

# Volatility of LQ45 Index Situation Before and After Eid al-Fitr

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## ABSTRACT

Many factors influence the movement of stocks on the capital market, one of which is a major event that occurs at a certain time, such as religious holiday event. This study aims to examine whether or not there is a change in the level of stock volume movement and abnormal return of stocks affected by the religious holiday event, namely Eid al-Fitr, thus affecting transactions in the capital market. The variable studied is the volume of shares that gives an idea of the number of outstanding shares traded every day and the abnormal variable return of shares is the difference between the actual return that occurs with the return of expectations. Both variables can provide information that is expected to help investors manage investment strategies at major events such as Eid al-Fitr. The data used is secondary data from the [www.investing.com](http://www.investing.com) sites from 2013 to 2019, namely 15 days before and 15 days after Eid al-Fitr. The method used is Wilcoxon Signed Ranks test because it turns out that the processed data is not distributed normally after being tested for normality. The results of this study prove that there is no difference in the abnormal level of return of shares before and after Eid al-Fitr, and proves the hypothesis that there is a change in stock volume before and after the Eid al-Fitr event.

## 1. INTRODUCTION

Many factors influence the movement of stocks on the capital market, one of which is a major event that occurs at a certain time (Casado et al., 2013; Rossi & Gunardi, 2018). Religion is important to its adherents. So religious holidays are a concern for some who celebrate it. A holiday is an important event that is likely to affect the movement of stocks on the capital market. In this study, Eid al-Fitr became an event that is likely to affect the movement of stocks in the capital market (Hinawati, 2016). Eid al-Fitr holiday that occurs is characterized by the absence of securities trading transactions in the Indonesian capital market, it will have an impact in investment decision making by investors (Syed & Khan, 2017). Capital expenditure decisions taken by investors are not only based on rational thinking, they can also be influenced by irrational factors such as psychological factors (Filipovski & Tevdovski, 2018; Syed & Khan, 2017). In other words, the market that is believed to be always efficient turns out not to be so (Rossi & Gunardi, 2018).

In line with previous studies, individual investors in making their financial decisions is not only influenced by the basis of consideration of economic rationality and objective data only, but also influenced by irrational actions such as emotions, certain instinctive factors, and the investor's own mood (Dervishaj, 2018; Nofsinger, 2018). Approaching the feast will be accompanied by various feelings with varying degrees. The meaning of psychological factors that affect the behavior of investors in determining their decisions, especially in the time around the feast. Thus resulting in differences in the gain of returns from investments, which are utilized by investors to obtain abnormal returns (Kariofyllas et al., 2017). The movement of stock volume and expectations of abnormal return of stocks are of concern in this study. Both are benchmarks for how index volatility occurs due to holiday effects also occur so that stock volumes and abnormal returns change before and after the holidays, in this study Eid al-Fitr. Volatility shows the market is not always efficient (Kumar & Jawa, 2017).

Some previous studies that has been done provides results that can be considered for decision makers. In developed countries, important U.S. holidays had an effect on European markets, with above-average returns and below-average volatility/trading volume (Casado et al., 2013). Lower volumes can be due to the absence of institutions for United States investors and lower macroeconomic information volumes with fewer investor disagreements since stock markets and economic news sources, these factors change the flow of public information and the mix of European investors. Then another study also shows

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countries in Europe and surrounding areas show that the movement of stocks is influenced by holiday effect between one country and another so that the level of volume trading and abnormal return can occur due to holiday effect, day effect and monthly effect. Some studies found that there is an influence of differences between abnormal return and stock volume before the feast and after the feast (Khan et al., 2017; Monalisa, 2017). Another study shares outstanding after the holiday market by considering the calendar effect in influencing the movement of stock volume in the atmosphere of the capital market (Hassan & Kayser, 2019a; Istanti, 2009). Other study also explained that Eid al-Fitr has an influence in the same movement in the exchange (Hinawati, 2016).

