of products a country imported.

As presented in the equation above, a significant positive correlation between FDI and the above variables, except for imports, would create an increase in a country's GDP. Hence, an FDI deregulation should increase the amount of inflow of investment along with an increase in GDP, which creates positive growth. That being said, a lot of empirical literature has tried to explain this growth by correlating macroeconomic variables with one of the variables in the equation above, which mostly comes through the export, consumption, and government expenditure channels. One of the most attractive ways to look at the impact is to observe the relationship between FDI and export that could be categorized into two different aspects, which are the growth of export and/or the efficiency/sophistication of export products. Most research focuses on one of them, of which different country-specific data could yield different results. Since this research is going to focus on a developing country's (Indonesia) case, I deem that empirical research literature with a developing country data set will be more appropriate as a reference for this research. However, developed country based research could also be used as a complement.

As I mentioned before, the growth of export is one of the most noticeable variable affected by inward FDI. Although the effectiveness of FDI Influence on the growth of export depends on the type of FDI, as horizontal FDI contributes a lot more compared to vertical FDI (Beugelsdijk et al., 2008), this Master thesis assumes that effect is comparable between both types of FDI. Empirical research suggests that an inward FDI would result in an increase in export (Kutan & Vuksic, 2007; Liu et al., 2002; Sun, 2001; Temiz & Gökmen, 2009; Xuan & Xing, 2008; Zhang & Song, 2000; Jawaid et al., 2016; Enimola, 2011; Rasiah et al., 2017). Another research suggests there is evidence of FDI increasing domestic supply after which it increases the country's export (Kutan & Vuksic, 2007). This increase in export would increase a country trade balance and therefore increases GDP. Not only that, an increase in export could also signify the increase in industry productivity, which should translate to higher company value and abnormal return. The specific mechanism of increasing export could vary between research. There is evidence that FDI could increase capital for a company that could compete globally, and the global linkages to MNC (Multi-National Company) would create access to a foreign market (Zhang & Song, 2000). FDI could also promote export through the teaching of proper marketing strategies/methods/procedure, and channels of distributions (Zhang & Song, 2000). However, there is also evidence that in a country like Turkey, there is a long and short-run correlation between FDI and export with no significant positive spillover (Temiz & Gökmen, 2009). There is also evidence in Vietnam that the increase only occurs on goods exported to FDI source countries (Xuan & Xing, 2008). Hence, there is also evidence of the failure of FDI in creating a positive spillover. Although, overall, FDI does have a positive effect on the growth of export.

The inward flow of FDI could also influence the value of the export. Exported product value will increase as the result of an increase in product sophistication or an increase in production efficiency (Zhu & Fu, 2013), and there is also evidence suggesting that government policies do help increase export sophistication (Rodrik, 2006). There is also evidence suggesting that an increase in FDI would lead to an increase in the unit value of export (Harding & Javorcik). However, in increasing export sophistication, it seems that FDI might not be a prominent determinant, and might also be considered as insignificant. There is evidence that suggests government policy and/or human capital played a more important role in increasing export sophistication (Xu & Lu, 2009; Wang & Wei, 2010; Rodrik, 2006; He

et al., 2012). Another empirical research found evidence that suggests that FDI's influence in increasing growth depends on the level of human capital (Borensztein et al., 1997), which is line with the previous notion that human capital is more important compared to FDI. Lastly, there is also an apparent evidence of FDI promoting financial deregulation which creates more growth for a country (He et al., 2012).

Based on all the literature that has been discussed, I would assume that there is a connection between FDI and an increase in economic performance, calculated in terms of GDP, through export. Although, as the research suggests, export growth mostly contributes to the increase in economic performance. Next, I will discuss the influence of an increase in economic activity, proxied by GDP growth, Real GDP, Nominal GDP, and export has towards stock return and stock price.

2.2. Economic improvement and increase in stock return

I have discussed extensively the aggregate impact of foreign direct investment towards the host country economy. The deregulation enacted by the Indonesian government will open up more sectors for foreign investment that had previously been restricted and create an increase of FDI inflow at the time of the announcement. This increase should lead to economic improvement in the host country. Later on, an economic improvement will lead to an increase in stock price and return, after which it would create abnormal return.

This section will further discuss the importance of economic improvement towards asset return and price, as one of the channels that FDI could use to create abnormal return. As it has been previously elaborated, the improvement in GDP is influenced by the inward flow of FDI. However, the next link between economic improvement, stock return, and stock price has not been discussed and elaborated. Hence, this section will try to address whether the economic improvement is capable of increasing stock return and stock price or is there another variable that could also become a channel for FDI to create abnormal return.

An investor could gain stock return by having an increase in the price of stock held, which could also be defined as a capital gain. Empirical research literatures have found evidence in the support of the relationship between stock return and GDP (Chaudhuri & Smiles, 2004; Liu & Sinclair 2008; Hassapis & Kalyvitis, 2002). There is also evidence that stock price carries an equity premium based on macroeconomic factors, which include economic growth (Faugere

& Erlach, 2006). Another research found evidence which suggests that stock price increase tend to lead or accompany positive economic growth (Bulmash & Trivoli, 1991). All of these empirical researches shows one of the channels a typical investor has to get cumulative abnormal return (CAR), which is through a capital gain induced by an increase in stock price.

Economic improvement could also come from a good government regulation. Since the inflow of FDI should be caused by a deregulation, observing such deregulation influence towards abnormal return would also be well within this Master thesis objective. One empirical research has found evidence that government regulation could influence export performance. It suggests that an open trade policies would create an increase in FDI which stimulates export (Rasiah et al., 2017). In this case, stimulating export means that industries, especially companies, are now able to increase production. The increase in production should go hand in hand with the increase in company's value, which should increase shareholder value and abnormal return.

Another point worth mentioning is that export, which could increase the country's GDP and growth, could also become a proxy of a domestic industry productivity. Hence, an increase in export due to FDI should lead to an increase in company's wealth, which should lead to abnormal return. As already mentioned before, FDI would increase the efficiency and the output of export (Kutan & Vuksic, 2007; Liu et al., 2002; Sun, 2001; Temiz & Gökmen, 2009; Xuan & Xing, 2008; Zhang & Song, 2000; Jawaid et al., 2016; Enimola, 2011; Rasiah et al., 2017). This increase in domestic output and efficiency will eventually increase company's wealth and would become the source of abnormal return. Deregulation, as it moves a country's regulation to be more open, also plays a part in increasing export as it will lead to a mutually reinforcing FDI and export (Liu et al., 2002). It will then increase a company's output and wealth, thus creating abnormal returns.

Although it has been shown that the link between economic improvement and stock market or return is robust and that government regulation could influence abnormal return, there are also evidence of other macroeconomic variables influencing stock market performance. Most notably inflation, money supply, and interest rates. Empirical research has found evidence that inflation and interest rate have a negative correlation towards the stock price (Asprem, 1988). Another research also found evidence that money supply has a short-run positive effect and changes to negative in the long-run to stock prices (Bulmash &

Trivoli, 1991), although evidence also suggests that there is indeed a positive relationship between the aforementioned variables (Asprem, 1988). The channel as to which these macroeconomic variables change the stock return is believed to come from the changes in beta. These variables are seen as a systemic risk, and these risk premiums are being priced accordingly by the changes in stock price and return (Faugere & Erlach, 2006). Hence, having a fluctuating macroeconomic variable could posit a higher risk premium due to the uncertainties that it creates for investors. From what has been elaborated, there are a lot of macroeconomic variables that could affect the stock price. However, this research would try to create a framework where the increase in FDI would lead to an improvement in GDP growth and industrial production. It would then lead to higher company value thus creating abnormal return through the increase in price and stock return.

Another technical channel that FDI deregulation has in creating abnormal return could also come by an increase in the demand for the stock market in general after the deregulation, which should increase the market value of firms. This increase would create abnormal return for investors, without an increase in the company's book value. Lastly, as already discussed, the most notable end channel would be the increase in the company's value through the improvement of output. This increase should lead to abnormal return, as the deregulation should signal an increased company value in the near future, which would create abnormal return.

That being said, I already established several links that FDI has on influencing stock return and price. These channels that FDI have influence on does affect the company's value, the overall macroeconomic environment, or the stock demand, which improves the aggregate stock market price. Hence, the next section will dive even further on the empirical evidence that research has uncovered about the effect of FDI towards stock return and prices.

2.3. FDI contribution towards asset return

To the best of the researcher's knowledge, this is the first research that is trying to address the effect of FDI deregulation towards stock price and return in Indonesia. Hence, no prior literature could be used as a perfect reference to predict FDI influence, which originates from the deregulation, towards stock market return and price in Indonesia. That being said, numerous research had been conducted in several different countries regarding FDI effects

on stock return, price, and the stock market in general. This section will try to elaborate on the evidence found in the researches about the linkages that FDI has towards stock return and price.

There is evidence in India where the stock market trend is determined by the flow of Foreign Direct Investment (FDI) & Foreign Indirect Investment (FII) (Sultana & Pardhasaradhi, 2012), which means that an increase in CAR (Cumulated Abnormal Return) could be attributed to the increase in the flow of FDI & FII. Another empirical research conducted in Ghana also found that there is a long-run relationship between stock return and FDI (Issahaku et al., 2013). Furthermore, FDI is also driven by the cheap capital view, where source country sees its capital market as being overvalued and prefer to invest their money in a country with cheaper capital market prices (Baker et al., 2004). An increase in stock demanded due to a cheap capital view would also create CAR. Lastly, there is also evidence that suggests FDI act as a complement to the development of the domestic stock market (Raza et al., 2012), which means that an FDI deregulation in host country could increase CAR due multiple effects that it has for the domestic stock market.

FDI could also influence stock price and return through other channels. From an economical perspective, an increase in FDI should also increase industry production, which would ultimately increase the company's value. In relation to industry production, there is evidence that suggests an increase in industrial production is significant in explaining stock return (Chen et al., 1986). Not only that FDI inflows could increase industry output, but it also should lead to an increase in real output, which has been found to be having long-run comovements with the stock market (Cheung & Ng, 1997). As mentioned before, FDI would also increase domestic output, which in the end increases export (Kutan & Vuksic, 2007). This improvement means that the company could improve their production, which increases the company's value and creates abnormal return. Another firm value increasing effect from FDI could also come from the increase in efficiency since evidence has found that countries that open up to FDI would be benefitted from an increase in domestic industry efficiency which could be further improved by local technical education (Pack & Saggi, 1997). In addition, there is evidence that stock return and expected stock return is determined by real activity (Fama, 1981; Fama, 1990), which should be increasing due to the increase in FDI. Hence, based on

the evidence found by the aforementioned empirical research, FDI has a lot of channels that could be utilized to influence stock price and return.

Another interesting fact could also be observed by the effect of FDI towards other aspects of stocks such as the company's own stock price and stock price volatility. Empirical research has found evidence that FDI announcement from a company could also create a significant CAR (Ding & Sun, 1997), which means that letting a foreign company do an investment could be better for both the company's shareholders and the destination's country stock market. Another compelling evidence also suggests that the overall volatility of stock return would also be negatively affected by the degree of financial regulation (Umutlu et al., 2009). This evidence suggests that deregulation would create chances of obtaining more CAR due to more volatile stock returns. FDI should also affect a firm's market value by increasing the demand for their stock on the stock market.

Overall, the evidence suggests that the stock market and stock price, and thus the return of the stocks, should be positively correlated with FDI. This positive correlation could come from a macro perspective and a micro perspective where it increases the firm's output (proxied by the increase in export or domestic output) that would increase the company's value. Hence, the researcher believes that an increase in FDI caused by deregulation should create a positive CAR for investors.

