



Efficient Market Analysis of Jakarta Islamic Index (2019-2023)

Rahma Aulia Sidik¹, Wiku Suryomurti², Soon Yong Ang³

Institut Agama Islam Tazkia^{1,2}, University of Stirling³

Correspondence Email: 2010101056.rahma@student.tazkia.ac.id

Keywords:

Abnormal Return; Efficient Market Hypothesis; Jakarta Islamic Index; Islamic Finance; Event Study.

Abstract

This study aims to analyze the efficient market form of the Jakarta Islamic Index. The methodology used is an event study with a window period of 20 days, including ten days before and ten days after the announcement of composition changes held twice a year. The sample consists of 102, with 30 companies listed during the study period and 36 companies excluded and re-listed following the composition change announcements. The analysis technique used is the Paired Sample T-test. The findings reveal no differences in abnormal returns and trading volume activity before and after the announcement. This suggests that the market had already absorbed the announcement information before the event, resulting in a weak reaction and indicating that the announcement did not significantly impact the Jakarta Islamic Index. This implies that the index operates in a semi-strong form of market efficiency. Consequently, companies listed in the index may need additional strategies to improve their stock performance. To provide further insight, this study also examines the average stock trading activity of companies that enter and exit the composition of the Jakarta Islamic Index for the 2019-2023 periods.

Kata Kunci:

Abnormal Return; Teori Pasar Efisien; Jakarta Islamic Index; Keuangan Islam; Studi Peristiwa.

Abstrak

Penelitian ini bertujuan untuk menganalisis bentuk pasar efisien dari Jakarta Islamic Index. Metode yang digunakan adalah studi peristiwa dengan jendela penelitian 20 hari, termasuk sepuluh hari sebelum, dan sepuluh hari setelah pengumuman perubahan komposisi yang diadakan dua kali setahun. Sampel studi ini terdiri dari 102 sampel dengan 30 saham perusahaan yang terdaftar selama periode penelitian dan 36 saham perusahaan yang keluar dan masuk kembali setelah pengumuman perubahan komposisi. Teknik analisis yang digunakan adalah Uji T-Sampel Berpasangan. Temuan menunjukkan tidak ada perbedaan dalam abnormal *return* dan aktivitas volume perdagangan sebelum dan setelah pengumuman. Hal ini menunjukkan bahwa pasar telah menyerap informasi pengumuman sebelum acara terjadi, menghasilkan reaksi yang lemah dan menunjukkan bahwa pengumuman tidak berdampak signifikan pada Indeks Syariah Jakarta. Ini mengimplikasikan bahwa indeks beroperasi dalam bentuk pasar yang efisien semi-kuat. Oleh karena itu, perusahaan yang terdaftar dalam komposisi indeks mungkin memerlukan strategi tambahan untuk meningkatkan kinerja saham mereka. Sebagai tambahan kontribusi, penelitian ini juga mengkaji rata-rata aktivitas perdagangan saham perusahaan yang masuk dan keluar dari komposisi Jakarta Islamic Index untuk periode 2019-2023.

INTRODUCTION

The Islamic capital market, resembling the conventional capital market, is involved with market efficiency. An efficient capital market is characterized by prices that incorporate all pertinent information. An efficient capital market is required to limit speculation since all information becomes the basis for investors' investment decisions. However, speculation is forbidden in Islam not because of the existing doubt but because of how people exploit that uncertainty. That is what the concepts of *gharar* and *maysir* in Islam is prohibit. According to Fatwa DSN-MUI No.80/DSN-MUI/III/2011, which pertains to the application of Sharia principles in the trading mechanisms of equity securities in the stock exchange's regular market, *Gharar* refers to uncertainty in a contract, whether it involves the quality or quantity of the contract's object or its delivery.¹ *Maysir*, on the other hand, is an economic activity in which there is irrational profit or speculation, and the items given are both numerically and qualitatively uncertain. To verify that transactions in the Islamic capital market do not contain aspects of *gharar* and *maysir*, which are forbidden under Sharia rules, Islamic capital market transactions must be tested using the Efficient Market Hypothesis.²

The concept of efficient markets was initially introduced and popularized by Fama in 1970. The term "market" in this framework encompasses capital and money markets. A market is deemed efficient if neither individual nor institutional investors can achieve abnormal returns after adjusting for risk using current trading strategies. This implies that market prices incorporate all available information. Additionally, in an efficient market, the prices of assets or securities promptly and thoroughly reflect all pertinent information about those assets or securities.³

In examining the concept of efficient markets, our attention is directed toward the rapidity with which information affects the market, as evidenced by alterations in security prices. Haugen classifies information into three categories: (1) information embedded in past stock prices, (2) all publicly available information, and (3) all information, including inside or private information. The categorization of information allows for assessing the degree of market efficiency.⁴

The efficient market hypothesis is supported in the Indonesian capital market, where prices reflect available information and follow a random walk pattern. This randomness makes it challenging to predict prices and achieve abnormal returns accurately.⁵ This efficient market situation indicates that all market participants have equal opportunities in terms of risk and return.

The implications of an efficient capital market can be observed from two distinct perspectives: one for investors who adhere to the principle of market efficiency and another

¹ DSN-MUI, "Fatwa DSN-MUI 80/DSN-MUI/III/2011 tentang Penerapan Prinsip Syariah dalam Mekanisme Perdagangan Efek Bersifat Ekuitas di Pasar Reguler Bursa Efek" (Dewan Syariah Nasional - Majelis Ulama Indonesia, March 8, 2011), <https://dsnmu.or.id/kategori/fatwa/page/8/>.

² Yosi Stefani, "Analysis of Sharia Capital Market Efficiency in Indonesia," *Diponegoro Journal of Accounting* 2, no. 1 (2017): 2–6.

³ Eugene F Fama, "Stock Market Price Behavior," *The Journal of Finance* 25, no. 2 (1970): 383–417.

