

# RAMADAN EFFECT ON THE RETURNS OF THE JAKARTA ISLAMIC INDEX (JII) AND THE FTSE BURSA MALAYSIA HIJRAH SYARIAH INDEX (FBMHS)

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Article History	Abstract. This research aims to analyze a market anomaly known as the Ramadhan Effect in the Jakarta Islamic Index (III) and the ETSE Bursa Malaysia			
	Lieb Shariah Inday (EDMUS). The study utilizes seeondowy data specifically			
Received: 22-08-2023	Hijran Sharian Index (FBMHS). The study utilizes secondary data, specifically			
	daily time series data derived from closing prices. The research sample consists			
Revision: 28-08-2023	of the Jakarta Islamic Index (JII) and the FTSE Bursa Malaysia Hijrah Syariah			
	(FBMHS), covering the period from January 2017 to December 2019. The			
Accepted: 29-08-2023	GARCH (Generalized Autoregressive Conditional Heteroskedasticity) method is			
	employed for analysis. The research findings indicate that there is no evidence			
Published: 03-09-2023	of the Ramadhan Effect in the return equations of the Jakarta Islamic Index (JII)			
	and the FTSE Bursa Malaysia Hijrah Syariah (FBMHS). The absence of the			
	Ramadhan Effect's influence on returns is attributed to the stable behavior of both			
	the Jakarta Islamic Index (III) and the FTSF Bursa Malaysia Hijrah Svarjah			
	(FBMHS) during the month of Ramadhan as well as other months			
	(i Divitis) during the month of Ramadian as well as other months.			
	Keywords: Market Reaction, Return, Ramadhan.			
	Abstrak. Penelitian ini bertujuan untuk menganalisis anomali pasar yaitu			
	Ramadhan Effect pada di Indeks Svariah Jakarta (III) dan Indeks Hiirah Svariah			
	ETSE Bursa Malaysia (EBMHS) Penelitian ini menggunakan data sekunder			
	khususnya data rangkaian waktu harian yang diparalah dari harga poputupan			
	Sampal papalitian tardiri dari Indaka Svariah Jakarta (III) dan Indaka Hiirah			
	Samper penentian teruni dan mucks Syanan Jakarta (Jii) dan mucks Injian			
	Syanan FISE Bursa Malaysia (FBMHS), yang mencakup periode Januari 2017			
	ningga Desember 2019. Metode GARCH (Generalized Autoregressive			
	Conditional Heteroskedasticity) digunakan untuk analisis. Temuan penelitian			
	menunjukkan bahwa tidak ada bukti Efek Ramadhan dalam persamaan			
	pengembalian Indeks Syariah Jakarta (JII) dan Indeks Hijrah Syariah FTSE			
	Bursa Malaysia (FBMHS). Ketidakhadiran pengaruh Efek Ramadhan terhadap			
	pengembalian disebabkan oleh perilaku stabil baik Indeks Syariah Jakarta (JII)			
	maupun Indeks Hijrah Syariah FTSE Bursa Malaysia (FBMHS) selama bulan			
	Ramadhan maupun bulan-bulan lainnya.			

Kata Kunci: Reaksi Pasar, Pengembalian, Ramadhan.

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# **INTRODUCTION**

Capital Market is a mechanism of the economy involving the trading of securities, enabling companies or organizations to generate profits by buying and selling these securities. It also serves as a means of mobilizing economic capital resources available in society within the economic system of a country, particularly in the financial domain. The market plays a crucial

role as an efficient channel for the transfer of capital from investors to companies. Apart from being a source of financing, the capital market is also utilized as an investment instrument (İlhan, 2019). Stocks are one of the commodities traded in the capital market, where price is a crucial factor that needs to be taken into consideration. Therefore, stock prices are essential for prediction and analysis. Market reactions to stock prices are important to discuss as they provide the primary behavior of market participants, which will influence the condition of the capital market, which tends to be active and fluctuating as part of the capital market (Maharani & Yunita, 2018).