2.4. Hypotheses

The focus of this thesis is to uncover the effect that Indonesian government FDI deregulation has on Indonesian companies value through the stock market. To answer the aforementioned research question, this Master thesis will employ 3 different hypotheses, in which it would try to observe what is the impact of the deregulation, whether other variables existed that could also influence abnormal return, and the significance of industry fixed effects on abnormal return. Furthermore, since there are sectors that are not included inside the deregulation, a comparison between the opened up sectors and the unchanged sector will also be included

Based on the research question and a plethora of researches that has been discussed previously, I believe that there should be a correlation between FDI and CAR. The FDI deregulation should induce more FDI inflow and thus creating more abnormal returns originating from the increase in the company's value. The CAR influenced by the increase in

FDI should be significant when tested using the event study method. Hence, I believe that the first hypothesis for this research should be:

$$H0: No\ significant\ CAR\ around\ the\ event\ date\ of\ FDI\ deregulation$$

$$Ha: Significant\ CAR\ around\ the\ event\ date\ of\ FDI\ deregulation.$$

Further analysis will be conducted by separating data sets from different sectors. In doing so differences between the unchanged and newly opened sectors could be better observed. However, based on the literature, the alternative hypothesis should be the expected outcome of this research.

This Master thesis also wanted to observe the absence of influence originating from other variables on the creation of abnormal return at the time of the event date. A regression analysis will be used in conjunction with cumulative abnormal return as the dependent variable and several financial ratios as the independent variables to observe this phenomenon. The hypothesis I will try to postulate is that there should be no other variable that could influence the existence of abnormal returns aside from the deregulation of FDI around the event date, which will be represented by a regression result with a nonsignificant independent variable. Thus the second hypothesis for that argument would be as follows:

$$H0: Significant\ influence\ from\ other\ variable\ towards\ CAR\ around\ the\ event\ date$$

$$Ha: No\ significant\ influence\ from\ other\ variable\ towards\ CAR\ around\ the\ event\ date$$

Further analysis will also be conducted by comparing the data sets from the unchanged and newly opened sector. Based on the literature, the regression analysis employed should be able to give an adequate result in observing the relationship of the other independent variable towards CAR. Hence, the alternative hypothesis is to be expected as the outcome of the regression analysis.

Further observation will also be conducted on the industry. An industry could be seen as a variable that could influence abnormal returns, as different industries could have different performance and different risk characteristics associated with it. This variable could be proxied by an industry fixed effect. Because of the inherent differences in the industry fixed effects, abnormal returns around the event date could be derived from industry fixed effects

instead of the firm's performance indicated by the financial ratios. Hence, this Master thesis will employ the following third hypothesis to uncover this phenomenon:

$$H0: Significant\ influence\ from\ the\ industry\ fixed\ effect$$

$$Ha: No\ significant\ influence\ from\ the\ industry\ fixed\ effect$$

Again, further analysis will be made by comparing different data sets from the unchanged and newly opened sector. However, based on the literature review that has been extensively discussed, the regression analysis employed should give adequate evidence to support the alternative hypothesis.

3. Data

A daily data sets are used for the event study calculation of abnormal return, both for the market return and the firm stock return. The firm stock return data set for the event study is accumulated through Compustat Global's security daily section. Compustat Global is accessed through Wharton Research Data Services (WRDS). However, due to the unavailability of Indonesia's stock index daily price data in Compustat Global, I am forced to take the daily price data for Indonesia's stock index elsewhere. Hence, the Indonesia's stock index data from yahoo finance is used as a source for daily market return data. The data set used for the regression analysis is a combination of cumulative abnormal return and financial ratios which are acquired from the calculation of event study and firms quarterly financial data set respectively. The firms quarterly data set used is a data of Indonesia's listed firms quarterly data set, which are collected through the Compustat Global's fundamentals quarterly section.

There are 504 companies available to be included in this research. These companies represent all the available listed company data set in Indonesia between January of 2015 to December 2016. Out of those 504 companies, several companies do not have a complete quarterly financial data, hence I need to drop these companies to maintain a good regression analysis. Only 354 companies are left after dropping all of the companies that do not meet the requirement previously said. Out of those 354, some also did not meet the criteria of having 200 observations for the estimation window. Those companies that did not meet the criteria will be dropped, which left this thesis with 346 companies to work with. These companies will be used as the basis for this Master thesis quantitative analysis. Furthermore, to improve the analysis of this Master thesis, an event study using different data sets will be employed. These different data sets will be obtained by differentiating the full sample data set used by sectors that are included or excluded in the FDI deregulation. The list of the company's name, GIC sector code, and Gvkey will be included inside the appendix. The list of sectors that will be represented by the company would be presented in table 1 below:

Table 1 List of all included sectors represented by all of the companies

Opened		Unchanged	
GIC Sector	N	GIC Sector	N
Energy (10)	40	Materials (15)	58
Industrials (20)	73	Consumer Staples (30)	59
Consumer Discretionary (25)	61	Financials (40)	1
Health Care (35)	15	Information Technology (45)	7
Communication Services (50)	26	Utilities (55)	2
		Real Estate (60)	4
Total		346	

The number inside the bracket represents the GIC sector code of the corresponding sector. N represents the number of observations (companies) available for each sector. Open and unchanged represents categories in which the sectors are divided into. Open means that the sectors are listed in the deregulation, while unchanged means that the sectors are not listed in the deregulation.

Table 1 above shows the list of all companies included in the analysis and their respective categories (opened or unchanged) in relation to the deregulation. Unfortunately the total amount of sector that could be included in this research is only 11. The reason behind the lack of sectors included in this research is due to the limited available data of Indonesian companies listed in the stock market that are accessible through Compustat Global and the data requirement that many companies could not meet. Hence, some sectors are forced to be excluded from this research. However, these 11 sectors are enough to enable this research to make comparative analysis between the open and unchanged sectors since both the newly opened and unchanged sectors are well represented inside the data set.

The date of the announcement occurs at the same time for all companies, which is 18th May 2016 (OECD, 2017). This date of announcement is the day when the deregulation was enacted. It is part of the presidential Regulation No. 44 of 2016. Since all companies are facing the newly enacted deregulation at the same time, the event date for all companies would be exactly on the same date, which is 18th May 2016. Next, the simple summary statistics for the independent variable used in this research is presented below:

Table 2 Independent variable simple statistics

Panel A

Variable	Observation	Mean	Std. Deviation
Profit Margin	346	-2.202	23.661
Leverage ratio	346	1.437	3.185
Book to Market Ratio	346	0.000218	0.003287
Current Ratio	346	3.937	20.716
Size	346	6168872	19000000
Return on Assets	346	0.00868	0.03645

Panel B

Variable	Observation	Mean	Std. Deviation
Profit Margin	346	-0.653236	16.32532
Leverage ratio	346	1.291985	3.53807
Book to Market Ratio	346	0.000094	0.001215
Current Ratio	346	3.067314	14.06322
Size	346	6010195	18700000
Return on Assets	346	-0.025467	0.521855

Panel C

Variable	Observation	Mean	Std. Deviation
Profit Margin	346	-1.390995	18.19296
Leverage ratio	346	1.774879	5.409875
Book to Market Ratio	346	0.00014	0.001382
Current Ratio	346	3.894273	23.90221
Size	346	6277189	19300000
Return on Assets	346	-0.008851	0.032253

Panel A, B, C represents summary statistics of the independent variables at the day of the, before the, and after the implementation of the deregulation. For panel B and C, the summary statistics are aggregated across the time period of before and after the implementation of the deregulation respectively. The number of company included in all calculation is 346. The value in variable "size" is presented in Rupiah.

Panel B and C shows that there are changes occurring in the independent variable. First, the mean of book to market ratio is increasing, indicating that listed companies are becoming more undervalued. Second, a decrease in the mean of profit margin indicates that companies are not performing better compared to before the deregulation. However, an increase in return on assets shows the improvement of companies in utilising assets to generate profit albeit the unprofitability of companies in general. Thirdly, an increase in both leverage ratio

and current ratio indicates that companies are having more debt while still having assets to cover those debts.

Lastly, to test for multicollinearity of the variables, a variance inflation factor (VIF) test by Stata will be used, the result for VIF test is presented in the table below:

Table 3 VIF result

Variable	VIF
Profit Margin	2.39
Leverage ratio	1
Book to Market Ratio	1
Current Ratio	2.34
Size (log)	1.03
Return on Asset	1
Mean VIF	1.47

The rule of thumb in analysing VIF to determine whether or not multicollinearity exists in the data is to compare the result above with benchmark value 10, if it exceeds the benchmark value then multicollinearity exist and vice versa. As presented in table 3 above, all the variables used in this Master thesis do not have a value of VIF of more than 10, with a mean of 1.47. Hence, the evidence supports the notion of no multicollinearity.

4. Methodology

In this section, I will discuss the statistical technique used to quantitatively analyse the effect of the deregulation. This research will be employing an event study technique to perform the quantitative analysis. Hence, the next section will discuss about measuring Cumulative Abnormal Return (CAR), which will be followed by the description of parametric and nonparametric test statistics, and will be closed with the regression model.

4.1. Measuring Cumulative Abnormal Return

With the nature of the first part of this research, the event study method would be more appropriate to use and is selected as the primary method for testing abnormal return alongside the regressions employed for the second part of this research. The reason for the suitability of the event study method for this research is due to its ability in measuring the impact of a specific event on the value of a firm (MacKinlay, 1997), which made it possible for this research to isolate the impact of Foreign Direct Investment (FDI) deregulation towards stock return through the increase in company value. Furthermore, the event study also enables this research to test market efficiency, as nonzero abnormal return posits inconsistency in market efficiency (Kothari & Warner, 2007). Under the event study, this research main objective is to search for the existence of abnormal returns. To calculate the abnormal return for a stock, a calculation model for normal performance needs to be decided. For this research, the normal return would be calculated by:

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t}$$

With an assumption that

$$E(\varepsilon_{it} = 0) \;\&\; var(\varepsilon_{it}) = \sigma_{\varepsilon_t}^2$$

The calculation on return is based on a one-factor market model since evidence found by empirical research suggests that using a more complicated method does not yield a more significant improvement in the result (Brown & Warner, 1980). In the equation above, $R_{i,t}$is the return of asset i at time t, $R_{m,t}$ is the return of market portfolio at time t, $\varepsilon_{i,t}$ is the error term and is assumed to be normally distributed and having a variance equal to σ^2 (MacKinlay, 1997). The aforementioned assumption is necessary in conducting event study because it let this Master thesis to test the significance of the abnormal return and cumulative abnormal

return with a parametric test. Next, to calculate the abnormal return, the following formula will be employed:

$$AR_{i,\tau} = R_{i,\tau} - \hat{\alpha}_i - \hat{\beta}_i R_{m,\tau}$$

Where $AR_{i,\tau}$, $R_{i,\tau}$, $R_{m,\tau}$, are the abnormal return (AR), actual return, and market return at event window τ respectively (MacKinlay, 1997). In the equation above, the abnormal return is the disturbance term ($\hat{\alpha}_i$) calculated by using an out of sample data (MacKinlay, 1997).

The data used for the market return is the daily price of Indonesia's stock index. The decision to use Indonesia's stock index as the market return originates from its constitution, as it is a portfolio consisting of all the stocks listed in the Indonesian stock market. Hence, I believe that it is the most suitable data to use for market return.

Abnormal return could also be aggregated across companies. The aggregation would help in testing the significance of abnormal return across companies, which make it easier to determine the appropriate event window for testing CAR. To calculate average abnormal return, the following formula will be used:

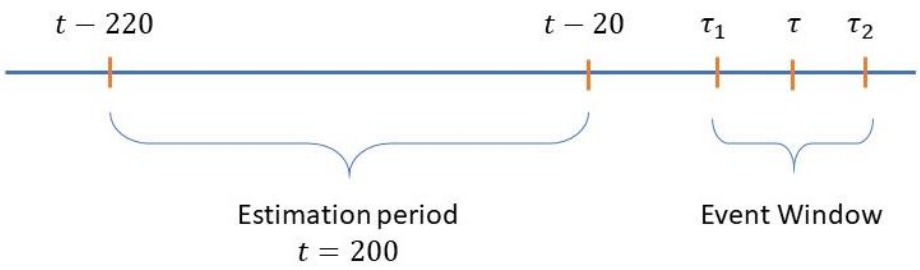
$$\overline{AR}_\tau = \frac{1}{N}\sum_{i=1}^{N} AR_{i,\tau}$$

Where $\overline{AR}_\tau$, N, $AR_{i,\tau}$, represent average abnormal return, the number of observations, and average return respectively at event window τ (MacKinlay, 1997).