⁴ Stephen J. Brown and Robert A. Haugen, *Modern Investment Theory.*, *The Journal of Finance*, vol. 41, Prentice Hall Finance Series : Portfolio Analysis (Prentice Hall International, 1986), <https://doi.org/10.2307/2328243>.

⁵ Said Kelana Asnawi et al., "Does Indonesian Capital Market Efficient ? : A Relation Between Price-Volume," *Jurnal Ilmiah Ekonomi Dan Bisnis* 20, no. 2 (2023): 136–45, <https://doi.org/10.31849/jieb.v20i2.13019>.

for those who do not. Investors who adhere to the view that the market is inefficient tend to pursue active trading strategies that integrate technical and fundamental analysis. In contrast, those who espouse the tenet of market efficiency tend to adopt a passive approach, constructing portfolios that mirror market indices. In the context of fundamental analysis, if the market is in a semi-strong form of efficiency, where all publicly available information is swiftly reflected in prices, fundamental analysis may offer only marginal advantages. Conversely, in a weak-form efficient market, technical analysis proves incapable of reliably predicting future security prices.⁶

The theory of the Efficient Market Hypothesis (EMH) by Fama, which posits that stock prices reflect all available information, divides market efficiency into three forms⁷:

1. **Weak Form Hypothesis:** This hypothesis states that stock prices reflect all information that can be derived from historical price data.
2. **Semi-strong Form Hypothesis:** This hypothesis states that stock prices reflect all publicly available information about a company's prospects, including historical price data and information available to the public.
3. **Strong Form Hypothesis:** This hypothesis states that stock prices reflect all information relevant to a company, including information known only to company insiders or officials.

The semi-strong form of market efficiency complies with Islamic principles among the three types. As a result, given Indonesia's vast potential, it is critical to undertake tests relating to the efficiency of the Islamic capital market, and the type of efficiency that should be established must follow Islamic principles.

In 2000, the first Islamic capital market index was established under the Jakarta Islamic index, an environmentally favored platform for 30 capital market issuers selected based on various criteria that are considered to be following Islamic values. In addition to the goal of profitability, Islamic values also recommend protecting the interests of stakeholders such as the community, the environment, and animal conservation.⁸

⁶ Handi Octavianus, "Literature Review of the Efficient Market Hypothesis," no. November (2021): 417, <https://doi.org/10.13140/RG.2.2.17253.93925>.

⁷ Fama, "Stock Market Price Behavior."

⁸ Alim Syariati, "Islamic Corporate Social Responsibility (ICSR) in the Jakarta Islamic Index (JII): Mediation and Moderation Analysis," *Jurnal Iqtisaduna* 8, no. 2 (2022): 166–80, <https://doi.org/10.24252/iqtisaduna.v8i2.33218>.

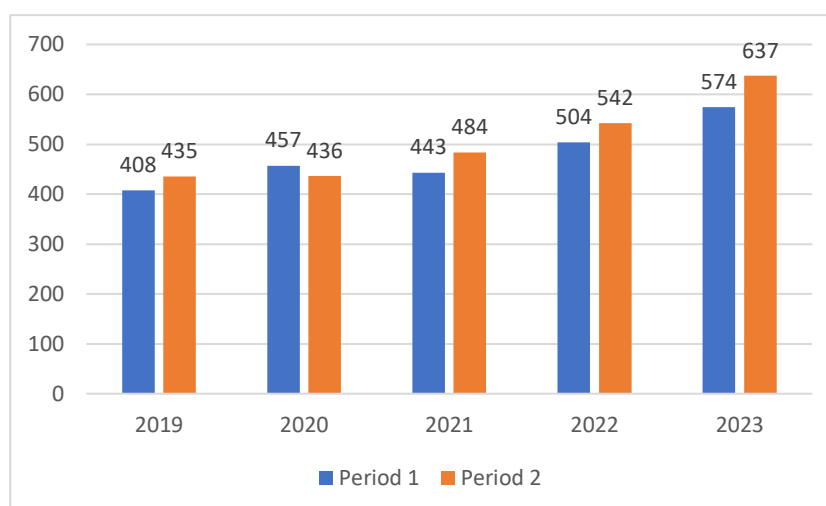


Figure 1. The quantity of equities within the Sharia Securities List (DES)

Source: Otoritas Jasa Keuangan, “Statistik Saham Syariah - Desember 2023,” OJK, January 22, 2024, <https://ojk.go.id/id/kanal/syariah/data-dan-statistik/saham-syariah/Pages/Statistik-Saham-Syariah---Desember-2023.aspx>.

Figure 1 illustrates a continuous increase in the number of stocks listed in the Sharia Securities List (DES) over the years. In the second period of 2023, 637 stocks were listed, indicating significant growth in the Islamic capital market. This upward trend reflects a growing interest in the Islamic finance market among businesses. It also suggests an expanding market for Sharia-compliant investment opportunities in Indonesia.

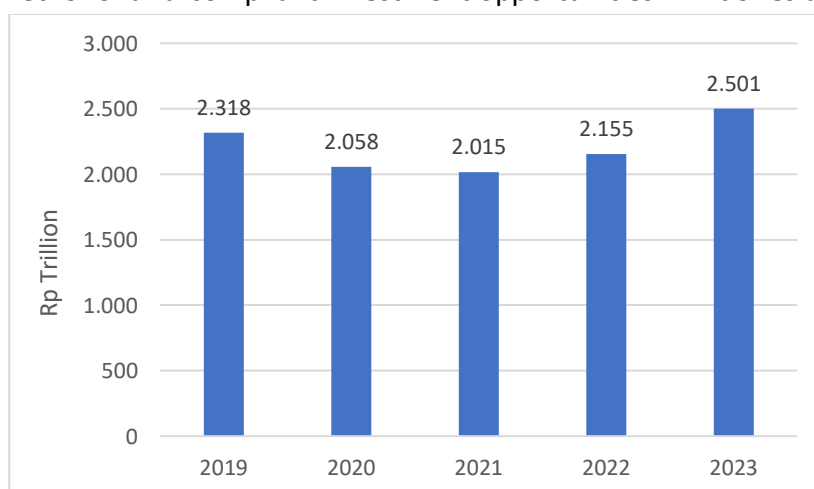


Figure 2. The market capitalization of the Jakarta Islamic Index

Source: Otoritas Jasa Keuangan, “Statistik Saham Syariah - Desember 2023,” OJK, January 22, 2024, <https://ojk.go.id/id/kanal/syariah/data-dan-statistik/saham-syariah/Pages/Statistik-Saham-Syariah---Desember-2023.aspx>.