The efficient market hypothesis has been debated for quite a long time in the financial literature. This discussion mainly arises due to empirical evidence found by many researchers that contradicts some of the basic assumptions of the efficient market hypothesis, known as anomalies. One of the anomalies in an efficient market is Stock Timing, which has been extensively studied in the financial literature. Seasonal anomalies involve the assumption that certain stock market patterns are formed based on past stock prices and can be used to predict future stock prices. Thus, seasonal studies suggest that investors can use the anomaly results to predict price behavior in the future according Fama, 1970 in Bowles et al., 2023. Consequently, seasonal anomalies contradict the efficient market hypothesis, especially in its weak form. Some events that are suspected to produce abnormal returns are still worthwhile and interesting to investigate because many events are believed to generate unusual returns for investors, one of which is the monthly effect. The monthly effect occurs when investors' expectations regarding the liquidity of a security may change from month to month in relation to perceived differences in stock market returns during specific months (Rusmayanti et al., 2016; Winkasari et al., 2019).

Such conditions can actually be observed and utilized by investors to make informed decisions when buying and selling stocks. The discussion on testing the efficient market hypothesis cannot be separated from the discussion of anomalies related to the efficient market hypothesis. An efficient capital market is a market that consists of securities whose market value always adjusts quickly and directly if there is a change in the intrinsic value of the assets underlying those securities. Anomalies themselves are phenomena that exist in the capital market (Wilyaniswandi, 2015).

The presence of the monthly effect can provide an opportunity for investors to gain unusual profits by using information about past prices and sales volumes. One of the monthly effects is the Ramadan effect, which has been extensively studied in Muslim countries and shows differences in market returns during Ramadan compared to other months. The Ramadan effect is an evolution of the January effect, particularly in certain months that are believed to have the potential to generate positive abnormal returns for investors.

Generally, religious beliefs play a significant role in the lives, behaviors, and decisions of society. Despite the considerable influence of religious beliefs and practices on economic activities and development, most economists overlook this connection (Kudusia et al., 2020). Ramadan is a time of reflection, self-reformation, worship to Allah, charity, spiritual purification, and enlightenment (Quran 51:21; 2:183, as cited in (Siska & Arigawati, 2020), significantly altering working hours, lifestyle, and bringing a more religiously spiritual attitude towards the congregation. Several factors from the literature related to the month of Ramadan can support the existence of the Ramadan effect in Muslim countries, such as social empathy, feelings of happiness and peace, positive mood of investors, health, and motivation to perform good deeds and prevent wrongdoing. Consequently, as a predominantly Muslim country, the stock market can also be affected and create predictable patterns that benefit poorly performing markets (Rusmayanti et al., 2016; Winkasari et al., 2019).

In Figure 1, Indonesia and Malaysia are two countries in the Southeast Asian region, both experiencing high rates of growth in Shariah-compliant stocks. Indonesia's Shariah reserves continue to grow, although they decreased by an average of 600-700 over the past year and started to rise again in early 2019. Meanwhile, the prices of Shariah-compliant stocks in Malaysia are relatively stable, hovering around 13,000 to 15,000, despite experiencing a decline in early 2019, with stock prices averaging between 13,000 and 14,000. Based on the data graph below, it can be observed that both countries show positive trends, and Shariah-compliant stocks have increased in value in both nations.



Figure 1. Daily Stock Price Graph of JII and FBMHS from 2017 to 2019

The countries of Indonesia and Malaysia, with their majority Muslim population, have the potential for an increase in Shariah interest rates. Based on the data presented above, the movement of stock prices in Indonesia and Malaysia is quite favorable, despite some declines; however, it did not reduce the prices of Shariah-compliant stocks in both countries in the following year, and they even showed the possibility of improvement.

Białkowski et al., 2012 found that stock market returns during Ramadan were significantly higher and less stable in 11 out of 14 Muslim countries. (Almudhaf, 2012) found supporting evidence for the impact of Ramadan in 4 out of 12 countries studied. (Białkowski et al., 2013)studied the influence of Ramadan on stock market returns for the period 1988-2011 and mutual funds for the period 2000-2011 in Turkey. They confirmed previous research findings and noted higher returns during Ramadan for the Istanbul Stock Exchange. However, its effectiveness gradually declined in recent years. Another study by (Nabeel et al., 2015) examined the holiday effect anomaly in the Karachi Stock Exchange 100 index. The results were found by looking at five major Islamic calendar days. This search showed significant results on certain holidays before and after religious festivals.