Different time periods are used in the event study method, and figure 2 shows the difference in the time periods used. The time period t and τ denotes the time period for the estimation and event window respectively. 200 trading days will be used as the estimation window, which will start from $t - 220$ up until $t - 20$. The choice of using 200 days as the estimation windows originates from the need for this research to implement the assumption of unit normal for the test statistics (Brown & Warner, 1985). The choice for the event windows are more flexible. However, it is better to have event windows of under 12 months, as it was proven to be more well-specified (Kothari & Warner, 2007). Hence this Master thesis will employ an event window of less than 1 month, as I deemed it to be the most suitable. To effectively observe the deregulation effect, cumulative average abnormal return (CAAR) from different event window will be tested and compared. The event window that produces the

most significant CAAR will be used for the regression analysis. 3, 5, 11, and 21 days of event windows are going to be included in this Master thesis to be tested and compared. In addition to the test of CAAR, average abnormal return for each day will also be tested to determine the correct time horizon that the event has an impact in. The total amount of daily average abnormal return used for the calculation would be equal to the highest time period used to calculate CAAR, which will be 21 days.

Figure 2 CAR calculation timeline



This research main interest is the Cumulative Abnormal Return (CAR), which is the compounded abnormal return an investor gets over the event window. Aggregating AR into CAR is necessary to accommodate event windows analysis with multiple periods (MacKinlay, 1997). The calculation method used in this research for CAR would be as follows:

$$CAR_i(\tau_{-1}\tau_{+1}) = \sum_{\tau_{-1}}^{\tau_{+1}} AR_{i,\tau}$$

Assuming that CAR is normally distributed in accordance to (MacKinlay, 1997), such that:

$$CAR_i\tau_{-1}\tau_{+1} \sim N(0, \sigma_i^2(\tau_{-1}\tau_{+1}))$$

Furthermore, CAR could also be aggregated throughout the security to see the overall effect of the deregulation on the whole sample. Cumulated average abnormal return (CAAR) method is needed to see the aggregated impact of the deregulation. The aforementioned method will be used by using the formula below:

$$\overline{CAR}(\tau_{-1}\tau_{+1}) = \frac{1}{N}\sum_{i=1}^{N} CAR_i(\tau_{-1}\tau_{+1})$$

Which also assumes that the result would be normally distributed in accordance to (MacKinlay, 1997), which suggest that:

$$\overline{CAR}(\tau_{-1}\tau_{+1}) \sim N[0, var(\overline{CAR}(\tau_{-1}\tau_{+1}))]$$

The aggregation of CAR to CAAR would enable this research to observe the overall impact the deregulation has on the creation of abnormal return, by testing the significance of CAAR instead of solely testing the significance of CAR.

4.2. Parametric Test

I have imposed an assumption in the previous section of the methodology such that all the abnormal return, average abnormal return, cumulative abnormal return, and the cumulative average abnormal return follows a normal distribution (MacKinlay, 1997). For that reason, a parametric test could be used to determine the significance of CAR and CAAR that I obtain from my previous calculation. The significance test for CAR and CAAR followed the same hypothesis such that:

$$H_0 = CAAR \;\&\; CAR \;\&\; AAR = 0$$

$$H_a = CAAR \;\&\; CAR \;\&\; AAR \neq 0$$

One of the parametric test method this research will be using comes from (MacKinlay, 1997; Kothari & Warner, 2007) which uses a t-test. The calculation for this parametric test for both CAAR & CAR t-statistics would be as follows:

$$t_{CAR} = \frac{CAR_i(\tau_{-1}\tau_{+1})}{[\sigma_i^2(\tau_{-1}\tau_{+1})]^{\frac{1}{2}}}$$

$$t_{CAAR} = \frac{\overline{CAR}(\tau_{-1}\tau_{+1})}{var(\overline{CAR}(\tau_{-1}\tau_{+1}))^{\frac{1}{2}}} \sim N(0,1)$$

Based on the formula above, both calculation methods are relatively the same, differences only occurs in the usage of CAAR & CAR and their respective variance. The results of this statistical calculation would be compared to a t-statistics table where a specific value

for a threshold will be determined by using the estimation window as the degree of freedom. If the t value given by the formulas are above the threshold, such as 5 percent with a t value of 1.96, I can safely reject the null hypothesis and conclude that both CAAR & CAR is significantly different from 0 with a 95 percent confidence level. The calculation method for AAR follows a similar pattern to CAAR & CAR formula. The difference in the calculation method lies in the variance used, which will come from the average abnormal return, and the numerator, which would be average abnormal return.

In addition to the test above, this Master thesis will also employ a BMP test proposed by Boehmer, Masumeci & Poulsen (1991). In this calculation, both the AAR and CAAR are going to be standardized. The calculation method for standardized abnormal return will be as follows:

$$SAR_{it} = \frac{AR_{it}}{S_{it}}$$

SAR is the standardized abnormal return, while S_{it} is the standard deviation of abnormal return in the estimation window. After obtaining the value for the standardized abnormal return, the following formula will be used:

$$z_{BMP,t} = \frac{ASAR_t}{\sqrt{N} S_{ASAR_t}}$$

$$S^2_{ASAR_t} = \frac{1}{N-1} \sum_{i=1}^{N} \left(SAR_{it} - \frac{1}{N} \sum_{l=1}^{N} SAR_{lt} \right)^2$$

ASAR is the sum of the sample standardized abnormal return, with a variance of $S^2_{ASAR_t}$, and a BMP z values of $z_{BMP,t}$ at time t. The value of $z_{BMP,t}$ will be compared against z values of the significance level to test ASAR significance. Next, CAR would be calculated as follows:

$$SCAR_i = \frac{CAR_i}{S_{CAR_i}}$$

$$\overline{SCAR} = \frac{1}{N} \sum_{i=1}^{N} SCAR_i$$

Where SCAR, $\overline{SCAR}$, and S_{CAR_i} stands for the standardized cumulative abnormal return, average of standardized cumulative abnormal return, and standard deviation of cumulative

abnormal return respectively. To test the overall significance of CAR, a significance test for $\overline{SCAR}$ will be employed. The following formula will be used in the calculation of $\overline{SCAR}$:

$$z_{BMP} = \sqrt{N}\frac{\overline{SCAR}}{S_{\overline{SCAR}}}$$

$$S^2_{\overline{SCAR}} = \frac{1}{N-1}\sum_{i=1}^{N}(SCAR_i - \overline{SCAR})^2$$

The value given by z_{BMP} will be compared to a benchmark value from the z value of the significance level to test whether or not the CAAR at that specified event window is significant.

4.3. Nonparametric Test

Since this Master thesis is using daily stock return data as its sample, some problems might occur that could lead to the violation of the normal distribution assumption. One of the most prevalent normal distribution assumption violation is that abnormal returns usually exhibit the same problem as daily return, which is an excessive skewness, where the distribution of abnormal return is usually fat-tailed (Brown & Warner, 1985). My previous assumption where the abnormal return is normally distributed will be violated. Hence, another method of calculating the significance of abnormal return should be used. For this Master thesis, a Wilcoxon sign test in Stata would be used as an additional testing method for significance under the assumption of non-normality. The calculation method for the nonparametric significance test would be as follows:

$$W = \sum_{i=1}^{N} r_t^+$$

$$Z_{Wilcoxon} = \frac{W - \frac{N(N-1)}{4}}{\sqrt{(\frac{N(N+1)(2N+1)}{12})}}$$

Where r_t^+ represents the positive rank of the absolute value of abnormal return and W follows a normal distribution (Dutta, 2014). The hypothesis used for the average abnormal return, cumulative abnormal return, and cumulative average abnormal return are exactly similar to the hypothesis used on the parametric test section. However, the variable tested is not the mean of the aforementioned variables, but the median of the variables. Hence, a significant test means that the median of each variable is not equal to zero.

4.4. Regression Model

After knowing that the deregulation does create an abnormal return, further observation on other variables, which includes the industry uniqueness, influence on the existence of abnormal return at this specific period will be made. Either the capital asset pricing model (CAPM) or arbitrage pricing theory (APT) could be employed in calculating the influence of various external variables towards abnormal return. However, a study by Kisman & Restiyanita (2015) found evidence that the arbitrage pricing theory could explain the movement of the Indonesian stock market better compared to a regular capital asset pricing model. Thus, the regression procedure will follow the arbitrage pricing theory approach, which should yield a more robust result.

Company performance could affect the existence of abnormal return. This is the reason why financial ratios, which depict company performance, could act as a representation of a company's influence towards return. There is evidence that fundamental analysis, in this case financial ratios, might be able to predict the existence of abnormal returns as it can give a signal to investors about a company's performance (Abarbanell & Bushee, 1998). Because of that reason, this Master thesis will observe the impact that financial ratios have on the existence of abnormal returns. The choice of variables for the regression would be as follows; cumulative abnormal return would be used as the dependent variable of this regression, and the independent variables used for this regression are current ratio, leverage ratio, book to market ratio, size, return on assets and profit margin. These 6 independent variables are selected because of their ability to depict the company's value, which is a good representation of a company's ability to influence stock price and return. The decision in using these variables originates from several Indonesian research papers that have been utilizing these ratios as independent variables in their regression to test their influence towards stock price and/or return (Murniati, 2016; Dita & Murtaqi, 2014; Martani & Khairurizka, 2009). Furthermore, empirical research has found significant evidence for the influence coming from financial ratios towards Indonesian stock prices (Murniati, 2016). Empirical research also finds significant evidence for the influence of financial ratios on Indonesian stock return (Dita & Murtaqi, 2014). Lastly, there is also evidence suggesting that these financial ratios are also capable of influencing abnormal returns in Indonesia's stock market (Martani & Khairurizka, 2009).

Industry fixed effects will be included in the regression to observe the effect of industry uniqueness. depending on the type of regression, a dummy variable will be used to represent the industry fixed effects. The maximum amount of dummy variables used is 10, as one industry will be omitted from the regression due to the calculation method. By incorporating these dummy variables, the effect of the industry's uniqueness could be observed. Furthermore, the data set will be divided into two categories, which are the newly opened and unchanged sectors. Because of the differentiated data sets (full sample, unchanged sample, newly opened sample), an appropriate regression model needs to be used for each data set. To determine which regression model is the most appropriate for each data set, this research will first employ an F-test to compare between OLS and fixed effect regression model. The result of the F-test will be represented on the table below:

Table 4 F-test

Data sets	Assumption	F-Statistics
Full Sample		1.52
Newly Opened	F test that all u_i=0	3.61***
Unchanged		0.26

The signs ***, **, * in the table above represents a significance of 1%, 5%, and 10% respectively

The result in table 4 above suggested that the pooled OLS will perform better compared to the fixed effect regression model for the full sample and unchanged data sets since the F-test is being failed to be rejected. However, for newly opened data set, fixed effect regression is more appropriate compared to pooled OLS. To test whether fixed effect or random effect should be used for the newly opened data set, the Hausman test is employed. The result of the Hausman test is presented below:

Table 5 Hausman test for newly opened sector

$chi^2(4)$	13.75***

The signs ***, **, * in the table above represents a significance of 1%, 5%, and 10% respectively

Table 5 above indicates that fixed effect regression is the most suitable method of analysis for the newly opened sectors data set because the value of chi^2 is able to be rejected at a level of 1 percent (Torres-Reyna, 2007). In addition, since one of this Master thesis primary goal is to observe the industry effect towards the existence of abnormal return, a maximum of 10 dummy variables indicating industry proxied by the GIC sector will be included in the pooled

OLS regression for both the all data sample and the unchanged data sets. Hence, this Master thesis OLS regression method will be similar to the Least Square Dummy Variable regression model (LSDV). Furthermore, LSDV will also be used in conjunction with fixed effect regression for the newly opened sector's data set to observe the individual industry fixed effect of the data set.