Since its establishment on July 3, 2000, the Jakarta Islamic Index reached its peak nominal value in 2019 at IDR 2.318 trillion but experienced a continuous decline during the pandemic period. However, in 2023, the JII achieved its highest nominal value in the past 23 years, reaching IDR 2.501 trillion. A study on the impact of Good Corporate Governance (GCG) on firms listed on the Jakarta Islamic Index found a direct correlation between

corporate governance and firm value.⁹ The findings underscore the pivotal role of governance in enhancing firm worth. Furthermore, the research reveals that Corporate Governance significantly influences earnings quality, impacting firm value. This observation suggests investors and companies' increasing interest in the Islamic capital market.

According to the mentioned theory, Islamic capital market is ideally semi-strong. Contrarily, studies on the Indonesia Stock Exchange have found inefficiencies in weak form in the industrial sector,¹⁰ while studies on the pharmaceutical and telecommunications sectors and the LQ45 index indicated weak-form efficiency.¹¹ However, an event study on dividend announcements revealed that the Indonesia Stock Exchange operates efficiently in semi-strong form, which is consistent with the findings of this study.¹²

Various methods and analysis techniques are used to study the Efficient Market Hypothesis (EMH). For instance, research on the Indonesia Sharia Stock Index (ISSI) has indicated inefficiencies in its weak form,¹³ similar results were found in Indonesian Sharia stocks' studies during the COVID-19 pandemic, indicating investor overreaction and market inefficiency.¹⁴ Comparative analyses between Sharia and conventional stocks in ASEAN countries indicate that Islamic stocks were more efficient from January 2015 to December 2019. However, conventional stocks exhibited greater efficiency from January 2020 to August 2021, particularly during the pandemic.¹⁵ A study on the Jakarta Islamic Index (JII) from 2014 to 2018 using the SCAPM method revealed that seven Sharia stocks were efficient, whereas five were inefficient.¹⁶ An event study on pharmaceutical companies listed in the 2022 Sharia Securities List (DES) did not find significant differences in abnormal returns and trading volume activity.¹⁷

This research employs event studies to observe market reactions within the event window. This is similar to Suryomurti's study, which identified an adverse market reaction

⁹ Sugiyarti Fatma Laela, Dian Yuni Anggraeni, and Rahma Wijayanti, "Financial and Social Performance Impact on Corporate Governance Mediated by Earnings Quality: Evidence from Indonesian Islamic Stocks," *Journal of Islamic Finance* 8 (2019): 019–034.

¹⁰ Faizul Mubarak and Mohammad Masykur Fadhlil, "Efficient Market Hypothesis and Forecasting in the Industrial Sector on the Indonesia Stock Exchange," *Journal of Economics, Business, & Accountancy Ventura* 23, no. 2 (2020): 160–68, <https://doi.org/10.14414/jebav.v23i2.2240>.

¹¹ Ahmad Juliana et al., "Weak-Form Market Efficiency Study in the Indonesian Capital Market Before and After the COVID-19," *AKUNTABEL: Jurnal Akuntansi & Keuangan* 20, no. 1 (2023): 18–30; Helma Malini, "Efficient Market Hypothesis and Market Anomalies of LQ45 Index in Indonesia Stock Exchange," *Srinwijaya International Journal of Dynamic Economics and Business* 3, no. 2 (2019): 107, <https://doi.org/10.29259/sijdeb.v3i2.107-121>.

¹² Mersa Lestari Ningrum and Asep Risman, "Semi-Strong Efficient Market Hypothesis in Dividend Announcements at Indonesia Stock Exchange (IDX)," *The EURASEANs: Journal on Global Socio-Economic Dynamics* 2, no. 2(33) (2022): 23–34, [https://doi.org/10.35678/2539-5645.2\(33\).2022.23-34](https://doi.org/10.35678/2539-5645.2(33).2022.23-34).

¹³ Isnaini Nuzula Agustin, "Testing Weak Form of Stock Market Efficiency at the Indonesia Sharia Stock Index," *Muqtasid: Jurnal Ekonomi Dan Perbankan Syariah* 10, no. 1 (2019): 17, <https://doi.org/10.18326/muqtasid.v10i1.17-29>.

¹⁴ Tiara Early Afifah, Neneng Hasanah, and Mohammad Iqbal Irfany, "Testing the Efficient Market Hypothesis with Indonesian Islamic Stocks during the Covid-19 Pandemic," *Annals of Management and Organization Research* 4, no. 3 (2023): 175–91, <https://doi.org/10.35912/amor.v4i3.1621>.

¹⁵ Abdurrohman Abdurrohman, Diharpi Herli Setyowati, and Tjetjep Djuwarsa, "Assessment of Sharia Stock Efficiency Using the Sharia-Compliant Asset Pricing Model Approach on the Jakarta Islamic Index," *Journal of Applied Islamic Economics and Finance* 1, no. 3 (2021): 641–50, <https://doi.org/10.35313/jaief.v1i3.2604>.

¹⁶ Ahmad Rodoni et al., "Comparative Analysis of Efficient Market for Sharia and Conventional Stocks in ASEAN Countries," *Al-Iqtisad: Jurnal Ilmu Ekonomi Syariah* 14, no. 1 (2022): 1–22, <https://doi.org/10.15408/aiq.v14i1.25025>.