According to (Abreha & Praba, 2017) conducting holiday effect research on The Indian capital market found that the return of shares before the holiday and after the holiday is different, which means that the holiday effect has an impact on the return of shares on the capital market in India. Another study conducted by (Kinatader et al., 2019) found that the Indian market showed significant effects before and after the holidays, while the Chinese market was anomalous before public holidays, and the South African market was only affected after the holidays. However, there is also research that states that there is no difference before and after Religious Holidays against Abnormal Return of shares and Trading Volume Activity (TVA). This means that none of the stock trading days had a significant impact on the return on shares of the business unit at LQ45 in the time of 2015 to 2017 findings (Ananda, 2019). Other research states there are differences in stock returns, abnormal return of shares and stock trading volume conducted before and after Eid al-Fitr (Andriyani et al., 2018).

Moving stocks and stock volumes to see if the best move can be taken by investors in the time leading up to Eid al-Fitr and after the celebration of Eid al-Fitr. Therefore, this study aims to examine the abnormal movement of stock returns and stock volumes that occurred before and after Eid al-Fitr with companies in the LQ45 Index in the period January 2013 to December 2019 and analyze factors that are likely to affect the condition by using different test methods as a consideration for investors to be able to determine investment decisions on stocks to be purchased listed in the LQ45 Index.

## 2. METHODS

This study was a descriptive quantitative study with event study method. Event Study is a study that observes the market movement of an event whose information is published as information. Event Study can be used to test the efficiency of the market is also able to be used to test the content of information content (Jogiyanto, 2016). From a major event or event, the market responds at the time the announcement is received by the market. The affected market response is seen by changes in the price and trading volume activity of the shares concerned. This study collected data used using observation techniques, namely to observe or observe lq-45 index companies in the period 2013-2019. The data used in this study is secondary data derived from www.investing.com. The data that will be tested is Abnormal Return and Daily Trading Volume which is 15 days before Eid al-Fitr and 15 days after Eid al-Fitr in the period January 2013 to December 2019. The method to be used is T-Test Different Test with related sample, to test if there is an average difference between two related samples. This method was chosen because the data to be used homogeneously and the purpose of the research is to find out if there are differences in abnormal return rates and stock trading volume before and after the Holiday Effect on LQ-45 index companies listed on the Indonesia Stock Exchange in 2013-2019, the authors conducted tests with paired t-tests. The Paired Sample T Test is a test used to compare the difference between two means of two pairs of samples assuming normal distributed data. Paired samples come from the same subject, each variable taken in different situations and circumstances. This test is also called paired T Test (Ghozali, 2016).

## 3. RESULTS AND DISCUSSIONS

### Results

The results of descriptive statistical analysis are displayed in Table 1.

**Table 1.** Descriptive Statistics

Variable	Minimum	Maximum	Mean	Standard Deviation
Volume After	1.060 000	992.270.000.000	210.090.076.000,1	357.749.221,1
Volume Before	1.020.000	983.350.000.000	173.921.238.100	340.145.767,8
Abnormal Return	- 0,00772	0,00820	0,00022	0,00338
Abnormal Return	0,06719	0,03088	- 0,00077	0,01065
Valid N	105	105	105	105

Table 1 above provides transaction information on the average volume of shares traded before Eid al-Fitr is 210,090,076,100 while the average transaction volume of shares traded after Eid al-Fitr is 173,921,238,100. This event indicates that there is a decrease in the volume of stocks traded in the capital market. Then table1 also shows abnormal stock return transactions before Eid al-Fitr 0.00022 while abnormal stock return transactions after Eid al-Fitr is - 0.00077, clearly seen from abnormal return of stock trend from previous positive to negative, meaning there is a degradation of stock returns on the event of Eid al-Fitr.

This study uses secondary data, namely the LQ45 price index, comparing two transactions of events before and after Eid al-Fitr. So before conducting a test pair sample must be ascertained whether the data used is distributed normally or not. Then after testing the data found that the data used is not distributed normally. The normality test results are presented in Table 2.

**Table 2:** Normality Test Results

Variable	Kolmogorov-Smirnov Z
Volume After	4.613
Volume Before	0.843
Abnormal Return	4.948
Abnormal Return	2.273
<b>Valid N</b>	<b>105</b>

The result of the data normality test, found the value of the volume test results before Eid al-Fitr was 4,613 volumes after Eid al-Fitr 4,948, for the abnormal return test value of shares before Eid al-Fitr 0.843 the value of abnormal stock returns after Eid al-Fitr 2,273. Using a confidence level or significance of 5%, the values displayed for each of the variables tested show abnormal or abnormally distributed data. Because of the data used is not the entire period from January 2013 to December 2019, but 15 days before and 15 days after. There are also days when there are no transactions due to shared leave imposed by the government, with another meaning that there is a calendar effect that reinforces these events, the calendar effect is an anomaly or economic effect related to the calendar (Shah et al., 2017). Therefore, it is not allowed to test pair samples to determine whether or not the change or movement of each variable at the time before the event and after the event (Ghozali, 2016). To solve this problem, the test can be done using Wilcoxon test, as presented in Table 3.

