

UNUSUAL MARKET ACTIVITY (UMA) AND ITS IMPACT ON INDONESIA MARKET RETURN PERIOD 2017

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ABSTRACT

Unpredictable economic conditions push the stock price volatility issue become important among investors. But it is unfortunate that currently the majority of investors prefer choosing an investment instrument based on their confidence and market news that is currently circulating, not by doing technical or fundamental analysis. Such phenomena can be bad for stock market conditions can even lead to financial crisis like stock market bubble. Because of that, exchange authorities in Indonesia which is IDX (Indonesia Stock Exchange) issued some regulation such as suspend, UMA (Unusual Market Activity), and delisting that relate to preventing irrational prices from appearing on the stock market and make the market become more inefficient, where in this study the author only focusing in UMA regulation. This study is analyzing the effect of UMA policy in 2017 using descriptive analysis, calculating the return, abnormal return (AR), cumulative abnormal return (CAR), and paired t-test to analyze the data and interpret the results. The result intended that UMA do not have a direct and significant impact to stock return. Nevertheless, UMA successfully achieved its objective and maintain the abnormal return in increased condition with the significant impact around the announcement. While in decreased condition, UMA cannot be said has successfully impacting the abnormal return directly.

Keywords: *UMA, Abnormal Return, Event Study.*

INTRODUCTION

Unpredictable economic conditions push the stock price volatility issue become important among investors. But it is unfortunate that currently the majority of investors prefer choosing an investment instrument based on their confidence and market news that is currently circulating, not by doing technical or fundamental analysis. Such phenomena can be bad for stock market conditions can even lead to financial crisis like stock market bubble. Where actually financial crisis has become a booming issue recently and there are a lot of possibilities that can cause financial crisis. One of form the financial crisis is when the economic bubble happened. Economic bubble itself is a surge in the market caused by speculation regarding a commodity which results in an explosion of activity in that market segment causing the overvalued or irrational price (Bill Conerly, 2011). Bubble economy can also occur in the capital market, where the intrinsic value of the company is becoming overvalued at their market industry and it called as a stock market bubble.

Of course almost all parties do not want that to happen because once financial crises often erupt suddenly, recovery from crises often takes a long time. Because of that, exchange authorities in Indonesia which is IDX (Indonesia Stock Exchange) issued some regulation such as suspend, UMA (Unusual Market Activity), and delisting that relate to preventing irrational prices from appearing on the stock market, where in this study the author only focusing in UMA regulation. According to Indonesia Stock Exchange (IDX), UMA is trading activities and / or price movements of unusual securities in a certain period of time on the Exchange which in the opinion of the Exchange may potentially disrupt the conduct of regular, fair and efficient securities trading. While in fact, UMA announcement does not necessarily showa the indication of a violation in the capital market. The special stocks (also called UMA stocks) are stock that have increased or decreased price at least 25% in some day transactions (Felisca Oriana, 2013).

In recent years, the UMA announcement has been increasing significantly especially last year. There are 128 announcements through year 2016 which is the highest amount of UMA announcement since the first UMA was issued in 2008. The figure 1.1 below, is showing the total amount of UMA announcement each year from 2008 – 2016.

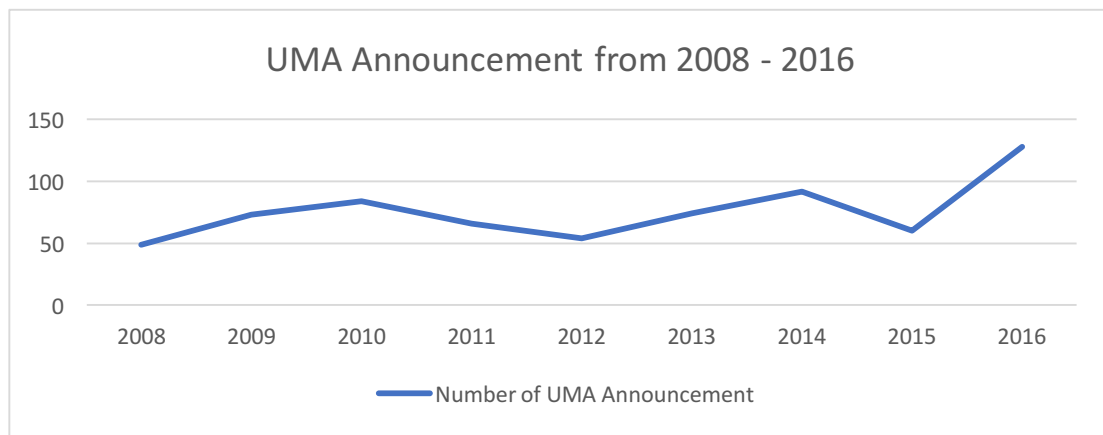


Figure-1 UMA Announcement from 2008 -2016

The increasing of UMA announcement could be a good sign for capital market Indonesia because it showed that the transaction in capital market is increasing. It also could be a sign that the economic condition of Indonesian is getting better each year. But it is all back to whether the market is efficient or not. So, it is important to have a policy that could keep maintaining the high transaction and the same time the market still efficient. Since UMA was one of the tools by the regulator to maintain the efficient market, then it is important to know the effect on Indonesia capital market.

One of UMA's few researches in Indonesia is done by Felisca Oriana (2013) which is done in the stocks that get UMA announcement, start from the first announcement that issued in 2008, until the last announcement in 2012, a year before the research start and it came up with a couple conclusions that are quite contrary to each other. The first one is the purpose of Indonesia stock exchange in maintaining regular stock trading and warning investor by issuing UMA announcement is reached. On the other hand, the UMA announcement does not protect investors as actors in the market because when the UMA is issued to a stock and then the stock starts to rises then the investor will start react irrationally. In the end, these investors will suffer losses when UMA announcement is published. These two quite different conclusions become interesting to discuss because UMA regulation are still existed and run. If indeed UMA can't protect the investors, then suspend policy which will be applied to stocks that do not work by UMA regulation would only be more detrimental to market participants.

By using descriptive analysis, calculating the return, abnormal return (AR), cumulative abnormal return (CAR), and paired t-test to analyze the data and interpret the results, this study will investigate the unusual market activities (UMA) in Indonesia Stock Exchange focusing on market capitalization characteristic of companies included in UMA category and the effect of UMA policy on stock returns.

LITERATURE REVIEW

In Indonesia, UMA began to be implemented since 2008 where the first stock that get UMA announcement is Mitra International Resources Tbk. (MIRA). According IDX website (idx.com) there are already over 800 times of UMA announcement issued by Indonesia Stock Exchange since the first time UMA regulation applied. Although we cannot yet say to run 100% well, but UMA has been going on long enough in the Indonesian stock market. As stated by Indonesia Stock Exchange, UMA is Trading activities and / or price movements of an unusual Securities in a certain period of time on the Exchange which in the opinion of the Exchange may potentially disrupt the conduct of regular, fair and efficient securities trading. Thus UMA is the main object of this research because it plays an important role in order to realize the stock market that can run well, fair and efficient.