¹⁷ Erina Cahya Dewi, "Analysis of the Impact of IDI's Announcement about 5 Ineffective Covid-19 Drugs on Abnormal Return and Trading Volume Activity: Event Study on Pharmaceutical Stocks Listed in the 2022 Sharia Securities List" (Institut Agama Islam Tazkia, 2022).

following military action and indicated the Indonesian stock market's immediate response.¹⁸ This research applies the event study method to analyze market reactions before and after the announcement of changes in the composition of the Jakarta Islamic Index.

Previous studies have presented varied perspectives on the efficiency of the Islamic capital market in Indonesia. Research conducted by Mukmin and Hermi,¹⁹ Nanda and Adrianto,²⁰ Samudra,²¹ Setiyawan et al.,²² and Stefhani²³ collectively suggest that the Jakarta Islamic Index operates under a semi-strong market efficiency. In contrast, studies by Faisal et al.,²⁴ Khajar,²⁵ and Nurhasanah²⁶ indicate that the Islamic capital market in Indonesia demonstrates weak-form efficiency.

In the existing literature on the Efficient Market Hypothesis (EMH), substantial advancements have been made in understanding the efficiency of the Islamic capital market and its different forms. However, there remain gaps in research concerning the impact of specific events, particularly recent announcements of changes in index composition. This gap is crucial as previous studies were conducted before the COVID-19 pandemic. With the decline in market capitalization of Jakarta Islamic Index (JII) during 2020-2022 attributed to the pandemic, there is an urgent need for updated research to analyze current market conditions. Recent research on companies listed in the JII during 2019-2020 has examined efficiency before and after earnings announcements involving good, bad, and no news.²⁷ However, there has been limited exploration of events related to changes in index composition. This study aims to address this gap by analyzing how the Efficient Market Hypothesis applies to announcements of changes in the composition of the Jakarta Islamic Index.

Numerous studies often concentrate on stock price fluctuations or market anomalies following specific events. However, integrating an extensive historical data analysis with a particular emphasis on stocks entering and exiting the index may represent a relatively unexplored area. Consequently, this article incorporates a long-term trend analysis using 250 days of historical data preceding the event window as a benchmark and examines stocks

¹⁸ Wiku Suryomurti, "Geopolitical Risk and Investor Reaction in Indonesia: Evidence from Russia- Ukraine's Conflict," *Proceedings of Femfest International Conference on Economics, Management, and Business* 1 (2023): 664–74.

¹⁹ Mas Nur Mukmin and Hermi, "Efficiency of the Sharia Stock Market in Indonesia Based on Announcements of Changes in Stock Composition on the Jakarta Islamic Index (JII)," *Jurnal Magister Akuntansi Trisakti*, 2015, <https://doi.org/10.25105/jmat.v2i1.4943>.

²⁰ Nanda and Fajri Adrianto, "Abnormal Return Momentum in Sharia Stocks on the Jakarta Islamic Index," *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen* 4, no. 4 (2019): Hal 773-785.

²¹ Suryadi Samudra, "Analysis of Capital Market Efficiency on the Sharia Stock Index at the Indonesia Stock Exchange," *Jurnal Katalogis* 4, no. 6 (2016): 134–42.

²² Edi Setiyawan, Ari Kristin Prasetyoningrum, and Dessy Noor Farida, "Analysis of the Difference in Abnormal Returns Before and After the Announcement of the Jakarta Islamic Index," *Kompartemen: Jurnal Ilmiah Akuntansi* 17, no. 1 (2020): 69–84, <https://doi.org/10.30595/kompartemen.v17i1.3980>.

²³ Stefhani, "Analysis of Sharia Capital Market Efficiency in Indonesia."

²⁴ Faisal Faisal, M. Shabri Abd Majid, and Lenny Rakhmawati, "Testing Weak Form of Efficient Market Hypothesis before and during COVID-19 Pandemic Periods: Evidence from Indonesia," *2022 International Conference on Sustainable Islamic Business and Finance, SIBF 2022*, no. November (2022): 125–29, <https://doi.org/10.1109/SIBF56821.2022.9940133>.

²⁵ Ibnu Khajar, "Efficiency of the Sharia Capital Market in Indonesia Before and After the Global Financial Crisis of 2008," *Jurnal Keuangan Dan Perbankan* 16, no. 1 (2012): 66–76.

²⁶ Nurhasanah, "Efficiency and Integration of Sharia Capital Markets (Empirical Study in Indonesia, Malaysia, Japan, China, Europe, and the United States for the Period 2014-2018)" (Universitas Islam Negeri Syarif Hidayatullah, 2019).

²⁷ Puput Oktavia, "Analysis of Efficiency in the Sharia Capital Market of Indonesia Before and After Good News, Bad News, and No News Earnings Announcements (Study on Companies Listed on the JII from 2019 to 2021)" (Universitas Islam Negeri Raden Mas Said Surakarta, 2022).

entering and exiting the index independently.

This study aims to advance the knowledge of academics and practitioners by contributing to the latest research on the Efficient Market Hypothesis (EMH), focusing on the context of the Jakarta Islamic Index. Furthermore, the findings will give investors and market analysts invaluable insights into the index dynamics and its ramifications for individual stocks, potentially elucidating more efficacious investment strategies. Based on the exhaustive review of pertinent literature and preceding studies delineated above, the framework adopted in this study is as follows:

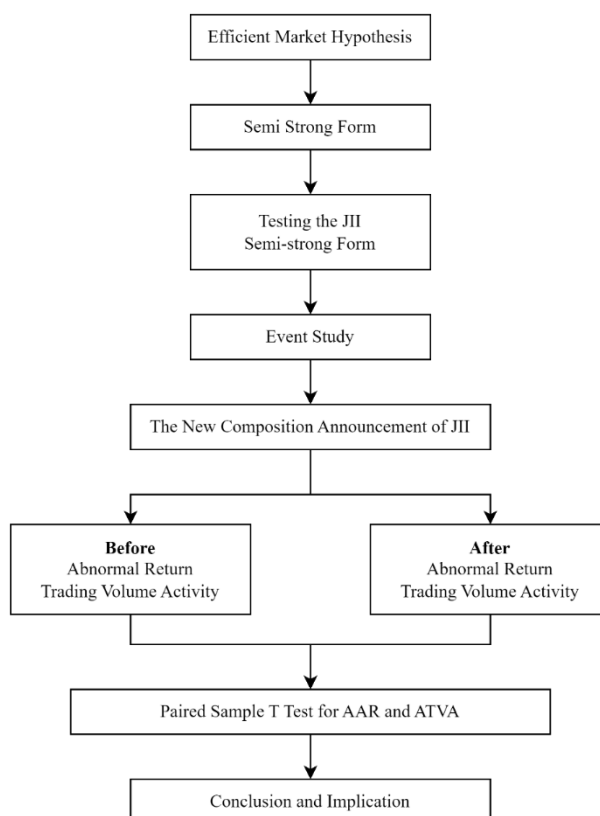


Figure 3. Research Framework

The hypotheses proposed in this study are:

H1: There is a significant difference in Abnormal Returns before and after the announcement of the Jakarta Islamic Index (JII) composition.

H2: There is a significant difference in trading volume activity before and after the announcement of the Jakarta Islamic Index (JII) composition.

RESEARCH METHODS

This research employs an event study methodology focusing on the announcement of changes in the composition of the Jakarta Islamic Index (JII). The event window used in this research spans ten days before (H-10) and ten days after (H+10) the announcement of changes in the composition of the Jakarta Islamic Index. The pre-announcement period (H-10 to H-1) captures potential information leakage and anticipatory trading, providing insight into how the market adjusts its expectations in response to rumors or partial information.

The rationale for choosing this event window period also includes the post-event window (H+1 to H+10), which observes the ongoing market adjustment and assimilation to new information, including the initial overreaction followed by a correction. These 20 days are balanced to avoid the influence of unrelated market events while capturing the full spectrum of market reactions. This period is aligned with methodologies used in similar studies, ensuring comparability and contributing to a broader understanding of market behavior in response to changes in index composition. In addition, this period is practical for data collection and statistical analysis, providing sufficient observations for robust analysis. Thus, the ten days before and after the event are well suited to thoroughly capture and analyze the market reaction to the JII composition change.

The secondary data used in this research were obtained from the IDX (Indonesia Stock Exchange) website (www.idx.co.id) and Yahoo Finance (www.finance.yahoo.com). Data analysis techniques testing the hypotheses in this study utilized the Paired Sample T-test, assuming a normal distribution of the data, conducted using IBM SPSS Statistics 27 software. The population for this study includes all stocks listed in the Jakarta Islamic Index (JII) from 2019 to 2023, covering ten announcement periods. Samples were selected using a purposive sampling method.

The criteria used for sample selection in this study are as follows:

1. Stocks of issuers included in the announcement of changes in the composition of the Jakarta Islamic Index
2. Stocks of issuers actively traded during the window period
3. Stocks of issuers entered and exited during the 2019-2023 period
4. Issuers that did not undertake any corporate actions during the window period.

The rationale for using these criteria is to avoid data that could introduce bias during the data analysis process, yielding the following sample:

Table 1. Sample

Name	Stock Index	No. of Stock
JII	Indonesia	30
JII (IN)	Indonesia	36
JII (OUT)	Indonesia	36

Source: Data Processed by the author, (2024).

The announcement of the composition of the Jakarta Islamic Index will consist of ten changes from 2019 to 2023. The following is a list of stock codes that entered and exited the stock index based on the sampling criteria:

Table 2. Jakarta Islamic Index In & Out

No.	2019		2020		2021		2022		2023	
	I	II	I	II	I	II	I	II	I	II
IN										
1	CPIN	BTPS	MNCN	ACES	INKP	ACES	EMTK	HRUM	ACES	ASII
2	JSMR	ERAA	PGAS	MDKA	KAEF	BRIS	ITMG	MDKA	AKRA	ESSA
3		JPFA	TPIA	PWON	MIKA	ERAA	TINS	SCMA	BRMS	INDY
4			SMGR	PTPP					HEAL	MDKA

5					TKIM				MTEL	
6									SIDO	
OUT										
1	LPKR	PGAS	INDY	BSDE	ACES	BTPN	ACES	BUKA	EMTK	HEAL
2	WSKT	SMRA	SMGR	ITMG	ASII	KAEF	MDKA	PTPP	ERAA	MTEL
3		TPIA	WSBP	LPPF	CTRA	SCMA	PWON	TKIM	JPFA	SIDO
4				PTPP	ERAA				MDKA	TINS
5					JSMR				MNCN	
6									WIKA	

Source: Indonesia Stock Exchange, "Keterbukaan Informasi," IDX, accessed January 19, 2024, <https://www.idx.co.id/>.

In this research, the variables used include Abnormal Return, Average Abnormal Return, Trading Volume Activity, and Average Trading Volume Activity. Abnormal Return in this study is calculated using the following formula:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

Or

$$AR_{i,t} = AR_{i,t} - \overline{AR}_{250}$$
(1)

Where \overline{AR}_{250} is the benchmark index, which is the average abnormal return of 250 days before the event windows.

The Trading Volume Activity is as follows:

$$TVA_{i,t} = \frac{\sum \text{stock } i \text{ traded } t \text{ period}}{\sum \text{stock } i \text{ outstanding } t \text{ period}}$$

or

$$TVA_{i,t} = TVA_{i,t} - \overline{TVA}_{250}$$
(2)

Where \overline{TVA}_{250} represents the benchmark index, the average trading volume activity over the 250 days preceding the event windows.

The decision criteria in this study are as follows

1. If the probability (Sig.) is < 0.05, then H0 (null hypothesis) is rejected.
2. If the probability (Sig.) is > 0.05, then H0 (null hypothesis) is accepted.

RESULTS AND DISCUSSION

Prior to undertaking further analysis, it is imperative to employ descriptive statistics in order to provide a comprehensive overview of the characteristics of the collected data. This entails the presentation of a descriptive statistics table, which will include a summary of the average abnormal return over a ten-day period preceding and following the occurrence of each monitoring day's event announcement.