**Table 3.** Wilcoxon Signed Ranks Test

Variable	Significance Value
Volume After	0.021
Volume Before	
Abnormal Return	0.475
Abnormal Return	

The results of the Wilcoxon Signed Rank test showed the value for the volume after and the volume before the Eid al-Fitr event was 0.021, while for the abnormal return of shares after the event and the abnormal return of shares before the Eid al-Fitr event was 0.475. These findings indicate information that there is a change in the volume of shares traded after the event and before the events of Eid al-Fitr, these findings support the statement that stated there is a change in stock trading volume before and after the holiday (Hassan & Kayser, 2019b).

## Discussion

There are various researches that examine the calendar of effects on prices, but still less focused on the effect of trading volume. It becomes important to understand combining the results of the literature looking at the correlation of volume with price, to infer the connection between the effect calendar and the trading volume (Shah et al., 2017). Calendar effects are market anomalies or affected economies associated with the calendar. They involve noticeable changes in stock market behavior, research results varying from daily and in-week effects to looking at changes in effects in one year and multi years. It turns out that the calendar effect has disappeared or reversed since it was discovered and documented by (Öztürk et al., 2018) This anomaly has been researched ex post, because its existence is inferred from past empirical data. Therefore, the theory of market inefficiency is unpredictable ex ante due to the theoretical nature of the data used by the study documenting the effects of calendar and ambiguity of interdependent economic variables. (Kumar & Jawa, 2017).

The most illustrative calendar effect survey is to understand the impact these calendar anomalies have on prices and impact on volume. The following review of the calendar effect proves that the market has event-driven deviations. One of the most popular calendar effects being investigated by behavioral finance literature is the weekend effect. The findings of the main literature synthesized below prove the inconsistency of research on the effects of the calendar. Complex and particular are prominent features of financial data, making many studies of calendar effects vulnerable to bias. The importance of individual calendar effects is weaker when they are evaluated in its overall context containing all calendar effects and rules (and their interdependence) than when they are assessed separately (Filipovski & Tevdovski, 2018). Able to generate potential bias when mining data generated from using the same data set.

An example of anomalous events on the capital market is the holiday effect. So in the study by linking between certain holiday events with the movement and its impact on the stock exchange. The effect of a big day or holiday is called the holiday effect. Research on the impact of certain holiday events on the movement of exchange performance, contributing factors such as, trading transaction activities, value and change in stock price. Pre-movement of these factors compared during the period before the holiday time and after the holiday (Hinawati, 2016). Research documenting that large stock prices are positive and negative movements that occur immediately before a national holiday are followed by post-holiday price shifts, the magnitude of which increases over a longer period of time, while large stock price movements occurring on other days are followed by both insignificant or slightly significant price reversals. This holiday effect is more pronounced for smaller and more volatile stocks and remains strong after taking into account company-specific factors and additional events. These findings may be attributed to investors' reluctance to trade influential decisions before the holidays, leading to less reaction to certain company surprises (Kudryavtsev, 2019).

Volume stock trading is the number of shares (or contracts) traded over a certain period of time (e.g. hours, days, weeks, months, or others) (Khajar, 2016). Stock trading volume is the number of shares traded on the capital market in a single transaction day. Judging from its function, then using variable stock trading volume is an enrichment of the event study. This approach of stock volume activity can be used to test weak form efficiency due to the market situation that has not been efficient or weak market efficiency, reflecting price changes have not described the existing information so that researchers are only able to observe capital market movements through trading volume transactions on the capital market (Kumar & Jawa, 2017). This trading volume activity is utilized to check the reaction of individual investors analyzing the informative announcements available. So that being able to make decisions turns out that information is able to influence an investment decision. Data used in trading volume activity in a transaction by comparing the number of shares of companies traded in a certain period of time with the overall number of shares of the company outstanding in the same time period.