To find the characteristic of the stock that included in UMA categories then this study is use market capitalization (market cap). Market capitalization is calculated by multiplying company's current market price per share on the stock market and total shares outstanding. There are six type of market cap classification based on readyratios.com:

1. Mega cap, consist of the companies with market cap of \$200 billion and more.

2. Large cap, consist of is the companies with market cap between \$10 billion up to \$200 billion.
3. Mid cap, consist of the companies with market cap between \$2 billion up to \$10 billion.
4. Small cap, consist of the companies with the market cap between \$300 million up to \$2 billion.
5. Micro cap, consist of the companies with the market cap between \$50 million up to \$300 million.
6. Nano cap, consist of the companies with the market cap less than \$50 million.

The analysis of this research is also based on Efficient Market Hypothesis. Efficient market hypothesis is a theory that states beating the market is impossible, because based on (Hartono, 2013) in efficient market hypothesis market will react as soon as the information issued and will react accurately to the information. In an efficient market the price will fully reflect the information available and as a result the price will react instantaneously without any bias towards new information (Fama, 1997)

Event study then being used as an empirical research technique that can see the effect of a particular event on a firm's stock price (Bodie, 2011). At the beginning, the event study was used to examine the effect of economic related events on the stock market over the past two decades. Then event research methodology used to test stock market reactions to non-related economic events. According (Edwin J. Elton, 1995) there are 8 steps in doing the event study which are:

1. Determine the event and collect sample of company that related to the announcement.
2. Determine the day of announcement and designate this day as zero.
3. Define the period or the timeline of event.
4. Calculate the return of all samples for each days being studies.
5. Calculate Abnormal Return (AR) of all samples for each days being studies.
6. Often the AR is added together to compute the Cumulative Abnormal Return (CAR)
7. Examine and discuss the result

METHODOLOGY

In calculating the abnormal return around the UMA announcement, this study will use daily stock prices and IHSG as a primary data to be calculated. Since this research only focusing on recent announcement, so the sample of UMA stock is the first stock that get the UMA announcement in 2017 until the last stock that get the UMA announcement before this study is started. The total of UMA announcement being used as a sample for this study is 50. Stock prices and IHSG (known also as the Jakarta Composite Index) are obtained from yahoo finance website (finance.yahoo.com). While for the UMA announcement are obtained from Indonesia Stock Exchange website (idx.com).

To analyze the effect of UMA policy in Indonesian stock market, event study method is being used. Event study is an empirical research technique that can see the effect of a particular event on a firm's stock price. To test the market efficiency this event study uses abnormal return over the event window. The steps of conducting the event study are as follow

1. The first step is to define the event, event window and estimation window. Where in this research the event is the UMA announcement for a stocks in 2017. The event window is 20 days prior and after the announcement day (-20 to +20). There is a need to establish estimation window since market model is used. The difference of estimation window between companies depend on the availability of the data and in this study use 90 days prior to the event window.

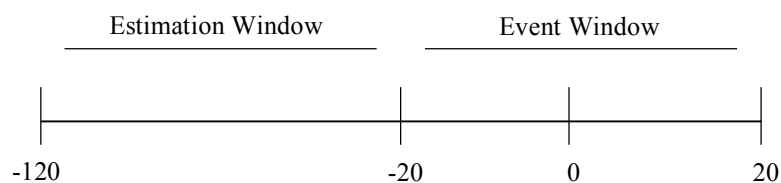


Figure-2 Timeline Used for Event Study

2. Gather the daily historical price of each stock and IHSG from yahoo finance for the normal return calculation. Calculate the daily stock return (R) and daily market return (R_m). The formula for calculating the return stated below:

$$R_{i,t} = P_1 - P_0 / P_0$$

Where $R_{i,t}$ is the actual return of stock, P_1 is ending stock price (period 1), and P_0 is the initial stock price.

3. For this research, the model that being used as the tools in determining the expected return is the Market Model. Market Model assumes a linear relationship between the security return and the market return. A simple linear OLS (Ordinary Least Square) regression is made to determine the expected return. By using this model, the formula of this model is represented below.

$$E[R_{i,t}] = \alpha_i + \beta_i R_m + e_i$$

Where $E[R_i]$ is expected return *stock i*, α_i is Alpha *stock i*, β_i is Beta *stock i*, R_m is the market return on market portfolio is the mean disturbance term and e_i is random error

4. Abnormal return shows a condition where a stock has excess in actual return compared to the normal return. The normal return itself is a return that expected by investors. In other words, the abnormal return can be defined as:

$$RTN_{i,t} = R_{i,t} - E[R_{i,t}]$$

Where $RTN_{i,t}$ is the abnormal return of stock *i* in period-*t*, $R_{i,t}$ is the actual return of stock *i* in period-*t*, while $E[R_{i,t}]$ is expected return of stock *i*; period-*t*.

5. Cumulative Abnormal Return (CAR) is calculated by adding Average Abnormal Return for each day from -20 to +20 or simply describe in the following formula:

$$CAR_t = CAR_{t-1} + AR_t$$

Where CAR_t is the Cumulative Abnormal Return at time *t*, CAR_{t-1} is the Cumulative Abnormal Return at time *t-1* and AR_t is the Abnormal Return at time *t*

6. Before make the paired t-test, the selected data should follow normal distribution or Gaussian distribution because it became one of the paired t-test statistical procedures (Ghasemi, 2012). The normality and other assumption should be taken seriously since it will affect the result of statistical result and draw on how accurate and reliable the result is. There are several ways in testing the normality of the data, but the main test is the Kolmogorov-Smirnov. In this research the test will be conducted in SPSS software and would give the result of Kolmogorov-Smirnov along with the Shapiro-Wilk test. Below is the step for doing the normality test in SPSS software:

(Analyze → Descriptive Statistics → Explore → Plots → Normality plots with tests)

Also there will be some condition where the data was not normal but only if the sample size is large enough ($> 30/40$) the violation would not cause a major problem (Ghasemi, 2012). This is known as the Central Limit Theorem where in large number of samples ($>30/40$) regardless of the shape of the data, the sampling distribution tends to be normal. This is implied that even when the data are not normally distributed, we can still use parametric procedures.

7. Paired t-test has been used to assess whether the data are statically different from each other. T-test is one of statistical hypothesis test that could be used to test before and after treatment effect on the same participant and test the comparison of two different measurements on the same participant. The normal distribution could be tested by using normality test, such as Kolmogrov-Smimov test or it could be seen from the graph. Paired t-test is one of t-test that compares the data means from two related samples of similar units. That is why paired t-test is commonly referred to as dependent samples t-test because the samples are dependent each other. The differences between the paired values on the period t-test must be normally distributed in order to be valid. The hypothesis can be described as follows:

$$H_0: u = u_0$$

$$H_i: u \neq u_0$$

Rejected null hypothesis means there is significant mean difference between two groups. On this research, paired t-test is used to test whether there are significant differences of return, abnormal return, and cumulative abnormal return on the period before and after event or it is commonly stated as pre-event and post-event.

RESULTS AND DISCUSSION

Market Capitalization

This analysis is to analyze the capitalization characteristic of unusual market activity stocks in Indonesia by using closing stock price and total outstanding share in the market of each stock in each year. The period of market capitalization analysis is in the beginning year of 2017 which starts from January to May and it is accordance with the research sample period. Since the rate in scale of capitalization that being used by investopedia.com is US Dollar, so in this study the currency was converted into Indonesian Rupiah. Based on the rate per June 16, 2017, converting 1 US Dollar to Indonesian Rupiah is Rp1,3343.00. Below is the table consists of all the UMA stock given period and with each categorize of capitalization in Indonesia Capital Market.