Table 3. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AAR Before	10	-0.0077	0.0069	-0.0004	0.0042
AAR After	10	-0.0042	0.0059	0.0004	0.0028
AAR (IN) Before	10	-0.0072	0.0032	-0.0025	0.0035
AAR (IN) After	10	-0.0110	0.0103	0.0025	0.0060

AAR (OUT) Before	10	-0.0093	0.0098	0.0001	0.0067
AAR (OUT) After	10	-0.0103	0.0072	-0.0001	0.0066
ATVA Before	10	-0.1549	0.0519	-0.0733	0.0705
ATVA After	10	-0.0792	0.6451	0.0947	0.2076
ATVA (IN) Before	10	0.6316	0.8061	0.7118	0.0504
ATVA (IN) After	10	0.6226	0.8637	0.7402	0.0895
ATVA (OUT) Before	10	0.3116	0.6768	0.4785	0.1227
ATVA (OUT) After	10	0.4014	0.7488	0.5549	0.1019
Valid N (listwise)	10				

Source: Data processed by the author using SPSS, (2024).

Table 3 shows a decrease exclusively in the AAR (OUT) mean value before and after the announcement variable. In contrast, the mean values of other variables increase during these periods. This indicates a negative change, specifically in abnormal returns for stocks excluded from the index after the announcement, while other variables show positive changes. Moreover, a standard deviation greater than the mean value indicates heightened volatility in the AAR, AAR (IN), AAR (OUT), and ATVA variables. Conversely, mean values more significant than the standard deviation suggest relative stability and lower volatility in the ATVA (IN) and ATVA (OUT) variables, indicating consistent performance in response to the event.

Before performing a t-test, it is essential to assess whether the data follows a normal distribution using a normality test. A non-parametric test such as the Wilcoxon signed-rank test is utilized if the data is not normally distributed. Conversely, a paired sample t-test is conducted if the data is normally distributed. The normality test results are as follows:

Table 4. Normality Test

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
AAR Before	0.122	10	0.200*
AAR After	0.196	10	0.200*
AAR (IN) Before	0.160	10	0.200*
AAR (IN) After	0.170	10	0.200*
AAR (OUT) Before	0.143	10	0.200*
AAR (OUT) After	0.219	10	0.192
ATVA Before	0.199	10	0.200*
ATVA After	0.311	10	0.007
ATVA (IN) Before	0.189	10	0.200*
ATVA (IN) After	0.159	10	0.200*
ATVA (OUT) Before	0.135	10	0.200*
ATVA (OUT) After	0.170	10	0.200*

Source: Data processed by the author using SPSS, (2024).

Table 4 shows whether the data was normally distributed, as evidenced by Sig—values exceeding 0.05 before and after the announcement. Hence, the Paired Sample T-test is the data analysis technique used to test the hypotheses in this study. The Paired Sample T-test is

a parametric statistical method used to assess differences in mean values between two related or paired data samples.²⁸ This difference test hypothesis testing is done by comparing the data before and after the announcement during the observation period, as shown in the following table:

Table 5. Paired Sample T-Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	AAR Before - AAR After	-0.0008	0.0043	0.0013	-0.0039	0.0022	-0.625	9	0.548
Pair 2	AAR (IN) Before - AAR (IN) After	-0.0050	0.0073	0.0023	-0.0102	0.0002	-2.145	9	0.061
Pair 3	AAR (OUT) Before - AAR (OUT) After	0.0003	0.0087	0.0027	-0.0059	0.0065	0.109	9	0.916
Pair 4	ATVA Before - ATVA After	-0.1680	0.2556	0.0808	-0.3508	0.0148	-2.079	9	0.067
Pair 5	ATVA (IN) Before - ATVA (IN) After	-0.0284	0.1170	0.0370	-0.1121	0.0552	-0.768	9	0.462
Pair 6	ATVA (OUT) Before - ATVA (OUT) After	-0.0764	0.1422	0.0449	-0.1782	0.0252	-1.700	9	0.123

Source: Data processed by the author using SPSS, (2024).

²⁸ Peter Samuels and Mollie Gilchrist, "Paired Samples T-Test," no. April (2014).

Table 5 presents the Paired Sample T-test results, indicating that the overall average abnormal return and average trading volume activity have a significance level (Sig.) greater than 0.05, indicating that H0 is accepted, which suggests no significant difference before and after the announcement. Therefore, Hypothesis 1 and Hypothesis 2 are rejected, as there is no evidence to support the significant impact of the announcement on abnormal returns or trading volume activity.

This result is consistent with a previous study on companies listed on the JII from 2019 to 2021, which also found no significant difference between before and after the occurrence of good news, bad news, and no news earnings announcements.²⁹ Below is a graphical representation depicting the fluctuations in the average abnormal return preceding and following the announcement over the study period, ranging from H-10 to H+10.

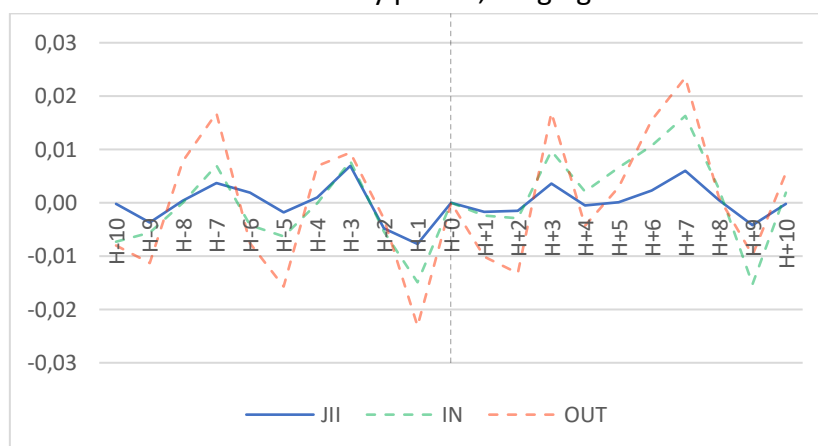


Figure 4. AAR before and after the announcement

Source: Data processed by the author, (2024).