In addition to the Hausman test, I suspected that the error terms of the regressions used for this research are heteroskedastic. A modified Wald test is used to test the presence of heteroskedasticity in Stata. The result for the tests are presented in the table below:

Table 6 Wald test result

Data Set	Result
Full Sample	chi^2 (11) = 253.73***
Newly Opened	chi^2 (5) = 30.34***
Unchanged	chi^2 (6) = $1.1e^{34}$***

The signs ***, **, * in the table above represents a significance of 1%, 5%, and 10% respectively

The null hypothesis of the test stated that the error terms are homoscedastic. As presented in table 6 above, all the data sets reject the null hypothesis, indicating that the error terms are heteroskedastic. To treat this heteroskedasticity, the regression will use the robust option on Stata to acquire the robust standard errors and treat the heteroskedasticity problem (Torres-Reyna, 2007).

Based on the evidence previously discussed, the following LSDV regression equation will be employed:

$$CAR_i(\tau_{-1}\tau_{+1}) = constant + \beta_1 R_{m,t} + \beta_2 cr_{it} + \beta_3 lev_{it} + \beta_4 bm_{it} + \beta_5 prf_{it} + \beta_6 size_{it} + \beta_7 roa_{it} + Y_2\alpha_2 + \cdots + Y_n\alpha_n + \mu_{it}$$

Where each variable would be defined as;

1. $CAR_i(\tau_{-1}\tau_{+1})$

   The cumulative abnormal return, calculated as shown in the previous section. The event window used for CAR is (-2, 0), as it was the most statistically significant compared to other CAR from other event window.

2. $\beta_1 R_{m,t}$

   The market return, calculated by taking the logarithmic difference between market prices in two different times.

3. $\beta_2 cr_{it}$

   The current ratio of the individual firm, calculated by dividing the total current assets to total current liabilities at time period τ.

4. $\beta_3 lev_{it}$

   The leverage ratio of individual firm at time τ, calculated by dividing quarterly total debt and quarterly total common equity of individual company.

5. $\beta_4 bm_{it}$

   The book to market ratio of individual firm, computed quarterly by dividing book value (proxied by common/ordinary equity) with market capitalization (proxied by multiplying share outstanding and stock price) of the individual company at time period τ.

6. $\beta_5 prf_{it}$

   The profit margin of an individual company, calculated by dividing quarterly total pre-tax income to quarterly total revenue of individual firm at time period τ.

7. $\beta_6 size_{it}$

   The size of individual company, computed quarterly by using the logged quarterly total asset of the individual company at time period τ.

8. $\beta_7 roa_{it}$

   The return on asset of individual company, calculated by dividing total pre-tax income to total asset for individual company at time period τ.

9. $Y_2\alpha_2 + \cdots + Y_n\alpha_n$

   The industry dummy of the regression, proxied by the corresponding GIC Sector code (n). The amount of entities included will be n-1 because of its nature as a dummy (Torres-Reyna, 2007).

10. μ_{it}

    The error term of the regression at time period τ. Since it is heteroskedastic, a robust standard errors will be used to calculate the error term.

Whereas the fixed effect regression equation employed will be the following:

$$CAR_i(\tau_{-1}\tau_{+1}) = \alpha_i + \beta_1 R_{m,t} + \beta_2 cr_{it} + \beta_3 lev_{it} + \beta_4 bm_{it} + \beta_5 prf_{it} + \beta_6 size_{it} + \beta_7 roa_{it} + \mu_{it}$$

The explanation for each independent variable is the same as before. However, there are no dummy variables included and α_i represents specific intercepts for each sector, where the regression result table will show its value as the average of all individual specific intercept (Torres-Reyna, 2007; Wooldridge, 2016).

5. Results

The results will be divided into 3 separate sections, which follow the hypotheses. The first section will discuss and present the testing result of the existence of abnormal return around the event date. The second section will discuss and present the testing result of other variables' influence on the existence of abnormal return. Lastly, I will discuss and present the testing result on the effect of industry uniqueness, proxied by GIC sector code, towards abnormal return.

5.1. The existence of abnormal return

The full sample average abnormal returns are calculated over 21 days, ten days before and ten days after the event date, as it is the longest event window used, is going to be discussed first. The full sample average abnormal return result will determine the specific event time to be included in the cumulative abnormal return calculation for all samples (full sample, newly opened, unchanged). The result of the average abnormal return for each event date and its test result will be presented on the table 7 below:

Table 7 Average abnormal return of each event date

Event Date	N	Average Abnormal Return	Parametric Test		Nonparametric Test
			BMP Z-Value	(t-value)	(z-value)
-10	346	-0.216%	-1.777*	-1.32	-3.078***
-9	346	0.072%	0.585	2.25**	5.212***
-8	346	0.108%	1.279	5.29***	5.647***
-7	346	0.087%	0.227	0.52	1.040
-6	346	-0.514%	-2.811***	-3.08***	-3.408***
-5	346	0.614%	3.31***	3.40***	2.215**
-4	346	-0.048%	-0.278	-0.33	-0.795
-3	346	0.259%	-0.594	1.68*	2.883***
-2	346	0.489%	2.442**	3.09***	3.721***
-1	346	0.649%	2.818***	3.65***	3.144***
0	346	-0.042%	-0.402	-0.27	0.433
1	346	-0.102%	-1.262	-0.61	-0.030
2	346	-0.194%	-1.187	-0.82	-0.035
3	346	0.005%	0.755	0.04	-1.165

4	346	0.176%	-0.946	0.67	0.309
5	346	0.167%	0.324	0.96	-1.070
6	346	0.369%	1.033	2.57**	2.114**
7	346	0.068%	0.062	0.51	-0.291
8	346	0.272%	1.573	2.01**	0.125
9	346	0.092%	-0.367	0.57	2.122**
10	346	0.105%	-0.249	0.69	-1.674

The last 3 columns represent the BMP test, t-test, and Wilcoxon sign rank test for each average abnormal return in a given date indicated by parametric and nonparametric test respectively. The signs ***, **, * in the parametric and nonparametric test above represents a significance of 1%, 5%, and 10% respectively. N represents the amount of observations (companies) included in the testing. All average abnormal returns are calculated on a percentage basis. The parametric test represent the significant of the mean, and the nonparametric test represent the significant of the median.

Figure 3 Movement of cumulative average abnormal return

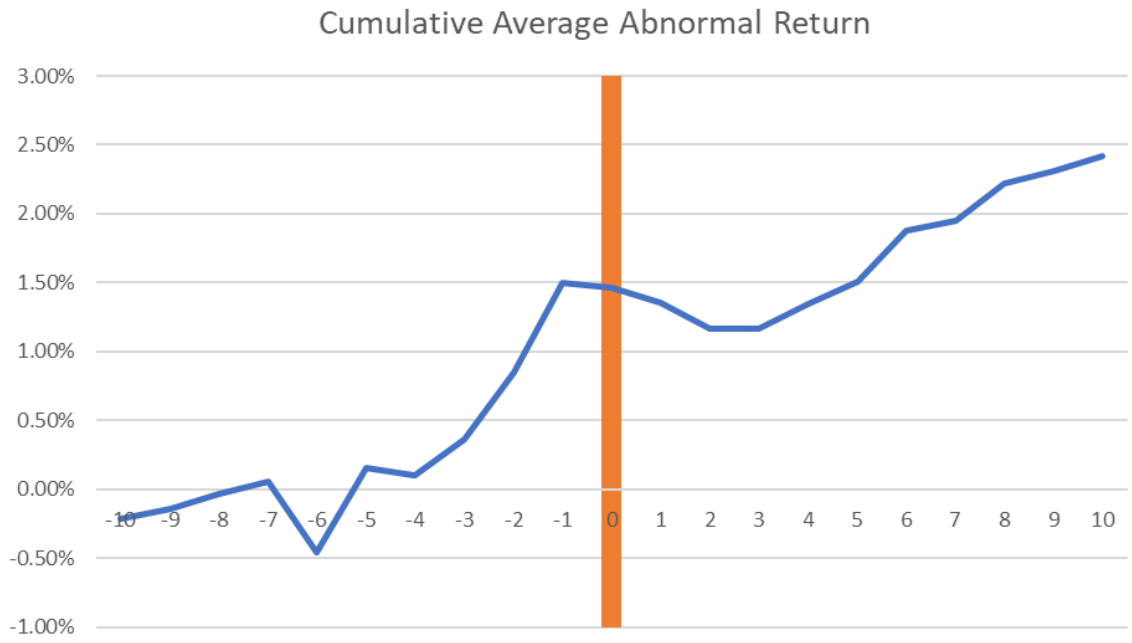


Table 7 above indicates that the average abnormal return would be most significant from before the announcement up until the announcement date, to be precise, only average abnormal return from -10 up to -1 days before the event has the most significant result with some insignificant result in between compared to average abnormal return after the event date. However, there is still a significant result acquired after the event date, but compared to results from before the event date, the number of significant results are drastically smaller. Two consecutive days have a significant result around the event date, which starts from 2 up to 1 day before the event date. This might indicate that the effect of the deregulation is the most prominent around this time period. Furthermore, it also indicates that the market player

anticipates the enactment of the deregulation. The value of each average abnormal return also differs from one event date to another. Although the majority of average abnormal returns has a positive value, some still have a significant negative value such as an average abnormal return for 6 days before the event date. However, looking at the movement displayed in figure 3 above indicates that there is indeed an upward trend in cumulative average abnormal return. Which means that the cumulative abnormal return would be overall positive.

To observe the effect of the deregulation on an aggregate level, across all companies and time, this research has compounded the average abnormal return into cumulative average abnormal returns with event period of (-1, +1), (-2, +2), (-2, 0), (-5, +5), and (-10, +10) and tested the result of the calculation using parametric and nonparametric test. Furthermore, cumulative average abnormal returns will also be compounded within the newly opened and unchanged sectors, to compare the difference in cumulative average abnormal returns between those sectors. The reason for the inclusion of (-2, 0) event date in calculating cumulative average abnormal return is because the significant result of average abnormal returns around those dates. Hence, the use of that specific event date is essential to observe the immediate effect of the deregulation. The result of those calculations are presented in table 8 below:

Table 8 Cumulative average abnormal return

Panel A

Event Date	N	Cumulative Average Abnormal Return	Parametric Test		Nonparametric Test (z-value)
			BMP (Z-value)	(t-value)	
(-1,+1)	346	0.505%	0.521	1.90*	1.055
(-2,+2)	346	0.799%	0.848	2.21**	2.440**
(-2,0)	346	1.09%	3.361***	4.33***	3.895***
(-5,+5)	346	1.97%	1.607	4.03***	3.410***
(-10, +10)	346	2.42%	0.747	3.73***	3.312***

Panel B

Event Date	N	Cumulative Average Abnormal Return	Parametric Test		Nonparametric Test (z-value)
			BMP (Z-value)	(t-value)	
(-1,+1)	215	0.436%	-0.071	1.26	0.734
(-2,+2)	215	0.518%	-0.268	1.06	1.199
(-2,0)	215	0.97%	1.907*	3.02***	2.732***
(-5,+5)	215	2.05%	1.024	3.11***	2.948***
(-10, +10)	215	3.05%	0.704	3.53***	3.746***

Panel C

Event Date	N	Cumulative Average Abnormal Return	Parametric Test		Nonparametric Test (z-value)
			BMP (Z-value)	(t-value)	
(-1,+1)	131	0.619%	1.075	1.49	0.818
(-2,+2)	131	1.26%	2.136**	2.44**	2.387**
(-2,0)	131	1.31%	2.948***	3.17***	2.794***
(-5,+5)	131	1.85%	1.635	2.61***	1.822*
(-10, +10)	131	1.38%	0.217	1.44	0.494

Panel A, B, C represents full sample, newly opened, unchanged data sets respectively. The last 3 columns represent the, BMP test, t-test, and Wilcoxon sign rank test for each cumulative average abnormal return in a given date indicated by parametric and nonparametric test respectively. The signs ***, **, * in the parametric and nonparametric test above represents a significance of 1%, 5%, and 10% respectively. N represents the amount of observations (companies) included in the testing. All cumulative average abnormal return are calculated on a percentage basis. The parametric test represent the significant of the mean, and the nonparametric test represent the significant of the median.