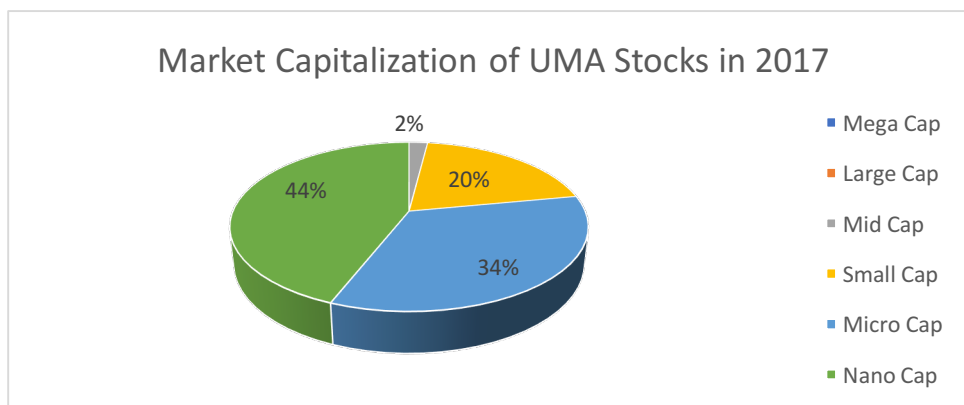


Figure-3 Market Capitalization of UMA Stocks

As we can see in the pie charts that stocks classified as unusual market activities from period of January 2017 to May 2017 with total 50 samples are dominated by nano cap and micro cap with small percentage of small cap and only one mid cap company. In this period, the market capitalization consists of 44% nano cap companies, 34% micro cap companies, 20% small cap companies, and 2% of mid cap companies. Nano cap companies came up as the most experienced companies that have unusual market activities on their stocks. Overall, in 2017, from 50 samples, UMA stocks in Indonesia occurred in company with maximum market capitalization of Rp34,893,000,000,000 which is DNET because they are in mid cap category. We can conclude that investor more likely to trade in the second or third priority stock because the unusual movement of stock is not happening in blue chip stocks.

Characteristic on Stocks Price Condition

The other characteristic of UMA stocks is based on the stock price condition. According to Felisca Oriana (2013) UMA announcement will be issued for the stock that have changed 25% from opening price to the closing price some day before the announcement. Indonesia Stock Exchange also stated in their website in every UMA announcement for each stock that they have two condition when issuing the announcement, which are the announcement for stocks that increasing at least by 25% from opening price and the announcement for stocks that

decreasing at least by 25% from opening to the closing price. In figure below, there is the proportion for UMA stocks in 2017 based on stock price condition.

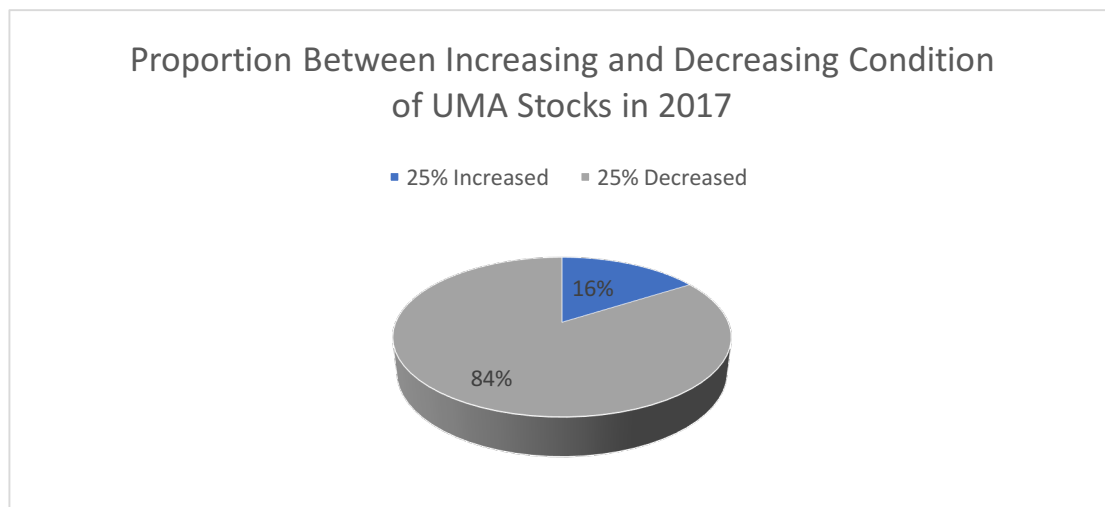


Figure-4 Proportion Between Increased and Decreased Condition of UMA Stocks in 2017

From the 50 sample of UMA announcement, 84% of them are dominated by the announcement that issued because the increased price of some stocks. While only 16% that issued in the decreasing condition. It is indicated that the investor will more likely react to the unusual movement in increasing price. For which one that have a better effect regarding the post-announcement will be analyze in the paired t-test.

Normality Data Testing

Based on the Kolmogorov-Smirnov testing, almost all the data in increased condition are not normally distribution. But, since there are 42 samples data in each day, then this data could be categorized as large sample sizes (>30/40). Then according to the Central Limit Theorem, the data in increased condition would not cause a major problem and the still could be said as a normally distributed. While from normality data testing for decreased condition, the Kolmogorov-Smirnov test resulting a fully normally distributed data with all significance level of each day are above 5%. So, the data that will be used in decreased condition has fulfil the requirement for doing the paired t-test.

Return Paired Samples Test

It can be said that although Indonesia Stock Exchange was successfully reduce the stock price in almost all of the paired days, but it can't be categorized as a successful UMA announcement yet because there still some paired days that have a minus means difference in pair 1,2,8,14,15,16, and 18. It also supported with the result that UMA announcement only significant in pair 15 and 19. In conclusion, only paired 19 that have significant impact and in the same time also reducing the stock price. Even though pair 1 and 2 have a minus difference which means they had a lower return in post-UMA announcement, but since the significance result only appear in pair 15 and 19 it means that the lower return is not the direct impact from UMA. So, there is still the similar level of return volatility in those event days that could be bad from the market efficiency stand point. While from the investor side, the volatility could give them more probability of gaining the same amount profit just like before the announcement day, even though they're still keeping the UMA stocks but of course also with the same level of risk as before the announcement.

While just like in increasing condition, in the decreasing condition also only have pair 12 that significant along event day and at the same time had a higher return after the UMA announcement compared to the return before UMA announcement. The purpose of publishing UMA announcement is to maintain fair trading for investor with maintaining the price volatility at fair level, then with this result of pairing the return sample test for increased and decreased price is showing that the purpose of UMA announcement was not fully achieved. By looking into the result of both increased and decreased condition, UMA policy in affect the return of stocks in 2017 is not have a significant impact. The movement in both figure 4.3 and 4.4 also showing that the volatility between before and after UMA announcement is not quite different each other. With the fact that only pair 19 in increased condition and only pair 12 in decreased condition that have significant impact and also fulfill the purpose of UMA in change the movement of the stock return is supporting the idea of UMA was not fully achieved. While from investor side, the less changed in volatility between before and after announcement could be a good result because the UMA announcement would not give them such impact on their return. But, those condition were not

caused by UMA, since the UMA announcement itself only has a less significant on affecting the volatility of stock return.