The graph indicates an adverse reaction before the announcement, particularly noticeable five days before, and reaching its lowest point one day before, especially concerning the 'out' variable. Following the announcement, stocks exiting the index react relatively aggressively, particularly peaking on the seventh day. Hence, figure 4 shows a graphic of average abnormal return that moves inconsistently. Following Fama's concept of the Efficient Market Hypothesis, a market is considered efficient if investors cannot consistently earn abnormal returns.³⁰ In addition, the market will quickly adjust the stock price to a new equilibrium point to rapidly absorb the abnormal return earned.

The test results show that before and after the announcement, there is consistently no difference in abnormal returns. This indicates that the information available to investors remains consistent over time, eliciting similar reactions. Moreover, the average abnormal return difference test results also demonstrate no significant difference in abnormal returns. Therefore, these test results suggest that the Jakarta Islamic Index is an efficient capital market in a semi-strong form.

The findings indicate that the Jakarta Islamic Index operates as an efficient market in semi-strong form. Comparing these results with previous research, this study's findings align

²⁹ Oktavia, "Analysis of Efficiency in the Sharia Capital Market of Indonesia Before and After Good News, Bad News, and No News Earnings Announcements (Study on Companies Listed on the JII from 2019 to 2021)."

³⁰ Fama, "Stock Market Price Behavior."

with studies by Mukmin and Hermi,³¹ Nanda and Adrianto,³² Samudra,³³ Setiyawan et al.,³⁴ and Stefhani.³⁵ However, they contradict studies by Faisal et al.,³⁶ Khajar,³⁷ and Nurhasanah,³⁸ which suggests that the Islamic capital market in Indonesia operates as an efficient market in a weak form.

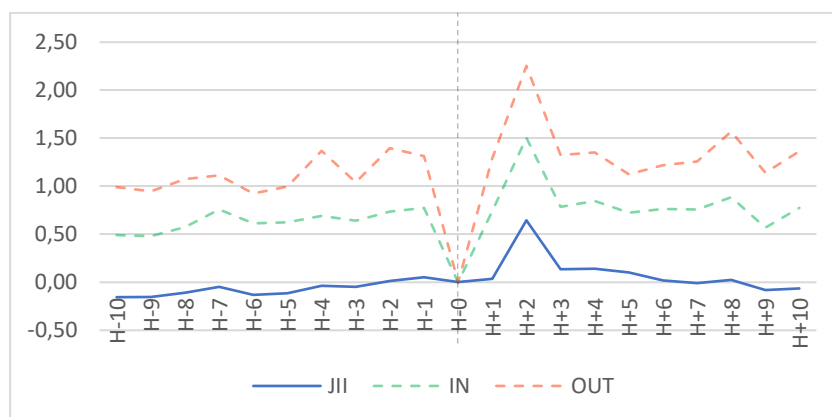


Figure 5. ATVA before and after the announcement

Source: Data processed by the author, (2024).

Figure 5 shows a graph of the average trading volume, which increased significantly after the announcement. This is inversely proportional to the previous abnormal return graphic, which tends to have inconsistent movement. The graphic presents a significant increase, especially on day two after the announcement, but it declined back to the previous state on day three. This indicates that investors are reacting positively to the announcement. Although there was a positive reaction, the increase was not sustained. This is assumed to occur because it is influenced by the presence of other, more influential factors driving investor activity in the capital market. However, the Islamic capital market remains attractive to investors, especially the Jakarta Islamic Index, because it listed the most liquid companies among Islamic stocks. Moreover, the stocks within this index benefit from low debt levels, thereby ensuring a more controlled investment risk.

Based on the results discussed above, investors should not expect consistent abnormal returns solely based on announcements, as the market swiftly integrates new information, aligning with the principles of the Efficient Market Hypothesis. Short-term increases in trading volume following announcements are often short-lived and return to normal levels soon after, thus suggesting caution in making short-term trading decisions based solely on announcement reactions. For portfolio management, focusing on long-term fundamentals rather than short-term market reactions is recommended. Companies listed on the Jakarta

³¹ Mukmin and Hermi, "Efficiency of the Sharia Stock Market in Indonesia Based on Announcements of Changes in Stock Composition on the Jakarta Islamic Index (JII)."

³² Nanda and Adrianto, "Abnormal Return Momentum in Sharia Stocks on the Jakarta Islamic Index."

³³ Samudra, "Analysis of Capital Market Efficiency on the Sharia Stock Index at the Indonesia Stock Exchange."

³⁴ Setiyawan, Prasetyoningrum, and Farida, "Analysis of the Difference in Abnormal Returns Before and After the Announcement of the Jakarta Islamic Index."

³⁵ Stefhani, "Analysis of Sharia Capital Market Efficiency in Indonesia."

³⁶ Faisal, Majid, and Rakhmawati, "Testing Weak Form of Efficient Market Hypothesis before and during COVID-19 Pandemic Periods: Evidence from Indonesia."

³⁷ Khajar, "Efficiency of the Sharia Capital Market in Indonesia Before and After the Global Financial Crisis of 2008."

³⁸ Nurhasanah, "Efficiency and Integration of Sharia Capital Markets (Empirical Study in Indonesia, Malaysia, Japan, China, Europe, and the United States for the Period 2014-2018)."

Islamic Index, known for their liquidity and low debt levels, present lower investment risk, which could be advantageous for risk-conscious investors. Future research could explore the impact of broader market conditions or sectoral news on trading volume and abnormal returns and evaluate the sustainability of market efficiency observed in the Jakarta Islamic Index compared to other Islamic indices or countries.