As presented in table 8 above, most of the cumulative abnormal return I have calculated resulted in a significant result for both the parametric and nonparametric tests. Based on the evidence shown in Panel A above, there is enough evidence to support the existence of cumulative abnormal return caused by the deregulation enacted by the government of Indonesia for the whole stock market in Indonesia. This notion is also supported by the evidence shown in Panel B and C which gave a significant cumulative abnormal return as well.

The CAR shown in table 8 above also shows a unique property. The amount of CAR in panel B is less than panel C on shorter event window, while it reverses with the increase in evet window used. This result indicates that the deregulation enacted by the government could only slowly influence the deregulated industry. As the CAR slowly reverses in the latter part of the event window, the effectiveness of the deregulation in the newly opened sector improved.

Furthermore, based on the time period used for the event date, there is also evidence suggesting that the effect of the deregulation was not easily dissipated. This evidence is shown by having a significant result from the (-10, +10) event window. However, evidence from Panel C shows that the cumulative abnormal return is only significant for up to (-5, +5) event dates. This evidence shows that the only lasting effect that the deregulation has in creating cumulative abnormal return is for sectors listed in the deregulation, as given by the significance of longer event dates in Panel B. Lastly, amongst all of the event windows from all the Panels above, the most significant, due to the fact that it is has a significant result in three test included in the calculation, is the (-2, 0). This evidence gives support to the notion that the effect of the deregulation has been going on from 2 days before and up to the day of the deregulation implementation, and is the most prominent within this period. Overall, the result supports this Master thesis first hypothesis, in which there is indeed an abnormal return created by the deregulation. Hence the null of the first hypothesis is rejected.

Since there is only one event window that showed a significant result for all the test used and from all the panels in table 8, only the cumulative abnormal return of (-2, 0) event window will be included in the regression analysis. The regression analysis used will be the Least Square Dummy Variable (LSDV) for the full sample and unchanged sector, whereas fixed effects will be used for the newly opened sector. The decision to use the aforementioned regression method was due to the compatibility it shows from the F-test used in the methodology section. The next section will describe and discuss the result of the regression.

5.2. The effect of other variables towards abnormal return

After calculating different cumulative average abnormal return for different time windows, and showcasing that (-2, 0) have the most significant result due to it having significant result for 3 tests in all data sets, further observation will be made in the influence of other variables on the creation of cumulative average abnormal (CAR) return by using the cumulative abnormal return from (-2, 0) event window. Two different kinds of regression analyses will be employed for this section, which are the fixed effects and Least Square Dummy Variable (LSDV) regression methods. The result for the dummy variable of the industry, which includes the industry fixed effects, will be presented and discussed in the next section. The result of the regression analysis would be given in table 9 below:

Table 9 Regression result

Independent Variables	Full Sample	Newly Opened	Unchanged
Constant	0.0376794***	0.0076213	0.039446*
	(3.42)	(0.52)	(1.94)
Current Ratio	0.0001252	-0.0000085	0.0001467
	(1.25)	(-0.17)	(0.12)
Leverage Ratio	-0.0002776	-0.0001329	-0.0021091
	(-0.59)	(-0.83)	(-0.71)
Book to Market Ratio	-0.2601451	1.067612**	-0.3782414**
	(-1.51)	(3.36)	(-4.09)
Profit Margin	-0.0000736	-0.0002326***	0.0001446
	(-0.78)	(-5.35)	(1.32)
Size	-0.0004494	0.0001457	-0.0018163
	(-0.50)	(0.12)	(-1.26)
Return on Asset	-0.0354354	-0.0181997	-0.130852
	(-0.47)	(-0.16)	(-0.77)
Industry Dummy	Yes	Yes	Yes
R^2	6.28%	9.45%	3.61%
Adjusted R^2	1.72%	5.01%	0%
Observations	346	215	131

The signs ***, **, * in the table above represents a significance of 1%, 5%, and 10% respectively. The number inside the bracket corresponds to the t-value and the number outside the bracket corresponds to the coefficient of each variables respectively. T values are calculated with robust standard errors. The dependent variable is Cumulative Abnormal Return (CAR).

The results shown in table 9 are robust since the independent variables are not affected by multicollinearity, as shown by the VIF test in table 3, and heteroskedasticity are already treated by using the robust standard errors. As presented in the table above, the newly opened data set is the best model in predicting the movement of cumulative abnormal return since it has the highest adjusted r-square. Most of the variables included in the regression do not have a significant effect on the cumulative abnormal return. However, book to market ratio, profit margin, and constant are found to be significant in different data sets. Albeit the significance that the aforementioned variables have, the regression power in explaining the movement of cumulative abnormal return is considerably low. The statement of low

explanatory power originates from the value of adjusted r-square, which represents the models capability in explaining the movement of CAR, only has a maximum value of 5.01%. A zero adjusted r-square in the unchanged sectors also indicate the inability of the independent variables to predict CAR in that sectors. Hence, based on the evidence showcased by the table, I could conclude that the existence of cumulative abnormal return is mostly attributed to the deregulation of FDI enacted by the government of Indonesia.

The value of each variables are unique. Most of the coefficients in the regression are negative, and a few of them are significant, for all data sets used. This means that an increase in these variables would lead to a lower cumulative abnormal return. However, some variables that do show positive value turns out to be significant as well. This contradiction will need further analysis and will be discussed in the next paragraph.

First, the result for the book to market ratio needs further analysis. The coefficient value of the book to market ratio should have been positive. A value stock, with relatively high book to market ratio, should yield positive returns. This higher return is usually attributed to the risk of holding such value stock. One of those risks could be translated to low analyst coverage, which makes it hard for investors to assess the true value of the value stock firms (Griffin & Lemmon, 2002), thus investors would require a higher stock return to hold the stock. Hence, abnormal return should have a positive relationship with book to market ratio, since higher book to market ratio will create more return. Similar to what is previously stated, the newly opened data set book to market ratio indeed showed a positive relationship. However, the result for the full sample and the unchanged sectors shows the exact opposite. This means that the value stocks are only valuable if it is included inside the deregulated sectors. Since the coefficient value of the deregulated sectors is less than the unchanged sectors, the overall positive impact of the newly opened sectors are crowded out by the unchanged sector's negative relationship towards the cumulative abnormal return in the stock market. That is why the full sample, which depicts the overall effect of the book to market ratio in the market, is negative. This result is similar to what Martani & Khairurizka (2009) acquire for their regression of price to book ratio towards abnormal return by using Indonesian data set, in which price to book value, proxied by market price divided by the book value of equity, is found to be positive and significant. The reasoning behind the negative coefficient value of the book to market ratio is that the overvalued stock price needs to be

adjusted. Although the value stocks are already undervalued, the risk associated with the value stock is greater than what the market expected. Hence, book to market ratio will adjust the overvalued stock price, which leads to a decrease in return and cumulative abnormal returns.

Second, the profit margin coefficient is negative and significant in the newly opened sector data set. Which means that the operating margin also serves as the adjustment to the overvalued stock. The reason behind the negative value of profit margin may come from the realization that the deregulated sectors are unable to perform as forecasted. Furthermore, because of the positive book to market ratio of the newly opened sectors, I suspect that the sectors are filled with a lot of value stocks. With the sectors mostly occupied by value stocks, the overall performance of the deregulated sectors might be affected negatively. Evidence found by Fama and French (1995) suggests that high book to market ratio stocks tend to have persistent low earnings on book equity. This low earnings means that the value firms are not able to perform as expected. Hence, most of the firms inside the deregulated sectors will not be able to perform as expected while also having a low profit margin. That is why instead of becoming a source of improvement towards cumulative abnormal return, profit margin acts as a downward adjustment towards cumulative abnormal return.

Third, for the rest of the independent variables, having a high value for each variable usually displays better company performance, which should roughly translates into an improvement of the stock price, and in the end, it should increase abnormal return. However, even though these variables should have created more abnormal returns, the value that each variable has are negative for all data sets. This result could only point to one conclusion, in which the companies are so overvalued that it made the performance indicator, which in this case is the financial ratio, actually decreases the stock price and create a downward adjustment to the cumulative abnormal return to its true value. The proposition previously suggested could also be seen as an argument that the existence of abnormal return in this time period does not originate from the company improvement in performance. Other variables, outside the company's control, might become the channel in which FDI deregulation conveys its influence to create cumulative abnormal return. However, upon further inspection, the table also shows that most of the independent variables included inside the regression from all the data sets has not yielded a significant result. This evidence

is proof that whatever the value that the coefficient holds, has no influence whatsoever towards cumulative abnormal return around the event period since they are statistically not different from zero. Hence the evidence indicates that the creation of cumulative abnormal return is solely attributed to the deregulation of FDI enacted by the Indonesian government around the event period for all data sets.

The last important result would be the significance of the constant variable for the full sample and unchanged data sets. What is unique about the constant variable is that it becomes the value of cumulative abnormal return in the absence of all the effects of the independent variable. In some researches, instead of using an event study, the constant of the regression is usually used to determine whether or not an abnormal return existed inside the predetermined time period (Ibbotson, 1975; Peyer & Vermaelen, 2009). Hence having significant constants suggest that there is indeed a variable influencing cumulative abnormal returns that are not explained by the independent variable. Thus this Master thesis believes that the creation of abnormal return is influenced by the deregulation for the overall stock market and unchanged sectors. Furthermore, the adjusted r-square for both the full sample and the unchanged data sets are 1.72% and 0% respectively. This further strengthen the notion that no variables could influence cumulative abnormal return for the full sample and unchanged data set, since the independent variables explanatory power on cumulative abnormal return are low to non-existent for both data sets respectively. However, the constant is found to be not significant, with profit margin and book to market ratio being the significant variables, for the newly opened data set. This evidence implies that for the newly opened sector, deregulation is not the only variable that influences the creation of abnormal return.

To sum up, based on observing the regression result in table 9, the interaction between the independent and dependent variables varies by the use of different data sets. The overall effect on the stock market, shown by using the full sample, indicates that cumulative abnormal return is solely attributed to the deregulation. The same result could also be seen in the unchanged data set. However, for the specific sectors that are included in the deregulation, there are multiple variables that could influence the creation of abnormal return. Overall, the evidence seems to be pointing to the rejection of the null of the second hypothesis, in which there are no influence from other variables towards CAR.

5.3. Industry effect towards abnormal return

This section will try to analyze the effect of industry fixed effect on cumulative average abnormal return. This industry fixed effect variable is used to determine whether there are industry unique characteristics that influence the creation of abnormal returns. The estimation window and the event date used for the calculation will be the same as the previous section. To test whether the overall fixed effect have a significant influence on cumulative abnormal return, an F-test, similar to what previously used to determine the regression method will be used. The result for the industry fixed effect would be presented in the table below:

Table 10 Industry fixed effect

Sector	Full Sample	Newly Opened	Unchanged
Materials (15)	-0.0180552 (-1.20)	-	-
Industrials (20)	-0.0208375 (-1.42)	-0.023072 (-1.50)	-
Consumer Discretionary (25)	-0.0348908*** (-2.37)	-0. 0371034** (-2.41)	-
Consumer Staples (30)	-0.0161136 (-0.94)	-	0.0069726 (0.68)
Health Care (35)	-0.0312783* (-1.69)	-0.0348893* (-1.79)	-
Financials (40)	-0.0388347** (-2.41)	-	-0.0087442 (-0.61)
Information Technology (45)	-0.0318362* (-1.36)	-	-0.0107012 (-0.58)
Communication Services (50)	-0.0296611* (-1.74)	-0.0337029* (-1.83)	-
Utilities (55)	-0.0248069* (1.67)	-	-0.010324 (-1.23)
Real Estate (60)	-0.0131008 (-0.75)	-	0.0098607 (0.86)
Fixed Effect Overall Significance	(1.52)	(3.61)***	(0.26)
R^2	6.28%	9.45%	3.61%
Adjusted R^2	1.72%	5.01%	0%

Observations	346	215	131

The signs ***, **, * in the table above represents a significance of 1%, 5%, and 10% respectively. The number inside the bracket corresponds to the t-value and the number outside the bracket corresponds to the coefficient of each variables respectively. T values are calculated with robust standard errors. The dependent variable is Cumulative Abnormal Return (CAR).