Indices are treated as indicators to observe the price volatility of securities. IDX currently has several indices, one of which is the liquid 45 index (ILQ-45). IHSG is not able to provide an adequate picture, the LQ-45 index becomes a companion of IHSG to provide an objective and reliable platform for financial actors, investment managers, investors and other capital market observers in monitoring the price volatility of stocks that are actively transacted. The capital market in Indonesia is still classified as a capital market with few transactions, namely the capital market, which is partly less actively traded securities. IHSG is an index that includes all stocks listed in the capital market, considered inadequate to give indications of capital market transactions (Jogiyanto, 2016). So since February 24, 1997, another alternative index, liquid-45 index (ILQ-45) has been displayed. The index consists of the 45 most active and liquid stocks conducting transactions. The underlying consideration of the determination of stocks that fit into ILQ-45 is the level of smoothness and market capitalization with the following criteria, there are 12 months running, ranked in the 60th largest in the regular market on average stock transactions, there are 12 months running, is in the order of the 60 largest with the average market cap value entered in the regular market and IDX recorded a minimum of 3 months. In early February and August ILQ-45 is updated regularly every 6 months.

The announcement of religious holidays, especially Eid al-Fitr holidays, can affect the behavior of investors in stock trading. Abnormal return is used to determine the amount of return received by investors affected by the Eid al-Fitr holiday, then the measuring instrument is abnormal return received by investors. Abnormal return or excess return is the difference from the actual return that occurs compared to the normal return. Normal return is the return expected by investors). Insignificant average abnormal return, while the second hypothesis shows a significant difference in the average abnormal activity of trading volume (Utomo & Herlambang, 2015). The value information of 0.475 indicates that abnormal return of shares has not undergone a meaningful change in the events before and after Eid al-Fitr. These findings are in line with the previous study that do not show abnormal differences in return before the holiday effect, Maulid Nabi and Isra Mi'raj (Andriyani et al., 2018). However, there is an abnormal difference in return before and after Eid al-Fitr and Eid al-Adha. This indicates the holiday effect did happen in the Indonesia

Stock Exchange. (Ananda, 2019) reveals the difference between abnormal return before and after Eid al-Fitr.

From the results of research conducted on the Capital Market of Thailand shows that there are statistically significant positive higher returns rate than normal days in both pre-holiday and post-holiday statistically significant positive higher returns rate than normal days in both pre-holiday market efficiency, and post-holiday (Arunwarakorn & Suthiwartnarueput, 2020). Referring to the annual calendar that provides information on red dates or holidays proclaimed by the government, I see many red dates that are close to each other ahead of Eid al-Fitr and after Eid al-Fitr. Ahead of Eid al-Fitr the government also recommends shared leave that is done before and after, so that transactions in the capital market are stopped. What is also interesting is that in 2018 not long after Eid al-Fitri, the regional head election was conducted simultaneously, clearly this event will signal for investors, for defensive positions, to see the market situation. In 2019, the approaching Eid al-Fitr begins with a red date very close to Eid al-Fitr which is the birthday of Pancasila. In our view, these events are factors that greatly influence the movement of stock volumes traded at the time before and after Eid al-Fitr and the abnormal movement of stock returns that occur before and after the event. This indicates that certain events signal investors to consider investing (Sasikirono & Meidiaswati, 2017). Another consideration is because Eid al-Fitr is a recurring event every year with its homecoming rituals, making investors become accustomed and have prepared anticipation measures in determining their investment activities. So this also affects the movement of transactions in the capital market. This appears to amplify the calendar effect (Syed&Khan,2017).

#### 4. CONCLUSION

Major events such as Eid al-Fitr, it turns out that there is a decrease in the volume of shares, while abnormal return of shares is not affected so that there is no abnormal change in stock returns in the capital market ahead of the event of Eid al-Fitr. This could be the reason because there are other factors that also influence the movement of stock transactions in the capital market. Such as adjacent holidays, shared holidays, a culture that has become a habit that has been read by investors, and so on. The involvement that can be used from this research for companies and individual investors, can be information that is considered to determine the steps of investment transactions in the stock market. So that it can regulate the company's cash flow in the period leading up to the Eid al-Fitr event. Limitations of research, making suggestions for other research to include or add holidays and other red dates as variables that can add more complete data to see the change of each event in influencing the movement of stocks in the capital market.

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