Abnormal Return (AR) Paired Samples Test

The result in increased condition showed that there is significant movement around UMA announcement which is in day 0. With the result of significant paired samples test appear in pair 1,2,3 which are the closest day to the UMA announcement day, it is fair to say that UMA successfully have a direct impact in controlling the volatility around the announcement. Compared to other result, in this section UMA showing a good impact on abnormal return in increased condition. The significant result and the positive mean difference in pair that closest to the UMA announcement day was successfully becoming an evidence for the good impact. In figure 4.5 also could be seen the direct impact because UMA has successfully preventing the price even go further in increasing the abnormal return and keep the volatility of abnormal return in the similar level just like before the suspicious movement before UMA announcement day.

Different from the increased condition, from the figure above it showed that there is no significant movement around UMA announcement day. With the result of significant paired samples test only appear in pair 17, while from the means difference interpretation showing that half of the event day has lowering their abnormal return and vice versa, it made more clear that in figure 4.6 the volatility is still high. In other words, UMA announcement does not fully work in decreased condition. Even though half of the event days are successfully in make the abnormal return was higher than before, but since only one significant pair in the paired samples test then it can be said that there is no direct effect from UMA announcement to the abnormal return. The volatility still exists and remain similar between pre-UMA and post-UMA announcement day. There is probability that the movement around UMA day might not caused by the UMA itself.

Overall, for paired abnormal return resulting two difference result in two different condition. The first result was showing that UMA already achieved their purpose around the announcement day to have a direct impact to the abnormal return in increased condition. On the other hand, in decreased condition UMA does not has a direct impact just like in the return paired samples test for both condition.

Cumulative Abnormal Return (CAR) Paired Samples Test

Cumulative Abnormal Return (CAR) is the sum of daily abnormal returns of UMA stocks. For event study, CAR before UMA announcement will be compare to CAR after UMA announcement. In order to successfully compare the CAR before and CAR after announcement, then the calculation of CAR also has divided into two parts. The first part is the pre-UMA period which is from day -1 until day -20. While the other part is the post-UMA period which is started from day 1 until day 20. The purpose of comparing these CAR is to support the idea of how well the UMA affect the abnormal return.

The result from this section is in line and support the result from the paired abnormal return. First the result in increased condition for both AR and CAR that has a direct impact from the UMA announcement because the volatility of both of variable has successfully controlled by UMA. While in decreased condition UMA still hasn't fully achieved their purpose in maintain the volatility around UMA day. There are still several days especially the closest day to the announcement that does not have a significance impact for both AR and CAR.

CONCLUSIONS

To know the impact after the UMA announcement issued, the author uses the paired t-test for return, AR and CAR of UMA stocks. The result of return paired sample test for increased and decreased condition, indicated that UMA does not have a direct and significant impact to stocks return. The volatility of return remains similar along before and after announcements. While for the result of pairing AR and CAR, the result was supporting each other. For increased condition both paired AR and CAR showing that UMA has a direct impact to abnormal return especially in paired day 1,2 and 3 which is the closest day to UMA announcement. On the other hand, the result in decreased condition showed that UMA does not have a direct and significance impact on abnormal return, also the volatility of abnormal return that is not significantly different just like the result in pairing the return. The plot of volatility become a supporting evidence of both result.

So, there are quite different result in increased and decreased condition. Even though UMA do not have a significant impact on return, but in abnormal return of increased condition, UMA has fully achieved its goal. This is then becoming one of the reason why until right now UMA policy remain exist. While in decreased condition, UMA cannot be said has successfully impacting the abnormal return. From this outcome and supported by the characteristic of UMA stock, it can be interpreted that many investors still easily react to increased movement because still many investors that wanting a high profit with the fast return.

RECOMMENDATION

With the result that showing UMA only appear to be impacting abnormal return in increased condition, from the market efficiency stand point then the author recommended that in issuing the announcement, the regulatory may give and differ the detailed reason on why the UMA announcement was issued. The first purpose of that recommendation is to give the all the market players the same information, so there will be no more information gap and helping the market in becoming more efficient. The second objective of the recommendation is to make the market players more eager in doing the fundamental analysis. Indonesia are in semi-strong form of efficiency, so adding up the desire to not only do the technical analysis but also the fundamental analysis would be a great start to make Indonesia capital market more efficient. It is also helping to reduce the price manipulation activities if the market players willing to do both the technical and fundamental analysis thoroughly.

The second recommendation addressed to the investor which has a big role in deciding the market performances. First, of course just like explained before, investor need to do the technical and fundamental analysis thoroughly if they want to minimize the risk level of losing. The result of this study also intended that investor better not to buy the stock right after UMA announcement in increased condition, while in decreased condition investor could see UMA announcement as an opportunity for them.

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APPENDICES

Appendix 1. Market Capitalization of UMA Stocks in 2017

Date	Stock	Market Cap	Categorized	Increased/Decreased
4/1/17	FISH	IDR1,390,000,000,000	<i>Micro Cap</i>	Increased
6/1/17	DPUM	IDR1,780,000,000,000	<i>Micro Cap</i>	Decreased
11/1/17	INTD	IDR24,857,000,000	<i>Nano Cap</i>	Increased
11/1/17	BINA	IDR7,580,000,000,000	<i>Small Cap</i>	Increased
12/1/17	CANI	IDR368,380,000,000	<i>Nano Cap</i>	Decreased
12/1/17	MGNA	IDR67,200,000,000	<i>Nano Cap</i>	Increased
16/1/2017	SKLT	IDR683,830,000,000	<i>Micro Cap</i>	Increased
20/1/17	PLAS	IDR59,210,000,000	<i>Nano Cap</i>	Decreased
25/1/17	WICO	IDR497,430,000,000	<i>Nano Cap</i>	Increased
26/1/17	LMAS	IDR53,570,000,000	<i>Nano Cap</i>	Increased
26/1/17	DEWA	IDR1,090,000,000,000	<i>Micro Cap</i>	Increased
30/1/17	BRMS	IDR1,740,000,000,000	<i>Micro Cap</i>	Increased
2/2/17	TRAM	IDR788,260,000,000	<i>Micro Cap</i>	Increased
2/2/17	TMPI	IDR275,100,000,000	<i>Nano Cap</i>	Increased
2/2/17	BAPA	IDR84,710,000,000	<i>Nano Cap</i>	Increased
6/2/17	DGIK	IDR668,130,000,000	<i>Micro Cap</i>	Increased
9/2/27	BIMA	IDR55,340,000,000	<i>Nano Cap</i>	Decreased
9/2/17	ELTY	IDR2,170,000,000,000	<i>Micro Cap</i>	Increased
13/2/17	JGLE	IDR4,650,000,000,000	<i>Small Cap</i>	Decreased
13/2/17	PKPK	IDR39,910,000,000	<i>Nano Cap</i>	Increased
13/2/17	MAMI	IDR175,600,000,000	<i>Nano Cap</i>	Increased
14/2/17	INDX	IDR52,550,000,000	<i>Nano Cap</i>	Increased
17/2/17	ASJT	IDR603,000,000,000	<i>Nano Cap</i>	Increased
20/2/17	MEDC	IDR8,690,000,000,000	<i>Small Cap</i>	Increased
21/3/17	DSSA	IDR9,250,000,000,000	<i>Small Cap</i>	Increased
22/2/17	PDES	IDR579,150,000,000	<i>Nano Cap</i>	Increased
23/2/17	SAFE	IDR113,802,000,000	<i>Nano Cap</i>	Increased
24/2/17	AGRO	IDR12.260,000,000,000	<i>Small Cap</i>	Increased
28/2/17	RODA	IDR2,390,000,000,000	<i>Micro Cap</i>	Decreased
1/3/17	PSKT	IDR517,560,000,000	<i>Nano Cap</i>	Decreased
10/3/17	FPNI	IDR2,000,000,000,000	<i>Micro Cap</i>	Increased
15/3/17	RIMO	IDR6,630,000,000,000	<i>Small Cap</i>	Increased
15/3/17	BINA	IDR7,580,000,000,000	<i>Small Cap</i>	Increased
16/3/17	DNET	IDR34,893,000,000,000	<i>Mid Cap</i>	Increased
23/3/17	KBLM	IDR378,560,000,000	<i>Nano Cap</i>	Increased
24/3/17	STAR	IDR340,800,000,000	<i>Nano Cap</i>	Increased
29/3/17	TIRT	IDR116,350,000,000	<i>Nano Cap</i>	Increased
30/3/17	INAF	IDR9,450,000,000,000	<i>Small Cap</i>	Increased
3/4/17	SMRU	IDR5,570,000,000,000	<i>Small Cap</i>	Increased
3/4/17	NIPS	IDR817,670,000,000	<i>Micro Cap</i>	Increased
11/4/17	INRU	IDR458,330,000,000	<i>Nano Cap</i>	Increased