The industry fixed effect of the energy sector (10) for both the full sample and the newly opened sectors, is naturally omitted due to Stata calculation method. The same omission also occurs in the unchanged sectors for the industry fixed effect of the materials sector (15). As presented in table 10 above, most of the dummy variable does not yield a significant result for the full sample and unchanged data sets. Not only that, the full sample and the unchanged data sets overall significance, which is also used to determine under what method the regression should be calculated, does not yield a significant result. Furthermore, the adjusted r-square of the unchanged sector is zero, indicating the models in ability to predict the movement of CAR. Hence, the evidence from the full sample and the unchanged data set highly suggests that there is not much industry fixed effect could do to influence the existence of cumulative abnormal return at (-2, 0) time period. However, a different result could be seen from the newly opened sectors data set, where 3 out 4 industry fixed effects are found to be significant with a significant overall value as well. This evidence suggests that there is an influence of industry fixed effect in creating cumulative abnormal return for the deregulated sectors at (-2, 0) time period.

By splitting up the firms into newly opened and unchanged sectors, differences in the fixed effects relationship towards cumulative abnormal return from each category could be further investigated. As presented in table 10, most of the unchanged sectors fixed effects are not significant with an adjusted r-square of zero percent, whereas most of the newly opened sectors fixed effects are significant while having the highest adjusted r-square value. However, all the fixed effects coefficient values for the newly opened sectors are negative. This negative value indicates that it has a negative relationship with cumulative abnormal return. Since fixed effects represent a sector's performance, this negative relationship indicates that the companies in the newly opened sectors are not performing as expected. Furthermore, the negative value of the industry fixed effect could also come from market competition. Since before the deregulation the newly opened sectors are sheltered from international competition, there is no additional pressure coming from international competitors on stock price. After the deregulation, the company faces competition from the

international market, which creates more pressure towards the stock price. Research has also found evidence in the support of lower stock price due to an increase in competition (Schipper et al., 1987) which will create a lower cumulative abnormal return. Hence, competition might be one of the factor explaining the negative value of the industry fixed effects. Overall, these fixed effects act as a downward adjustment for the stock price which leads to a decrease in cumulative abnormal return, instead of acting as a driver for the stock price and later on cumulative abnormal return.

Compared to the overall effect displayed by the full sample, splitting the data set creates a more significant result for the newly opened sectors as discussed before. However, both of the data sets capability in explaining the movement of cumulative abnormal return is rather low, with only 5.01% and 0% adjusted r-square for the newly opened and unchanged sectors respectively. Hence, despite the significance shown by the newly opened sectors, with relatively low explanatory power, the cumulative abnormal return around the event date (-2, 0) is still mostly attributable to the deregulation. Furthermore, I suspect that the full sample overall significance of the industry fixed effect could be heavily affected by the unchanged sector insignificant result. That is why the result for the overall significance of the full market industry fixed effect becomes insignificant.

Lastly, another point worth mentioning is the negative value of most of the variables for all data sets. This negative value means that the increase in these variables will decrease cumulative abnormal return. This result is uncommon, as industry fixed effects that are proxied by these dummies represent performance and riskiness, and is usually have a positive relationship with return. However, the evidence suggests that there is indeed an adjustment of true value. Similar to the result of the previous independent variables, the cumulative abnormal return that is created by a heavily inflated company market value needs to be adjusted down, this is the reason why the industry dummies have a negative value instead of a positive value. Therefore, from an economical perspective, the firm individual characteristics, in which different sectors tend to have different riskiness and business performance, created a downward adjustment towards the stock price. This proposition suggests that the compensation in terms of return for the riskiness and business performance of each industry is overvalued, such that the industry dummies need to have a negative value to adjust the value of cumulative abnormal return downward.

6. Conclusion

I have laid out the result of the calculation and testing method of the cumulative abnormal return. While doing so, I have also employed rigorous event study and regression analysis. That being said, the conclusions for each hypothesis are the following:

I. Hypothesis 1 (H0): No significant Cumulative Abnormal Return (CAR) around the event date of FDI deregulation

After analyzing the result of the regressions, evidence strongly suggests that the deregulation creates a positive cumulative abnormal return of 1.09%, 0.97%, and 1.31% for the full sample, newly opened, and unchanged data sets respectively, around the time period where the deregulation was enacted. Furthermore, the impact of the deregulation is not easily dissipated since all data sets are shown to have a significant cumulative abnormal return in extended time periods. In addition, upon testing the significance of cumulative abnormal return for all data sets, evidence has shown that the effect of the deregulation is the most significant from 2 days before the implementation of the deregulation up to the day of the deregulation. Hence, the first null hypothesis that stipulates no significant CAR around the event date is rejected.

II. Hypothesis 2 (H0): Significant influence from other variable towards CAR around the event date

Even though few variables are significant in all data sets, most of the variables have shown an insignificant regression result. The most insignificant result could be seen from the full sample data set, where all the variables are insignificant except for the constant. However, after categorizing the data sets into 2 separate groups, which are the newly opened and unchanged sectors, new results are obtained. Some variables have shown to become significant. Newly opened data set book to market ratio and profit margin are found to be significant, whereas book to market ratio is found to be significant in the unchanged sector. However, unchanged sector adjusted r-square is equal to zero, indicating that the independent variables in this sector are unable to predict the movement of CAR. Overall, the second hypothesis is rejected, but it could not be fully rejected. Yes, the variables may not have an impact on a market-wide level, but they still affect specific sectors.

III. Hypothesis 3 (H0): Significant influence from the industry fixed effect

The regression results for all data sets show that some industry fixed effects are significant. This significant industry fixed effects mostly come from the full sample and the newly opened data set. However, the full sample data set's industry fixed effects overall significance test yielded an insignificant result. The same goes for the unchanged sectors, where both the specific industry fixed effect and the overall significance of the fixed effect is not significant. In contrast, the overall significance of the fixed effect for the newly opened sector data set shows a significant result, indicating that for these sectors industry fixed effect exists. This result points to one conclusion, where industry fixed effect that proxies industry risk and performance only exist in the deregulated sectors. Furthermore, the overall effect of these industry fixed effects from the newly opened sectors are canceled out by the unchanged sectors at the market level. This is why the overall significance of the fixed effect is not significant while using the full sample data set. Hence, the third hypothesis is to be rejected at the market level, while being accepted in the industry level, especially in the newly opened sectors.

This Master thesis main research question is "What are the impact on and determinants of cumulative abnormal returns caused by the 2016 FDI deregulation in Indonesia?". Based on the hypotheses discussed before, three answers could be concluded. First, there is indeed a deregulation induced cumulative abnormal return around the enactment of the deregulation. Second, other determinants could act as a complement to the deregulation in creating cumulative abnormal return. However, it only exists in specific sectors such as the newly opened sectors, and the intensity of which these variables influence cumulative abnormal return is low. Third, industry fixed effects could also influence cumulative abnormal return. However, it could only act as adjustment variables with its negative values and only for a specific sector such as the newly opened sectors.

Lastly, I believe that further research might need to be done about the exact channel that the deregulation might use to transfer its influence. In addition, several interesting phenomena, such as the negative book to market value of the regression result, could also be further observed to better understand the characteristic of the value and growth stocks in developing countries such as Indonesia.

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Appendix

Table 11 List of companies

GV Key	GIC Sector	Company Name
030531	15	CHANDRA ASRI PETROCHEMICAL
030821	50	INDOSAT TBK
061533	15	INDAH KIAT PULP & PAPER (PT)
061548	50	TELEKOMUNIKASI INDONESIA
157304	40	PT BANK RAKYAT INDONESIA
179277	60	ISLAND CONCEPTS INDONESIA
200147	15	ALAKASA INDUSTRINDO TBK (PT)
200224	15	ARGHA KARYA PRIMA IND TBK PT
200226	25	ARGO PANTES TBK (PT)
200286	25	PERDANA BANGUN PUSAKA TBK
200302	20	ASTRA GRAPHIA (PT)
200304	40	PT ASURANSI DAYIN MITRA TBK
200305	40	ASURANSI HARTA AMAN PRATAMA
200306	40	PT ASURANSI BINA DANA ARTA
200307	40	ASURANSI BINTANG
200308	40	ASURANSI RAMAYANA
200519	20	BAKRIE & BROTHERS (PT)
200520	30	BAKRIE SUMATERA PLANTATIONS
200560	40	BANK PERMATA TBK PT
200561	40	BANK DANAMON
200563	40	PT BANK MAYBANK INDONESIA
200565	40	PT BANK CIMB NIAGA TBK
200599	15	BARITO PACIFIC TBK
200629	25	BAYU BUANA TRAVEL
200630	40	BUANA FINANCE TBK
200713	15	BERLINA CO LTD (PT)
200864	10	BUMI RESOURCES TBK PT
200866	40	BFI FINANCE INDONESIA TBK PT
201133	25	CENTEX-CENTURY TEXTILE INDUS
201163	30	CHAROEN POKPHAND INDONESIA

201311	10	CITRA TUBINDO TBK (PT)
201365	15	INDAL ALUMINIUM INDUSTRY PT
201596	30	DELTA DJAKARTA PT TBK
201624	60	INTILAND DEVELOPMENT TBK
201710	60	DUTA ANGGADA REALTY (PT)
201711	15	DUTA PERTIWI NUSANTARA TBK
201774	20	EKADHARMA INTERNATIONAL TBK
202054	25	ERATEX DJAJA
202090	25	EVER SHINE TEX TBK (PT)
202142	25	FASTFOOD INDONESIA
202366	25	GAJAH TUNGGAL TBK (PT)
202368	40	PT EQUITY DEV INVY TBK
202610	25	GOODYEAR INDONESIA (PT) TBK
202679	30	GUDANG GARAM TBK
202707	25	PANASIA INDO RESOURCES TBK
202751	30	JAPFA COMFEED INDONESIA (PT)
202762	15	JAYA PARI STEEL
202769	20	JEMBO CABLE CO TBK PT
202817	20	KABELINDO MURNI
202818	20	PT KMI WIRE AND CABLE TBK
202830	35	KALBE FARMA
203240	15	CHAMPION PACIFIC INDONESIA
203248	20	SUMI INDO KABEL TBK (PT)
203269	15	VALE INDONESIA TBK
203293	25	INDORAMA SYNTHETICS (PT)
203294	25	INDOSPRING TBK (PT)
203322	15	INTANWIJAYA INTERNASIONAL PT
203338	40	BK ARTHA GRAHA INT
203430	25	JAKARTA INTL HOTELS & DEVEL
203524	10	RESOURCE ALAM INDONESIA TBK
203619	20	LION METAL WORKS (PT)
203622	15	LIONMESH PRIMA (PT)
203625	25	MULTI PRIMA SEJAHTERA TBK PT
203627	50	STAR PACIFIC TBK