Sonjaya & Wahyudi, 2016 conducted research using stock market return data from 10 predominantly Muslim countries. They found that the Ramadan effect still exists but does not last long. Akbar et al., 2021 revealed that the month of Ramadan does not have a significant relationship with stock returns and volatility. (AlAwadhi, 2021) found that during Ramadan, stock markets in those countries experienced relatively low levels of market volatility, underlying volatility, and trading frequency. They did not find significant changes in absolute results during Ramadan compared to other months. (Metawa et al., 2018) conducted research, and the results showed that investor sentiment, overreaction and underreaction, overconfidence, and group behavior significantly influence investment decisions

As explained above, the Ramadan effect can change investor behavior over time. The effects that typically occur during or throughout Ramadan in Indonesia and Malaysia are the increase and tendency of basic commodity prices to be most noticeable at the end of the month. During Ramadan or before Eid al-Fitr, there are traditions of "mudik" (returning to hometowns) and other expenses related to the celebration of Eid al-Fitr. On the other hand, the distribution of THR (Eid allowance) at the end of Ramadan also impacts the increase in currency circulation in a country. This can have an impact on the financial situation of the community, both in terms of personal savings and stock purchases (Winkasari et al., 2019). Based on the explanation above, this research will examine the phenomenon of the Ramadan effect on the returns of the Jakarta Islamic Index (JII) and the FTSE Bursa Malaysia Hijrah Syariah Index (FBMHS).

## **METHOD**

The research method used is descriptive, which is used to provide a general overview of a study. The data source for this research is secondary data, which includes the Jakarta Islamic Index and the closing price data of the FTSE Bursa Malaysia Hijrah Syariah Index. As for the sampling method used, it is a census sampling, and the samples taken for this study are the daily stock price indices of the Jakarta Islamic Index and the FTSE Bursa Malaysia Hijrah Syariah Index for the period from 2017 to 2019. The study covers a three-year period from 2017 to 2019, calculated from the year after the publication, so that the research aims to focus on a specific period considered most relevant or significant to the studied topic. Sometimes, concentrating on a shorter period can aid in identifying specific trends or events.

#### **Data Analysis**

The data analysis used in this study uses the GARCH model (Bollerslev et al., 1992; Rizki et al., 2021). The first formula of this model uses an autoregression (AR) formula to be able to predict current or future returns using previous or past returns. Words like the following:

$$Rt = \alpha 0 + \alpha 1 Rt - 1 + \alpha 2 D_R A M t + \varepsilon t \tag{I}$$

Where as:

α0	= Constant
Rt	= Return at time t
Rt-1	= Return at time t-1
D_RAMt	= the dummy variable for Ramadan

The second formula is the equation of variance to measure the effect of the month of Ramadan on volatility. The equation of variance above shows the GARCH model to see volatility. Words like the following:

$$ht = \beta 0 + \beta 1\varepsilon t - 12 + \beta 2ht - 1 + \beta 3D_RAMt \tag{II}$$

Where as:

β0	= Constant
ht	= Variance at time t
<i>ɛt</i> –12	= Squared error term at time t-1 (ARCH term)
ht-1	= Variance at time t-1 (GARCH term)
D_RAMt	= the dummy variable for Ramadan

Equation (1) is the average equation in this model including Rt-1 as the return value of the previous day,  $\epsilon$ t representing the error term while  $\alpha$ 0 is constant, RAMt being the dummy variable for the month of Ramadan. In this equation will represent the effect of going back to Ramadan. Equation (2) is the equation of variance consisting of a linear function of the squared

error of the previous period ( $\epsilon t$ -12, which is the ARCH term) and its own lagged conditional variance (ht-1 is GARCH term) and RAMt is the dummy variable equation for the month of Ramadan. This equation will represent the effect of volatility during the month of Ramadan. Once the data has been analyzed, the hypothesis is tested using the z test.

# RESULTS

#### **Descriptive Analysis**

 Table 1. Descriptive Statistics of Returns for Jakarta Islamic Index and FTSE Bursa Malaysia

 Hijrah Syariah 2017-2019

	Mean	Median	Maximum	Minimum	Std.Dev	Skewness	Kurtosis
Return JII	0.0000237	0.000420	0.034490	-0.046525	0.010372	-0.208195	4.213265
Return	0.0000672	0.000137	0.082060	0.048664	0.007542	1 135030	25 92084
FBMHS	0.0000072	0.000137	0.082900	-0.040004	0.007542	1.155059	25.72004
	1						

Source: Data processed

From the results of Table 1, it provides information that the average return of JII is 0.00237%, which is 1.8 times smaller than the average return of FBHMS, which is 0.00672%. This statistically indicates that the return value of FBHMS is better than that of JII. Additionally, the maximum return generated by FBHMS is 8.29%, which is 1.3 times greater than the value of JII, which is 3.4%. However, in terms of the minimum value, JII performs better than FBHMS, with a value of -4.8%.