12/4/17	PTRO	IDR1,020,000,000,000	<i>Micro Cap</i>	Increased
Date	Stock	Market Cap	Categorized	Increased/Decreased
21/4/17	SQMI	IDR195,780,000,000	<i>Nano Cap</i>	Decreased
21/4/17	PNSE	IDR1,040,000,000,000	<i>Micro Cap</i>	Increased
25/4/17	KAEF	IDR16,218,000,000,000	<i>Small Cap</i>	Increased
26/4/17	BGTG	IDR1,560,000,000,000	<i>Micro Cap</i>	Increased
26/4/17	BBHI	IDR1,185,000,000,000	<i>Micro Cap</i>	Increased
27/4/17	VINS	IDR368,808,000,000	<i>Nano Cap</i>	Increased
28/4/17	AGRS	IDR1,524,000,000,000	<i>Micro Cap</i>	Increased
2/5/17	VICO	IDR2,930,000,000,000	<i>Micro Cap</i>	Increased

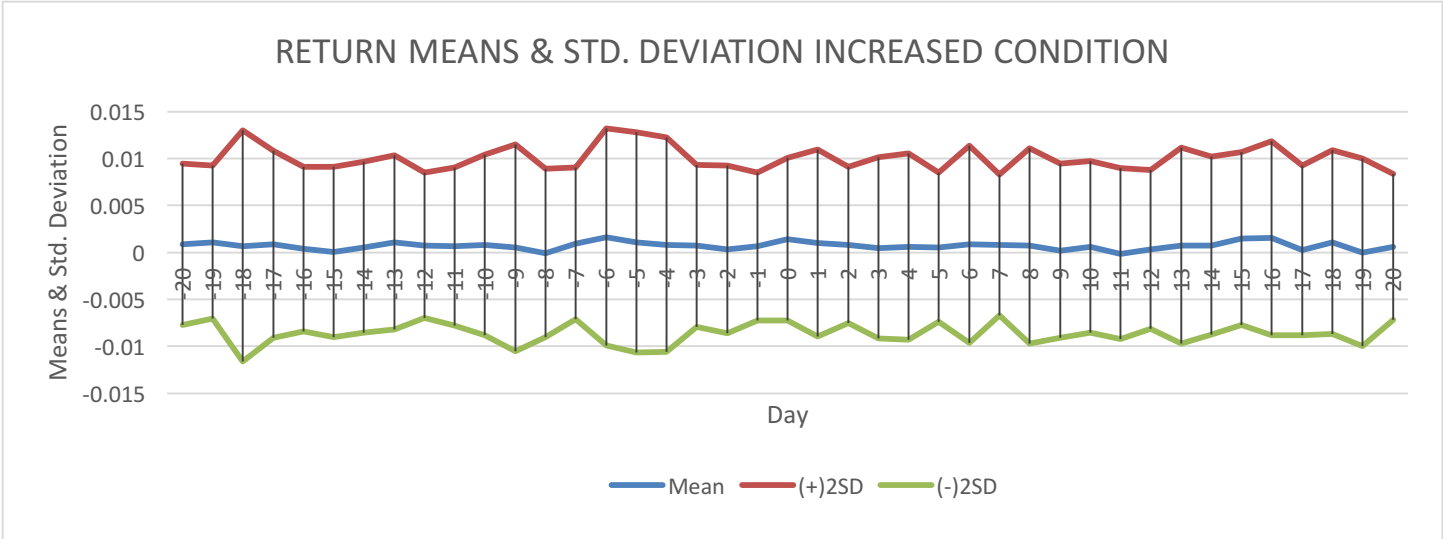
Appendix 2. Result of Return Paired Samples Test Increased and Decreased Condition

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair 1	Before_1 - After_1	-.000364	.003083	.000476	-.001325	.000596	-.766	41	.448
Pair 2	Before_2 - After_2	-.000501	.003138	.000484	-.001479	.000477	-1.034	41	.307
Pair 3	Before_3 - After_3	.000220	.003091	.000477	-.000743	.001183	.462	41	.647
Pair 4	Before_4 - After_4	.000195	.004023	.000621	-.001058	.001449	.315	41	.755
Pair 5	Before_5 - After_5	.000501	.004569	.000705	-.000923	.001925	.711	41	.481
Pair 6	Before_6 - After_6	.000761	.003822	.000590	-.000430	.001952	1.290	41	.204
Pair 7	Before_7 - After_7	.000149	.002618	.000404	-.000667	.000965	.369	41	.714
Pair 8	Before_8 - After_8	-.000766	.004891	.000755	-.002290	.000758	-1.015	41	.316
Pair 9	Before_9 - After_9	.000342	.003457	.000533	-.000735	.001419	.641	41	.525
Pair 10	Before_10 - After_10	.000198	.003909	.000603	-.001020	.001417	.329	41	.744
Pair 11	Before_11 - After_11	.000785	.003665	.000566	-.000358	.001927	1.387	41	.173
Pair 12	Before_12 - After_12	.000430	.002469	.000381	-.000339	.001199	1.129	41	.265
Pair 13	Before_13 - After_13	.000320	.003169	.000489	-.000667	.001308	.655	41	.516
Pair 14	Before_14 - After_14	-.000199	.003429	.000529	-.001268	.000869	-.377	41	.708
Pair 15	Before_15 - After_15	-.001468	.003436	.000530	-.002539	-.000397	-2.769	41	.008
Pair 16	Before_16 - After_16	-.001149	.004193	.000647	-.002455	.000158	-1.775	41	.083
Pair 17	Before_17 - After_17	.000634	.004457	.000688	-.000755	.002023	.922	41	.362
Pair 18	Before_18 - After_18	-.000431	.004333	.000669	-.001782	.000919	-.645	41	.523
Pair 19	Before_19 - After_19	.001089	.002729	.000421	.000239	.001939	2.586	41	.013
Pair 20	Before_20 - After_20	.000326	.003470	.000535	-.000755	.001407	.609	41	.546