203628	25	MATAHARI DEPT STORE TBK PT
203633	35	TAISHO PHARMA INDONESIA TBK
203729	60	SUMMARECON AGUNG TBK (PT)
203763	20	SURYA TOTO INDONESIA (PT)
203880	30	MANDOM INDONESIA (PT)
203947	20	TMS-TEMBAGA MULIA SEMANAN PT
204162	25	NIPRESS PT
204837	10	MEDCO ENERGI INTL TBK PT
204864	25	LANGGENG MAKMUR
204963	20	CITRA MARGA NUSAPHALA
204970	60	INDONESIA PRIMA PROP (PT)
204972	60	KAWASAN IND JABABEKA
204984	20	BUKAKA TEKNIK UTAM TBK
204985	20	HEXINDO ADIPERKASA
204986	45	PT SIGMAGOLD INTI PERKASA
205037	40	MASKAPAI REASURANSI
205041	30	MATAHARI PUTRA PRIMA TBK
205057	25	ASIA PACIFIC INVESTAMA TBK
205059	60	PT HANSON INTL TBK
205061	30	MAYORA INDAH (PT)
205112	35	MERCK TBK PT
205132	20	MITRA INTL RES TBK
205133	10	CAPITALINC INVESTMENT TBK
205138	60	METRO REALTY TBK
205140	45	METRODATA ELECTRONICS TBK
205237	35	MODERN INTERNASIONAL TBK
205239	60	MODERNLAND REALTY TBK
205292	30	MULTI BINTANG INDONESIA (PT)
205293	25	MULTIPOLAR TBK
205628	20	SURYA SEMESTA INTERNUSA TBK
205706	10	ETERINDO WAHANATAMA TBK (PT)
205707	30	SIERAD PRODUCE TBK
205708	15	SIWANI MAKMUR TBK PT
206150	25	PRIMARINDO ASIA INFRASTRUCT

206155	60	DUTA PERTIWI TBK (PT)
206214	25	PIONEERINDO GOURMET INTL TBK
206215	20	STEADY SAFE (PT)
206216	15	SUPARMA TBK (PT)
206775	50	GLOBAL MEDIACOM
206780	30	BUDI ACID JAYA (PT)
206859	20	KERAMIKA INDONESIA ASSO (PT)
206892	30	MUSTIKA RATU TBK (PT)
206959	25	TUNAS RIDEAN TBK PT
207104	20	RIG TENDERS INDONESIA (PT)
207136	60	RODA VIVATEX TBK (PT)
208123	30	SMART TBK
208163	25	SONA TOPAS TOURISM TBK (PT)
208178	15	SORINI AGRO ASIA CORP (PT)
208290	30	SEKAR BUMI TBK (PT)
208303	15	PT SOLUSI BANGUN INDONESIA
208304	15	PT SEMEN INDONESIA (PERSERO)
208316	25	SEPATU BATA TBK (PT)
208376	40	BANK PAN INDONESIA
208377	40	PT PANINVEST TBK
208378	40	PT PANIN FINANCIAL TBK
208469	15	PETROSEA TBK PT
208525	60	PLAZA INDONESIA REALTY TBK
208542	25	POLYSINDO EKA PERKASA (PT)
208546	40	POOL ADVISTA INDONESIA TBK
208579	25	PRIMA ALLOY STEEL
208630	25	PUDJIADI & SONS ESTATES LTD
208724	60	PAKUWON JATI
208735	25	PANBROTHERS TBK
208755	35	MILLENNIUM PHARMACON INTL
208813	15	INDO ACIDATAMA TBK PT
209041	30	TIGARAKSA SATRIA TBK (PT)
209047	20	TIRA AUSTENITE
209222	15	TRIAS SENTOSA TBK (PT)

209223	60	SURYAMAS DUTAMAKMUR (PT)
209293	30	ULTRAJAYA MILK IND & TRADING
209295	15	UNGGUL INDAH CORP (PT)
209301	30	UNILEVER INDONESIA
209347	10	UNITED TRACTORS
209435	20	VOKSEL ELECTRIC
209628	20	ZEBRA NUSANTARA
209922	25	INDO KORDSA TBK PT
210023	25	HOTEL SAHID JAYA INTL TBK
210028	40	CLIPAN FINANCE
210212	30	BENTOEL INTL INVESTAMA TBK
210557	30	PT CENTRAL PROTEINA PRIMA TB
210814	60	CIPUTRA DEVELOPMENT
211616	15	TIMAH TBK (PT)
212110	20	ASAHIMAS FLAT GLASS CO LTD
212970	40	PT BANK NEGARA INDONESIA
212978	60	LIPPO KARAWACI TBK (PT)
212987	30	PERUSAHAAN PERKEBUNAN LONDON
212988	25	RAMAYANA LESTARI SENTOSA TBK
213002	30	WILMAR CAHAYA INDONESIA TBK
213003	15	CITATAH INDUSTRI MARMER TBK
213007	15	KEDAWUNG SETIA IND
213010	15	PELANGI INDAH CANI
213011	25	SELAMAT SEMPURNA TBK
213243	15	ALUMINDO LIGHT METAL IND
213315	30	SIANTAR TOP TBK
215519	30	ASTRA AGRO LESTARI TBK (PT)
216719	15	ANEKA TAMBANG TBK (PT)
216720	60	BAKRIELAND DEVELOPMENT TBK
216721	50	MNC INVESTAMA TBK (PT)
216723	60	SENTUL CITY TBK (PT)
216725	10	HUMPUSS INTERMODA TRANS TBK
216781	40	BANK MAYAPADA INTERNATIONAL
216783	20	INTIKERAMIK ALAMAS INDL TBK

216784	15	LAUTAN LUAS TBK PT
216785	60	LIPPO CIKARANG TBK (PT)
216786	25	RICKY PUTRA GLOBAL
216787	60	RISTIA BINTANG MAH
216788	25	SUNSON TEXTILE MFR TBK (PT)
216800	30	TIGA PILAR SEJAHTERA FOOD
216802	15	JAKARTA KYOEI STEE
216803	40	LIPPO GENERAL INSURANCE TBK
220094	15	INDOCEMENT TUNGGAL PRAKARSA
220095	30	HERO SUPERMARKET (PT)
220097	15	PT TOBA PULP LESTARI TBK
221025	15	POLYCHEM INDONESIA TBK (PT)
222055	15	PABRIK KERTAS TJIWI KIMIA
222066	30	HANJAYA MANDALA SAMPOERNA
222183	25	TIFICO FIBER INDONESIA TB
222216	60	BHUWANATALA INDAH PERMAI TBK
222234	20	SUCACO-SUPREME CABLE MANUFAC
222309	25	ASTRA INTERNATIONAL TBK (PT)
223128	30	INDOFOOD SUKSES MAKMUR (PT)
223160	25	KEDAUNG INDAH CAN TBK (PT)
223550	60	JAYA REAL PROPERTY TBK (PT)
223553	30	WICAKSANA OVERSEAS INTL (PT)
223566	30	AKASHA WIRA INTL TBK
223567	20	AKR CORPORINDO TBK (PT)
223571	20	PT RIMAU MULTI PUTRA PRATAMA
223576	30	PRASIDHA ANEKA NIAGA TBK PT
223579	40	BANK OCBC NISP
223580	35	DARYA-VARIA LABORATORIA TBK
223583	35	ENSEVAL PUTERA MEGATRDNG
223584	15	FAJAR SURYA WISESA TBK (PT)
223586	25	INDOMOBIL SUKSES INTL TBK
223587	20	INTRACO PENTA
223589	20	ICTSI JASA PRIMA TBK (PT)
223590	40	LIPPO SECURITIES (PT)

223591	25	MAS MURNI INDONESIA PT
223592	20	MULIA INDUSTRINDO (PT) TBK
223595	60	PUDJIADI PRESTIGE
223597	30	SEKAR LAUT TBK
223598	15	PT SLJ GLOBAL TBK
223600	35	TEMPO SCAN PACIFIC PT
241479	25	ASTRA OTOPARTS TBK (PT)
241505	40	TRIMEGAH SEKURITAS
242865	40	BANK CENTRAL ASIA TBK (PT)
243740	15	ASIAPLAST INDS TBK (PT)
245936	40	SINAR MAS MULTHIARTHA TBK PT
246141	20	BINTANG MITRA SEMESTARAYA
246144	40	BANK MEGA TBK (PT)
246146	40	BANK VICTORIA INTL TBK (PT)
246148	15	CAKRA MINERAL TBK (PT)
246149	60	CIPUTRA SURYA TBK (PT)
246150	30	DHARMA SAMUDERA FISHING INDS
246151	50	INDORITEL MAKMUR INTL TBK
246152	60	FORTUNE MATE INDONESIA (PT)
246153	60	GOWA MAKASSAR TOURISM DEV
246154	60	PT MNC LAND TBK
246157	40	PANIN SEKURITAS TBK (PT)
246160	20	SAMUDERA INDONESIA TBK (PT)
246164	50	TEMPO INTI MEDIA TBK (PT)
246165	15	TIRTA MAHAKAM RESOURCES TBK
246167	30	TUNAS BARU LAMPUNG TBK (PT)
246882	30	PT WAHANA PRONATURAL TBK
246901	35	KIMIA FARMA TBK (PT)
247080	60	LAMICITRA NUSANTARA TBK PT
247551	35	INDOFARMA PERSERO TBK PT
248621	55	LAPINDO INTL TBK (PT)
253200	20	AKBAR INDO MAKMUR STIMEC
253201	10	BARA JAYA INTL TBK (PT)
253202	20	ARWANA CITRAMULIA

253204	40	BANK PEMBANGUNAN DAERAH BANT
253206	10	PT EXPLOITASI ENERGI
253207	50	PT CENTRATAMA TELEKOMUNIKASI
253209	15	COLORPAK INDONESIA
253210	10	DELTA DUNIA MAKMUR TBK
253211	25	NUSANTARA INTI CORPORA TBK
253212	30	FKS MULTI AGRO TBK
253214	50	FORTUNE INDONESIA
253217	20	TANAH LAUT TBK
253220	40	PT POLARIS INVESTAMA TBK
253221	20	JASUINDO TIGA PERKASA
253224	45	LIMAS INDONESIA MAKMUR TBK
253719	15	CITA MINERAL INVESTINDO TBK
253724	25	PANORAMA SENTRAWISATA TBK
253725	60	PIKKO LAND DEVELOPMENT TBK
253782	35	PYRIDAM FARMA TBK (PT)
254249	50	SURYA CITRA MEDIA TBK PT
256099	10	APEXINDO PRATAMA DUTA TBK PT
256100	40	PACIFIC STRATEGIC FINANCIAL
256101	25	ARTHAVEST TBK
256104	40	PT MNC BANK TBK
256105	40	PT BANK QNB INDONESIA TBK
256106	40	BANK OF INDIA INDONESIA TBK
256107	15	BETONJAYA MANUNGGAL TBK PT
256111	40	DANASUPRA ERAPACIFIC TBK PT
256113	15	LOTTE CHEMICAL TITAN TBK
256115	25	GEMA GRAHASARANA TBK PT
256118	30	INTI AGRI RESOURCES TBK
256122	40	KRESNA GRAHA INVESTAMA TBK
256124	20	PT NUSANTARA INFRASTRUCTURE
256136	10	SUGI SAMAPERSADA TBK PT
256137	10	PT BUKIT ASAM TBK
256138	40	TRUST FINANCE INDONESIA TBK
257392	20	PT TEMAS TBK

257421	40	BANK MANDIRI (PERSERO) TBK
260321	55	PERUSAHAAN GAS NEGARA TBK
268315	40	BANK TABUNGAN NEGARA
269922	50	PT XL AXIATA TBK
270354	20	ADHI KARYA PERSERO TBK
270355	40	ADIRA DINAMIKA MULTI FINANCE
270424	10	RATU PRABU ENERGI TBK
270425	40	ASURANSI JASA TANIA TBK (PT)
270426	40	PT MNC KAPITAL INDONESIA TBK
270427	30	BUMI TEKNOKULTURA UNGGUL TBK
270429	10	ENERGI MEGA PERSADA TBK (PT)
270431	40	PT HIMALAYA ENERGI PERKASA
271135	25	MITRA ADIPERKASA TBK
271216	25	PEMBANGUNAN JAYA ANCOL TBK
271545	40	WAHANA OTTOMITRA ML
273126	25	MULTISTRADA ARAH SARANA
273434	40	PT RELIANCE SEKURITAS TBK
273441	60	ANUGERAH KAGUM KARYA UTAMA
273454	10	MITRA ENERGI PERSADA TBK
273456	40	PT YULIE SEKURITAS INDONESIA
273829	40	PANCA GLOBAL SECS TBK (PT)
273990	40	MANDALA MULTIFINANCE TBK PT
274930	25	MULTI INDOCITRA TBK PT
274971	40	ASURANSI MULTI ARTHA GUNA PT
275332	50	BAKRIE TELECOM TBK (PT)
275424	30	MALINDO FEEDMILL TBK PT
277889	40	BANK BUMI ARTA TBK PT
278312	40	BANK BUKOPIN PT
278336	10	RADIANT UTAMA INTERINSCO TBK
278485	20	TOTAL BANGUN PERSADA
278519	50	MEDIA NUSANTARA CITRA (PT)
279117	20	PT INDONESIA TRAN & INFR TBK
281662	50	PT SMARTFREN TELECOM TBK
282002	40	BANK WOORI SAUDARA