## **Stationary Test**

Time series data is said to be stationary if it has a constant mean, constant variance, and constant autocovariance. When using time series data, its stationarity must be examined. The stationarity test used in this research is the Augmented Dickey-Fuller Unit Root Test (ADF test), which is available in the Eviews program. Below are the results of the ADF test for Jakarta Islamic Index (JII) and FTSE Bursa Malaysia Hijrah Syariah for the period 2017 to 2019.

**Table 2.** ADF Test for Daily Returns of Jakarta Islamic Index and FTSE Bursa MalaysiaHijrah Syariah 2017-2019

t-Statistic JII	t-Statistic FBMHS
Augmentes Dickey Fuller t-statistic is-	Augmentes Dickey Fuller t-statistic is-
21.11926	28.49173
Level 1% -3.439504	Level 1% -3.438901
Level 5% -2.865470	Level 5% -2.865204
Level 10% -2.568919	Level 10% -2.568777

Source: Data processed

In Table 2, the results of the ADF test show that if the JII t-statistic is less than the critical t-value at the significance levels of 1%, 5%, and 10%, then the data can be considered stationary or it already exists around zero, and the t-statistic data is smaller than the critical t-value, indicating that the data can be considered stationary. Additionally, it can be concluded that the FBMHS t-statistic is smaller than the critical t-value at the 1%, 5%, and 10% significance levels, indicating that the data is stationary or fixed around 0. Moreover, the mean of the t-statistic data is smaller than the significant t-value, indicating that the data can be considered stationary.

# **GARCH Test**

The research employs the regression of the dummy variable for the month of Ramadan using the ARCH and GARCH models to obtain results and determine whether the hypothesis of no significant difference in stock return levels between Ramadan and other months is valid or not accepted (Rizki et al., 2021).

	and FBMHS			
Jakarta Islamic Indeks				
Koefisien C 6,920000	z-Statistic C 0,189334	Prob C 0,8498		
Koefisien Dummy 0,000595	z-Statistic Dummy -0,414945	Prob Dummy 0,6782		
FTSE Bursa Malaysia Hijrah Syariah				
Koefisien C 0,000244	z-Statistic C 0,770851	Prob C 0,84980,4408		
Koefisien Dummy -0,000246	z-Statistic Dummy -	Prob Dummy 0,8373		
	0,205301			

 Table 3. Regression of the Dummy Variable for the Month of Ramadan with GARCH on JII

 and FBMHS

Source: Data processed

The estimation results in Table 4.3 show that the stock return of JII during Ramadan is lower with a coefficient of 0.000595 compared to the stock return in other months with a coefficient of 6.920000. However, with the p-value for Ramadan being larger than the 5% or 10% significance level, it can be said that the impact of Ramadan is positive but not significant. As for FBMHS, the stock return is lower during Ramadan with a coefficient of 0.000246 compared to the stock return in other months, which has a coefficient of 0.000244. However, with the p-value for Ramadan being larger than the 5% or 10% significance level, it can be said that the impact of 10% significance level, it can be said that the impact of 0.000244. However, with the p-value for Ramadan being larger than the 5% or 10% significance level, it can be said that the impact of Ramadan is negative but not significant.

#### DISCUSSION

From the results of the research conducted using return variables, the above findings indicate that the null hypothesis (H0) that there is an impact of the Ramadan effect on the stock returns of the Jakarta Islamic Index (JII) and the FTSE Bursa Malaysia Hijrah Syariah Index (FBMHS) is rejected, and the alternative hypothesis (H1) that there is no significant impact of the Ramadan effect on the stock returns of JII and FBMHS is accepted. The results obtained indicate that there is no Ramadan effect, which suggests that an investor can carefully observe and assess market conditions during specific times to avoid causing excessive volatility and different returns during Ramadan or in the absence of the Ramadan effect.