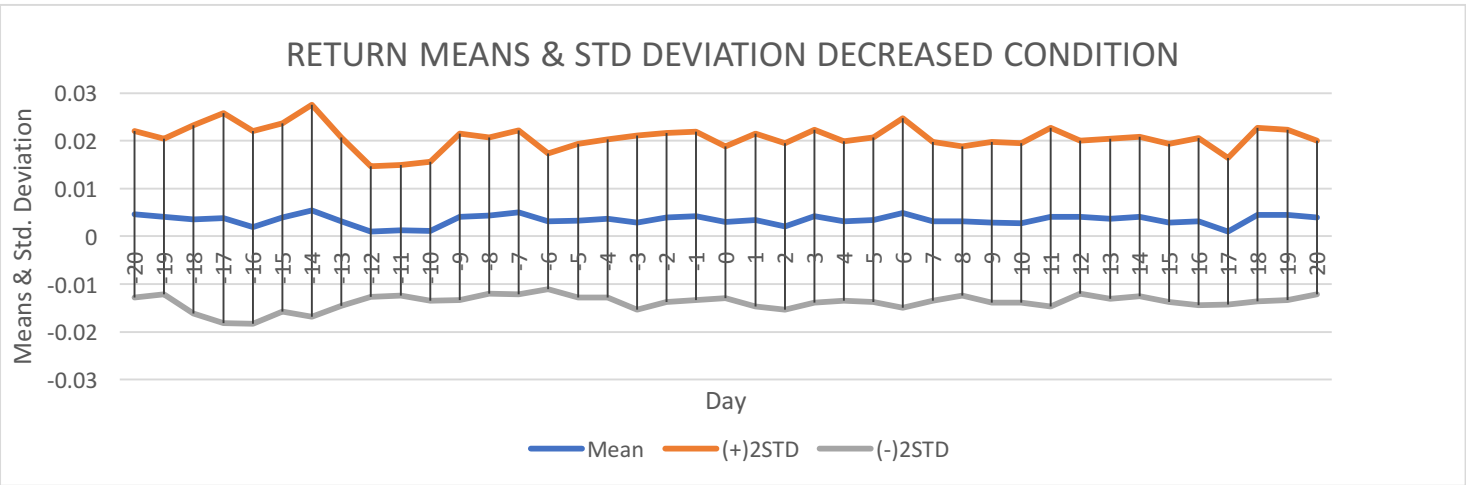
Pair 1	Before_1 - After_1	.000850	.001831	.000647	-.000681	.002380	1.313	7	.231
Pair 2	Before_2 - After_2	.001824	.002694	.000952	-.000428	.004076	1.916	7	.097
Pair 3	Before_3 - After_3	-.001402	.003661	.001294	-.004462	.001659	-1.083	7	.315
Pair 4	Before_4 - After_4	.000529	.000848	.000300	-.000180	.001238	1.765	7	.121
Pair 5	Before_5 - After_5	-.000194	.001910	.000675	-.001791	.001403	-.287	7	.782
Pair 6	Before_6 - After_6	-.001797	.004569	.001615	-.005617	.002023	-1.113	7	.303
Pair 7	Before_7 - After_7	.001835	.002456	.000868	-.000218	.003888	2.114	7	.072
Pair 8	Before_8 - After_8	.001177	.002011	.000711	-.000504	.002858	1.656	7	.142
Pair 9	Before_9 - After_9	.001149	.002313	.000818	-.000785	.003082	1.405	7	.203
Pair 10	Before_10 - After_10	-.001680	.002277	.000805	-.003584	.000223	-2.087	7	.075
Pair 11	Before_11 - After_11	-.002816	.004585	.001621	-.006650	.001017	-1.737	7	.126
Pair 12	Before_12 - After_12	-.003031	.003301	.001167	-.005791	-.000271	-2.597	7	.036
Pair 13	Before_13 - After_13	-.000507	.001364	.000482	-.001648	.000633	-1.052	7	.328
Pair 14	Before_14 - After_14	.001275	.004088	.001445	-.002142	.004693	.882	7	.407
Pair 15	Before_15 - After_15	.001128	.003692	.001305	-.001959	.004214	.864	7	.416
Pair 16	Before_16 - After_16	-.001224	.002873	.001016	-.003626	.001178	-1.205	7	.267
Pair 17	Before_17 - After_17	.002745	.007309	.002584	-.003366	.008855	1.062	7	.323

Pair 18	Before_18 - After_18	-.001006	.002206	.000780	-.002850	.000838	-1.290	7	.238
Pair 19	Before_19 - After_19	-.000331	.002121	.000750	-.002104	.001442	-.441	7	.672
Pair 20	Before_20 - After_20	.000688	.002105	.000744	-.001072	.002448	.924	7	.386