284179	10	RUKUN RAHARJA TBK PT
284180	10	PT WILTON MAKMUR INDONESIA
284839	20	WEHA TRANSPORTASI TBK (PT)
285026	60	BUKIT DARMO PROPERTY TBK
285101	30	SAMPOERNA AGRO TBK PT
285243	40	BANK CCB INDONESIA
285337	10	PERDANA KARYA PERKASA
285549	60	EUREKA PRIMA JAKARTA TBK
285640	30	BISI INTERNATIONAL TBK
286207	15	DARMA HENWA TBK
286325	40	BANK CAPITAL INDONESIA TBK
286455	60	PERDANA GAPURAPRIMA TBK
287108	20	PT WIJAYA KARYA
287177	25	ACE HARDWARE INDONESIA TBK
287214	45	SAT NUSAPERSADA TBK
287223	20	JASA MARGA(INDONESIA HWY CO)
287231	60	CIPUTRA PROPERTY TBK
287488	20	JAYA KONSTRUKSI MANGGALA PR
287610	25	CATUR SENTOSA ADIPRANA TBK
287661	60	ALAM SUTERA REALTY TBK
287667	10	PT INDO TAMBANGRAYA MEGAH
287722	20	NUSA KONSTRUKSI ENJINIRING
287861	60	BEKASI ASRI PEMULA TBK
288021	20	PT TRIWIRA INSANLESTARI TBK
288116	60	COWELL DEVELOPMENT PT TBK
288129	10	ELNUSA TBK
288501	40	PT BANK BTPN TBK
288628	20	KOKOH INTI AREBAMA
288845	30	PT GOZCO PLANTATION TBK
289029	10	INDIKA ENERGY TBK
289044	60	PT BUMI SERPONG DAMAI
289122	40	VERENA MULTI FINANCE TBK
289245	15	KERTAS BASUKI RACHMAT INDO
289290	25	HOTEL MANDARINE REGENCY TBK

289297	10	ADARO ENERGY TBK
289345	25	DESTINASI TIRTA NUSANTARA
289367	15	YANAPRIMA HASTAPER TBK PT
289444	10	BAYAN RESOURCES TBK (PT)
289659	20	PT TRADA ALAM MINERA TBK
290905	30	SUMBER ALFARIA TRIJAYA
291874	25	TRIKOMSEL OKE TBK
292150	40	BATAVIA PROSPERINDO FINANCE
292364	60	METROPOLITAN KENTJANA
292694	20	ANCORA INDONESIA RESOURCES
293081	30	PT EAGLE HIGH PLANTATIONS
293544	60	BUMI CITRA PERMAI TBK
293546	10	DIAN SWASTATIKA SENTOSA
293594	15	PELAT TIMAH NUSANT TBK
293682	15	GUNAWAN DIANJAYA STEEL
293743	50	ELANG MAHKOTA TECH TBK
293965	20	PT PEMBANGUNAN PERUMAHAN
293987	10	PT BERNAKAT INTEGRA TBK
294123	50	SARANA MENARA NUSANTARA
294497	40	PT BANK RAKYAT INDONESIA AGR
294512	10	GOLDEN EAGLE ENERGY TBK
294950	30	NIPPON INDOSARI CORPINDO
294993	50	VISI TELEKOMUNIKASI
295003	40	BANK JABAR BANTEN
295017	25	EVERGREEN INVESCO TBK
295019	15	INDOPOLY SWAKARSA INDUSTRY
295039	25	BUKIT ULUWATU VILLA TBK
295532	10	HARUM ENERGY INDONESIA
295540	30	INDOFOOD CBP SUKSES MAKMUR
295699	50	TOWER BERSAMA INFRASTRUCTUR
295714	50	PT FIRST MEDIA TBK
295834	15	KRAKATAU STEEL PT
295838	60	AGUNG PODOMORO LAND TBK
295921	15	BORNEO LUMBUNG ENERGI

295965	10	WINTERMAR OFFSHORE MARINE
295972	30	MIDI UTAMA INDONESIA TBK
296247	40	PT BANK SINARMAS
296292	15	PT BUMI RESOURCES MINERALS
296401	20	MULTIFILING MITRA INDONESIA
296486	30	PT MARTINA BERTO TBK
296488	60	PT MEGAPOLITAN DEVELOP TBK
296827	20	GARUDA INDONESIA
297194	20	MITRABAHTERA SEGAR SEJATI
297242	35	MAYAPADA HOSPITAL
297733	40	PT RADANA BHASKARA FINANCE
297894	20	PT BUANA LINTAS LAUTAN TBK
297925	30	JAYA AGRA WATTIE TBK
298058	30	SALIM IVOMAS PRATAMA
298170	60	METROPOLITAN LAND TBK
298218	25	INDONESIAN PARADISE PROP
298223	25	PEMBANGUNAN GRAHA LESTARI
298283	40	TIFA FINANCE TBK
298298	15	ALKINDO NARATAMA TBK
298301	20	INDO STRAITS TBK
298308	20	SIDOMULYO SELARAS TBK
298319	25	PT BUANA ARTHA ANUGERAH TBK
303198	10	SMR UTAMA TBK
303389	50	SOLUSI TUNAS PRATAMA
303887	15	CENTRAL OMEGA RESOURCES
307387	10	ATLAS RESOURCES TBK
308488	10	GOLDEN ENERGY MINES TBK
308490	50	VISI MEDIA ASIA TBK
309087	10	SAMINDO RESOURCES TBK
310288	20	CARDIG AERO SERVICES TBK
310397	10	ABM INVESTAMA TBK
311316	45	PT ERAJAYA SWASEMBADA TBK
311358	15	SARANACENTRAL BAJATAMA
311377	60	GREENWOOD SEJAHTERA TBK

311481	40	PT MINNA PADI INVESTAMA
311494	25	TIPHONE MOBILE INDONESIA TBK
311582	10	PT SURYA ESA PERKASA TBK
311588	15	J RESOURCES ASIA PACIFIC TBK
312173	60	BEKASI FAJAR INDL ESTATE TBK
312874	30	SUPRA BOGA LESTARI
313076	25	TRISULA INTERNATIONAL TBK
313151	20	PT KOBEXINDO TRACTORS
313163	10	PT TOBA BARA SEJAHTERA
313201	50	PT MNC SKY VISION
313216	25	PT GLOBAL TELESHOP
313220	30	PT TRI BANYAN TIRTA
313238	60	PT AKSARA GLOBAL DEVELOPMENT
313250	40	BANK PEMBANGUNAN DAERAH
313541	50	PT INTI BANGUN SEJAHTERA
313601	60	NIRVANA DEVELOPMENT TBK
313775	30	PROVIDENT AGRO TBK
313791	20	PELAYARAN NELLY DWI PUTRI
313978	20	EXPRESS TRANSINDO UTAMA
314024	10	PT BARAMULTI SUKSESSARANA
314045	20	ADI SARANA ARMADA
314484	30	WISMILAK INTI MAKMUR
314529	20	PT WASKITA KARYA (PERSERO)
314599	20	PELAYARAN NASIONAL BINA
314625	60	SARASWATI GRIYA LESTARI
314628	35	SARANA MEDITAMA METRO
314668	30	MULTI AGRO GEMILANG PLANT
314976	20	PT TRANS POWER MARINE
314990	15	STEEL PIPE INDUSTRY OF INDO
315107	50	DYANDRA MEDIA INTL
315265	30	AUSTINDO NUSANTARA JAYA
315370	40	BANK NATIONALNOBU
315446	25	MITRA PINASTHIKA MUSTIKA
315516	30	DHARMA SATYA NUSANTARA (PT)

315531	25	SRI REJEKI ISMAN (PT)
315575	20	ACSET INDONUSA TBK (PT)
315605	40	SARATOGA INVESTAMA SEDAYA
315608	20	NUSA RAYA CIPTA TBK (PT)
315620	15	SEMEN BATURAJA (PERSERO) TBK
315640	25	ELECTRONIC CITY INDONESIA
315652	40	PT BANK MESTIKA DHARMA TBK
315654	45	MULTIPOLAR TECHNOLOGY (PT)
315662	40	VICTORIA INVESTAMA (PT)
315668	40	BANK MITRANIAGA TBK (PT)
315670	20	CITRA MAHARLIKA NUSANTARA
315686	40	BANK MASPION INDONESIA (PT)
316103	35	SILOAM INTL HOSPITALS
316110	40	ONIX CAPITAL TBK (PT)
316412	20	ARITA PRIMA INDONESIA TBK
316514	20	GRAND KARTECH (PT)
316832	40	INDOMOBIL MULTI JASA (PT)
316869	30	SAWIT SUMBERMAS SARANA
316876	10	PT LOGINDO SAMUDRAMAKMUR TBK
316918	30	SIDOMUNCUL PT
317069	40	BANK PANIN DUBAI SYARIAH TBK
317072	40	ASURANSI KRESNA MITRA TBK
317074	40	PT BANK INA PERDANA TBK
317075	20	PT CAPITOL NUSANTARA INDO
317089	15	TUNAS ALFIN TBK (PT)
317306	50	BALI TOWERINDO SENTRA
317397	60	DANAYASA ARTHATAMA TBK (PT)
317424	15	WIJAYA KARYA BETON (PT)
317438	50	GRAHA LAYAR PRIMA (PT)
317455	20	EKA SARI LORENA TRANSPORT
317456	50	INTERMEDIA CAPITAL TBK (PT)
317577	20	DWI ANEKA JAYA KEMASIN TBK
317742	50	PT LINK NET
317897	25	CHITOSE INTERNATIONAL TBK

317968	40	PT MAGNA INVESTAMA MANDIRI T
317989	40	BATAVIA PROSPERINDO INTL
317995	10	PT MITRABARA ADIPERDA TBK
318004	40	PT BANK OKE INDONESIA TBK
318011	20	PT SITARA PROPERTINDO
318242	25	PT RED PLANET INDONESIA TBK
318581	20	PT BLUE BIRD TBK
318767	10	SOECHI LINES TBK (PT)
318855	15	IMPACK PRATAMA IND (PT)
318879	30	GOLDEN PLANTATION TBK (PT)
318910	40	PT BANK IBK INDONESIA TBK
318913	40	INTAN BARUPRANA FINANCE (PT)
319023	40	PT BANK YUDHA BHAKTI
319382	35	MITRA KELUARGA KARYASEHAT
319681	60	PP PROPERTI TBK
319754	60	PT PURADELTA LESTARI TBK
319841	60	PT MEGA MANUNGGAL PROPERTY
319893	15	MERDEKA COPPER GOLD TBK
320010	45	PT ANABATIC TECHNOLOGIES TBK
320027	20	PT GARUDA METALINDO
320094	60	BINAKARYA JAYA ABADI TBK
320231	40	BANK HARDA INTERNASIONAL TBK
320616	45	MITRA KOMUNIKASI NUSANTARA
320820	20	INDONESIA PONDASI RAYA TBK
320831	30	DUA PUTRA UTAMA MAKMUR PT
320833	30	KINO INDONESIA (PT)
320955	20	ATELIERS MECANIDUQES
321138	40	BANK ARTOS INDONESIA TBK
321249	50	PT MAHAKA RADIO INTEGRA TBK
321634	20	MITRA PEMUDA TBK (PT)
321641	40	BANK GANESHA TBK (PT)
322997	40	PT VICTORIA INSURANCE TBK