Thus, it can be seen that there is no Ramadan effect or significant difference in stock returns between the month of Ramadan and other months, or it can be concluded that there is no Ramadan effect on the Jakarta Islamic Index (JII) and the FTSE Bursa Malaysia Hijrah Syariah Index (FBMHS).In line with the Efficient Market Hypothesis (EMH) theory (Fama, 1970), which states that in weak form efficient markets, all historical information will be reflected in the current stock prices. The implication is that investors cannot predict future stock market values using historical data, as done in technical analysis. Also, if stock prices follow a random walk pattern, then the changes in stock prices that occur currently cannot be used to predict future stock price changes (Akbar et al., 2021). Additionally, looking at the minimum and maximum return values of JII and FBMHS, both exhibit high fluctuations, ranging from - 0.046525 to 0.034490 for JII and -0.048664 to 0.082960 for FBMHS, indicating high variability or in line with the EMH theory that if a market is efficient, security prices should move randomly or follow a Random Walk pattern and cannot be predicted.

Thus, the theoretical implications of this research show that the capital markets in Indonesia and Malaysia, particularly the Jakarta Islamic Index and FTSE Bursa Malaysia Hijrah Syariah during the period from 2017 to 2019, do not violate the assumptions of efficient markets, as there is no Ramadan effect anomaly affecting returns. These results also have some similarities in capturing market anomalies in previous studies (Sonjaya & Wahyudi, 2016).

Firstly, a study conducted by (Hassan & Kayser, 2019) analyzing return and trading volume data of the Dhaka Stock Exchange (DSE) during the period from January 1, 2002, to August 30, 2018, stated that Ramadan does not have a significant relationship with return and volume. Ramadan does not have a significant impact on the Dhaka Stock Exchange (DSE), and the trading volume with return remains stable and unaffected. However, Ramadan has a significant negative impact on profitability and volume. Furthermore, a study by (AlAwadhi, 2021) on the Gulf Cooperation Council (GCC) countries, which are characterized by high

religiosity and clear religious rules regarding investment, claimed that there is no significant change in absolute returns during Ramadan compared to other months. Reduced volatility results in higher risk-adjusted returns. People in countries with high religious values are more interested in their religion during Ramadan, leading to no significant changes in profits during Ramadan (Endri et al., 2020).

These results can provide insights into the managerial implications for investors when investing in Indonesia and Malaysia, especially for stocks in liquid stock portfolios such as stocks in the Jakarta Islamic Securities Index and FTSE Bursa Malaysia Hijrah Syariah. The lack of trading patterns leading to excessive returns and risk during months other than Ramadan does not indicate higher risk. In other words, months other than Ramadan yield similar results in terms of the information received by investors in a simple and cost-effective manner (Rusmayanti et al., 2016), allowing investors to have the same level of information when making investment decisions. These decisions are purely based on actual performance aligned with the prevailing market conditions, which are largely influenced by random information.

## CONCLUSION

The conclusion of this research is to examine whether the conditions in Indonesia and Malaysia during the period from 2017 to 2019, particularly during Ramadan, are influenced by the increase in commodity prices, which may lead to increased cost burdens and financial situations. The need for activities during Ramadan, such as long vacations and giving Tunjangan Hari Raya (THR) at the end of Ramadan, may significantly affect the decrease or increase in stock returns that occur during Ramadan, showing that there could be anomalies during Ramadan (Ramadan Effect).

However, the actual conditions show that the Ramadan effect does not occur in Indonesia and Malaysia. Based on the results and previous studies, investors have become more cautious and understand how to manage and limit their stock trading activities during Ramadan, so that the profits gained during Ramadan are not excessive or uncontrolled.

From the findings of this research, it can be concluded that the Ramadan effect anomaly is not evident in the Jakarta Islamic Index (JII) and the FTSE Bursa Malaysia Hijrah (FBMHS). This can be observed from the results of the regression of the dummy variable, which indicates that the average return of the Jakarta Islamic Index and FTSE Bursa Malaysia Hijrah (FBMHS) during Ramadan is lower compared to the average return in other months, but it is not statistically significant with probabilities greater than the 5-10% significance level.

# RECOMMENDATIONS

Based on the obtained results, which provide insights for investors in making investment decisions, the necessary reference is required. Investors must first examine daily stock returns to attain excess returns. The utilization of a sufficiently long-time span is employed, as seen in foreign studies on the Ramadhan effect anomaly. Therefore, for future research, a longer time frame can be considered to achieve more robust outcomes. In subsequent studies, it is advisable to incorporate additional indices, such as the IHSG, to observe the overall stocks listed on the Indonesia Stock Exchange (BEI) for a more comprehensive analysis.

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