RETURN MEANS & STD. DEVIATION INCREASED CONDITION



RETURN MEANS & STD DEVIATION DECREASED CONDITION

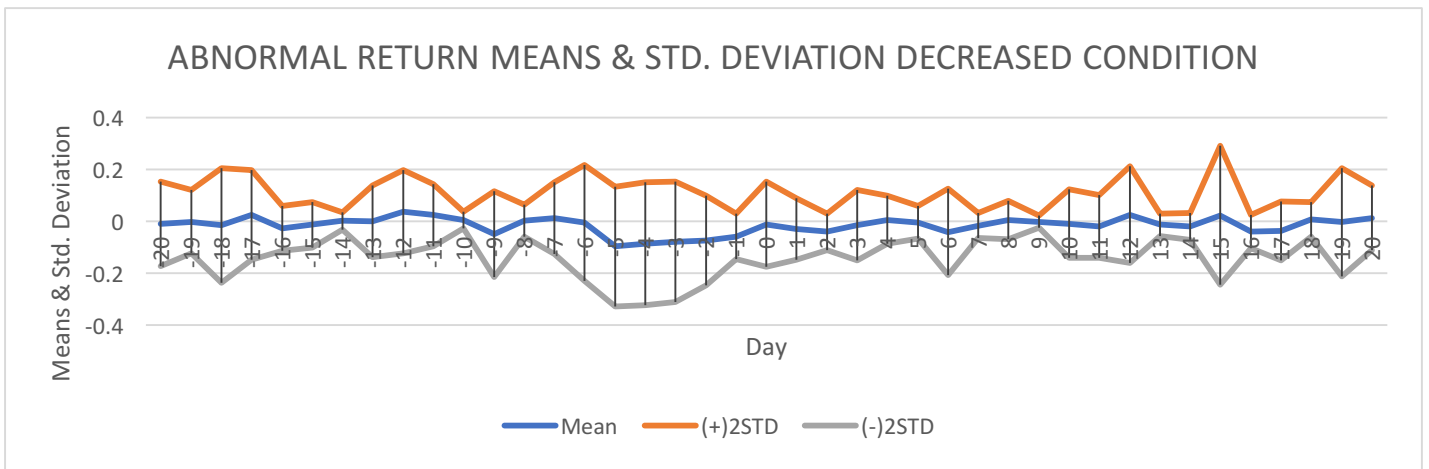
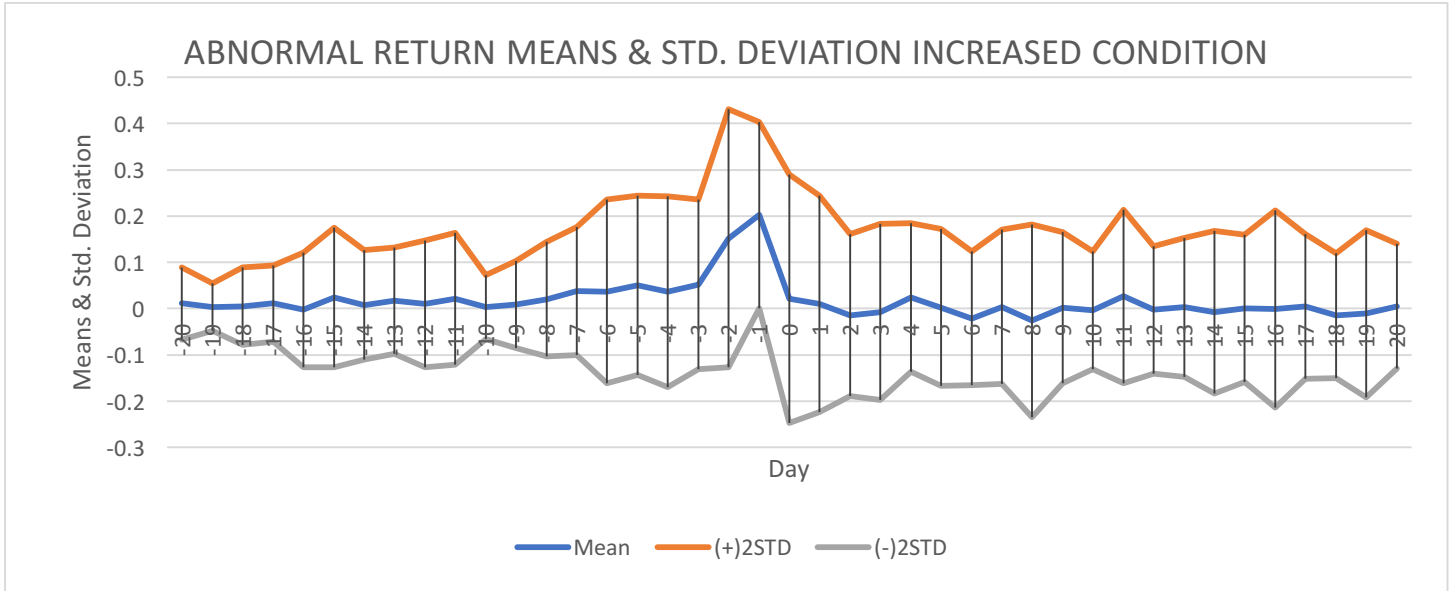


Appendix 3. Result of AR Paired Samples Test Increased and Decreased Condition

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	Before_1 - After_1	.191609	.148176	.022864	.145434	.237784	8.380	41	.000
Pair 2	Before_2 - After_2	.165727	.186749	.028816	.107532	.223922	5.751	41	.000
Pair 3	Before_3 - After_3	.059448	.137946	.021286	.016461	.102435	2.793	41	.008
Pair 4	Before_4 - After_4	.012825	.128966	.019900	-.027363	.053014	.645	41	.523
Pair 5	Before_5 - After_5	.048314	.135434	.020898	.006110	.090518	2.312	41	.026
Pair 6	Before_6 - After_6	.058149	.126443	.019511	.018746	.097551	2.980	41	.005
Pair 7	Before_7 - After_7	.033831	.114528	.017672	-.001858	.069520	1.914	41	.063
Pair 8	Before_8 - After_8	.046670	.126008	.019444	.007403	.085937	2.400	41	.021
Pair 9	Before_9 - After_9	.007030	.091365	.014098	-.021442	.035501	.499	41	.621
Pair 10	Before_10 - After_10	.006987	.071226	.010990	-.015208	.029183	.636	41	.528
Pair 11	Before_11 - After_11	-.004302	.112016	.017284	-.039208	.030605	-.249	41	.805
Pair 12	Before_12 - After_12	.012919	.088797	.013702	-.014752	.040590	.943	41	.351
Pair 13	Before_13 - After_13	.014130	.093274	.014393	-.014936	.043196	.982	41	.332
Pair 14	Before_14 - After_14	.016008	.103507	.015972	-.016248	.048263	1.002	41	.322
Pair 15	Before_15 - After_15	.024122	.108541	.016748	-.009702	.057945	1.440	41	.157
Pair 16	Before_16 - After_16	-.001551	.120431	.018583	-.039080	.035978	-.083	41	.934
Pair 17	Before_17 - After_17	.006577	.092309	.014244	-.022188	.035343	.462	41	.647
Pair 18	Before_18 - After_18	.020080	.076496	.011804	-.003757	.043918	1.701	41	.096
Pair 19	Before_19 - After_19	.013995	.095452	.014729	-.015750	.043740	.950	41	.348
Pair 20	Before_20 - After_20	.005942	.077666	.011984	-.018260	.030145	.496	41	.623

Pair 1	Before_1 - After_1	-.029862	.070379	.024883	-.088700	.028977	-1.200	7	.269
Pair 2	Before_2 - After_2	-.033046	.101221	.035787	-.117668	.051577	-.923	7	.387
Pair 3	Before_3 - After_3	-.064614	.140943	.049831	-.182446	.053217	-1.297	7	.236
Pair 4	Before_4 - After_4	-.091083	.128071	.045280	-.198153	.015987	-2.012	7	.084
Pair 5	Before_5 - After_5	-.092362	.112579	.039803	-.186481	.001756	-2.321	7	.053
Pair 6	Before_6 - After_6	.035108	.114418	.040453	-.060548	.130764	.868	7	.414
Pair 7	Before_7 - After_7	.028335	.070688	.024992	-.030762	.087432	1.134	7	.294
Pair 8	Before_8 - After_8	-.003115	.028305	.010007	-.026779	.020548	-.311	7	.765
Pair 9	Before_9 - After_9	-.047884	.093143	.032931	-.125754	.029986	-1.454	7	.189
Pair 10	Before_10 - After_10	.013981	.074563	.026362	-.048355	.076317	.530	7	.612
Pair 11	Before_11 - After_11	.043796	.104367	.036899	-.043457	.131049	1.187	7	.274
Pair 12	Before_12 - After_12	.010553	.128485	.045426	-.096863	.117968	.232	7	.823
Pair 13	Before_13 - After_13	.013670	.084055	.029718	-.056601	.083941	.460	7	.659
Pair 14	Before_14 - After_14	.021321	.029113	.010293	-.003018	.045660	2.071	7	.077
Pair 15	Before_15 - After_15	-.036066	.134136	.047424	-.148207	.076074	-.761	7	.472

Pair 16	Before_16 - After_16	.012522	.064848	.022927	-.041692	.066736	.546	7	.602
Pair 17	Before_17 - After_17	.061573	.071956	.025440	.001417	.121730	2.420	7	.046
Pair 18	Before_18 - After_18	-.024114	.085418	.030200	-.095526	.047297	-.798	7	.451
Pair 19	Before_19 - After_19	.001405	.108793	.038464	-.089548	.092359	.037	7	.972
Pair 20	Before_20 - After_20	-.023757	.087696	.031005	-.097073	.049559	-.766	7	.469



Appendix 4. Result of CAR Paired Samples Test Increased and Decreased Condition

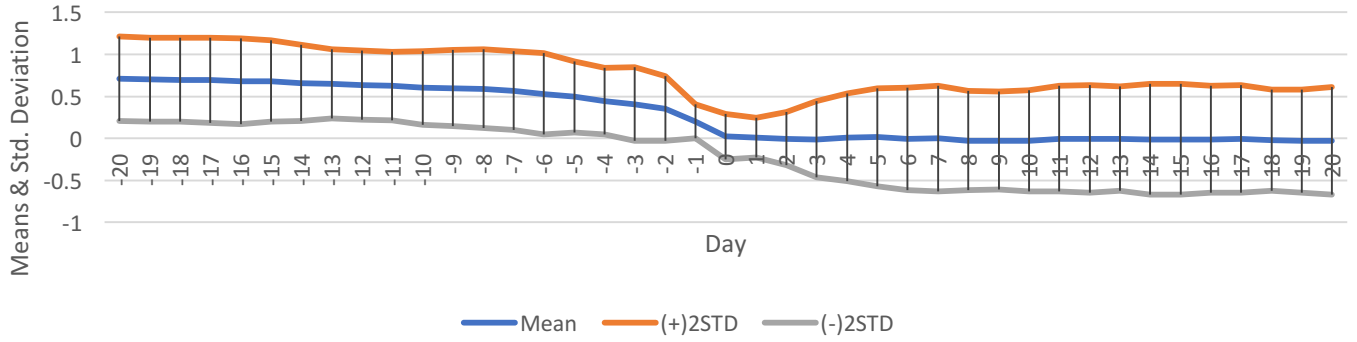
Paired Differences	t	df	Sig. (2-
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		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				tailed)
					Lower	Upper			
					Pair 1	Before_1 - After_1			
Pair 2	Before_2 - After_2	.357336	.260749	.040234	.276081	.438591	8.881	41	.000
Pair 3	Before_3 - After_3	.416784	.347503	.053621	.308495	.525074	7.773	41	.000
Pair 4	Before_4 - After_4	.429610	.338830	.052283	.324023	.535197	8.217	41	.000
Pair 5	Before_5 - After_5	.477924	.381137	.058811	.359154	.596695	8.126	41	.000
Pair 6	Before_6 - After_6	.536073	.435137	.067143	.400474	.671671	7.984	41	.000
Pair 7	Before_7 - After_7	.569904	.430715	.066461	.435684	.704124	8.575	41	.000
Pair 8	Before_8 - After_8	.616573	.419677	.064758	.485793	.747354	9.521	41	.000
Pair 9	Before_9 - After_9	.623603	.408815	.063082	.496207	.750999	9.886	41	.000
Pair 10	Before_10 - After_10	.630590	.414161	.063906	.501529	.759652	9.867	41	.000
Pair 11	Before_11 - After_11	.626289	.413080	.063740	.497564	.755013	9.826	41	.000
Pair 12	Before_12 - After_12	.639208	.427330	.065938	.506042	.772373	9.694	41	.000
Pair 13	Before_13 - After_13	.653338	.390422	.060243	.531674	.775002	10.845	41	.000
Pair 14	Before_14 - After_14	.669345	.396794	.061227	.545696	.792995	10.932	41	.000
Pair 15	Before_15 - After_15	.693467	.398943	.061558	.569148	.817786	11.265	41	.000
Pair 16	Before_16 - After_16	.691916	.390296	.060224	.570291	.813541	11.489	41	.000
Pair 17	Before_17 - After_17	.698493	.378080	.058339	.580675	.816311	11.973	41	.000
Pair 18	Before_18 - After_18	.718574	.358841	.055370	.606751	.830396	12.978	41	.000
Pair 19	Before_19 - After_19	.732569	.372564	.057488	.616470	.848668	12.743	41	.000
Pair 20	Before_20 - After_20	.738511	.371965	.057395	.622599	.854424	12.867	41	.000

Pair 1	Before_1 - After_1	-.029862	.070379	.024883	-.088700	.028977	-1.200	7	.269
Pair 2	Before_2 - After_2	-.062613	.102833	.036357	-.148583	.023357	-1.722	7	.129
Pair 3	Before_3 - After_3	-.127227	.139783	.049421	-.244089	-.010366	-2.574	7	.037
Pair 4	Before_4 - After_4	-.218310	.175031	.061883	-.364640	-.071981	-3.528	7	.010
Pair 5	Before_5 - After_5	-.310673	.169229	.059831	-.452152	-.169194	-5.192	7	.001
Pair 6	Before_6 - After_6	-.275565	.184104	.065091	-.429480	-.121650	-4.234	7	.004
Pair 7	Before_7 - After_7	-.247230	.190235	.067258	-.406271	-.088190	-3.676	7	.008
Pair 8	Before_8 - After_8	-.250346	.183562	.064899	-.403807	-.096884	-3.857	7	.006
Pair 9	Before_9 - After_9	-.298230	.186370	.065892	-.454039	-.142421	-4.526	7	.003
Pair 10	Before_10 - After_10	-.284249	.170141	.060154	-.426491	-.142007	-4.725	7	.002
Pair 11	Before_11 - After_11	-.240453	.213210	.075381	-.418701	-.062205	-3.190	7	.015
Pair 12	Before_12 - After_12	-.229900	.270269	.095554	-.455851	-.003950	-2.406	7	.047
Pair 13	Before_13 - After_13	-.216230	.211622	.074820	-.393150	-.039310	-2.890	7	.023
Pair 14	Before_14 - After_14	-.194909	.193878	.068546	-.356995	-.032823	-2.843	7	.025
Pair 15	Before_15 - After_15	-.230976	.216756	.076635	-.412188	-.049763	-3.014	7	.020
Pair 16	Before_16 - After_16	-.218454	.188273	.066565	-.375854	-.061053	-3.282	7	.013
Pair 17	Before_17 - After_17	-.156881	.222523	.078674	-.342914	.029153	-1.994	7	.086
Pair 18	Before_18 - After_18	-.180995	.221989	.078485	-.366582	.004593	-2.306	7	.054
Pair 19	Before_19 - After_19	-.179589	.200665	.070946	-.347349	-.011829	-2.531	7	.039

Pair 20	Before_20 - After_20	-2.03347	.255795	.090437	-.417197	.010503	-2.248	7	.059
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CAR MEANS & STD. DEVIATION INCREASED CONDITION



CAR MEANS & STD. DEVIATION DECREASED CONDITION