CONCLUSION

This study aims to analyze market efficiency and reactions to the announcement of changes in the composition of the Jakarta Islamic Index (JII). This study also contributes to academic understanding and managerial insights. In academic terms, the findings of this study confirm that the Jakarta Islamic Index operates within the framework of semi-strong form market efficiency. Using event studies and paired sample t-tests provides a methodological framework to analyze the market reaction to composition changes. The results show that hypotheses 1 and 2 are rejected, as there is no significant difference before and after the announcement. This implies that the market tends to absorb announcement information before the event occurs, resulting in a weak market reaction. For managerial purposes, companies listed in the index can use these findings to reassess their strategies in terms of the changing composition of the index. This implies companies listed may require additional strategies to improve their stock performance

The findings of this study suggest that investors should not rely solely on composition change announcements to make trading decisions, as the market does not exhibit a strong reaction to such information. This observation aligns with the principles of market efficiency, where new information is quickly incorporated into stock prices. This suggests that factors such as overall company performance, macroeconomic conditions, or industry-specific developments are more pertinent for making informed investment decisions. Therefore, investors should diversify their strategies and consider a broader range of information when making investment choices in the Jakarta Islamic Index. For practical implications, market participants should focus on long-term fundamentals rather than short-term market reactions, providing a stable investment strategy. For future research, consider examining market variables more broadly and consider long-term fundamental factors that can produce significant results. Moreover, it can also be done by evaluating the robustness of market efficiency observed in the Jakarta Islamic Index compared to other Islamic indices or countries.

REFERENCES

- Abdurrohman, Abdurrohman, Diharpi Herli Setyowati, and Tjetjep Djuwarsa. "Assessment of Sharia Stock Efficiency Using the Sharia-Compliant Asset Pricing Model Approach on the Jakarta Islamic Index." *Journal of Applied Islamic Economics and Finance* 1, no. 3 (2021): 641–50. <https://doi.org/10.35313/jaief.v1i3.2604>.
- Afifah, Tiara Early, Neneng Hasanah, and Mohammad Iqbal Irfany. "Testing the Efficient Market Hypothesis with Indonesian Islamic Stocks during the Covid-19 Pandemic."

- Annals of Management and Organization Research* 4, no. 3 (2023): 175–91. <https://doi.org/10.35912/amor.v4i3.1621>.
- Agustin, Isnaini Nuzula. "Testing Weak Form of Stock Market Efficiency at the Indonesia Sharia Stock Index." *Muqtasid: Jurnal Ekonomi Dan Perbankan Syariah* 10, no. 1 (2019): 17. <https://doi.org/10.18326/muqtasid.v10i1.17-29>.
- Asnawi, Said Kelana, Samuel Pratama, Hans Christian Kurniawan, and Samuel Yosua Rodjana. "Does Indonesian Capital Market Efficient ? : A Relation Between Price-Volume." *Jurnal Ilmiah Ekonomi Dan Bisnis* 20, no. 2 (2023): 136–45. <https://doi.org/10.31849/jieb.v20i2.13019>.
- Brown, Stephen J., and Robert A. Haugen. *Modern Investment Theory. The Journal of Finance*. Vol. 41. Prentice Hall Finance Series : Portfolio Analysis. Prentice Hall International, 1986. <https://doi.org/10.2307/2328243>.
- Dewi, Erina Cahya. "Analysis of the Impact of IDI's Announcement about 5 Ineffective Covid-19 Drugs on Abnormal Return and Trading Volume Activity: Event Study on Pharmaceutical Stocks Listed in the 2022 Sharia Securities List." Institut Agama Islam Tazkia, 2022.
- DSN-MUI. "Fatwa DSN-MUI 80/DSN-MUI/III/2011 tentang Penerapan Prinsip Syariah dalam Mekanisme Perdagangan Efek Bersifat Ekuitas di Pasar Reguler Bursa Efek." Dewan Syariah Nasional - Majelis Ulama Indonesia, March 8, 2011. <https://dsnmu.or.id/kategori/fatwa/page/8/>.
- Faisal, Faisal, M. Shabri Abd Majid, and Lenny Rakhmawati. "Testing Weak Form of Efficient Market Hypothesis before and during COVID-19 Pandemic Periods: Evidence from Indonesia." *2022 International Conference on Sustainable Islamic Business and Finance, SIBF 2022*, no. November (2022): 125–29. <https://doi.org/10.1109/SIBF56821.2022.9940133>.
- Fama, Eugene F. "Stock Market Price Behavior." *The Journal of Finance* 25, no. 2 (1970): 383–417.
- Indonesia Stock Exchange. "Keterbukaan Informasi." IDX. Accessed January 19, 2024. <https://www.idx.co.id/>.
- Juliana, Ahmad, Muhammad Tharmizi Junaid, Nia Yuniati, and Aan Digita Malik. "Weak-Form Market Efficiency Study in the Indonesian Capital Market Before and After the COVID-19." *AKUNTABEL: Jurnal Akuntansi & Keuangan* 20, no. 1 (2023): 18–30.
- Khajar, Ibnu. "Efficiency of the Sharia Capital Market in Indonesia Before and After the Global Financial Crisis of 2008." *Jurnal Keuangan Dan Perbankan* 16, no. 1 (2012): 66–76.
- Laela, Sugiyarti Fatma, Dian Yuni Anggraeni, and Rahma Wijayanti. "Financial and Social Performance Impact on Corporate Governance Mediated by Earnings Quality: Evidence from Indonesian Islamic Stocks." *Journal of Islamic Finance* 8 (2019): 019–034.
- Malini, Helma. "Efficient Market Hypothesis and Market Anomalies of LQ45 Index in Indonesia Stock Exchange." *Sriwijaya International Journal of Dynamic Economics and Business* 3, no. 2 (2019): 107. <https://doi.org/10.29259/sijdeb.v3i2.107-121>.
- Mubarok, Faizul, and Mohammad Masykur Fadhli. "Efficient Market Hypothesis and Forecasting in the Industrial Sector on the Indonesia Stock Exchange." *Journal of Economics, Business, & Accountancy Ventura* 23, no. 2 (2020): 160–68. <https://doi.org/10.14414/jebav.v23i2.2240>.

- Mukmin, Mas Nur, and Hermi. "Efficiency of the Sharia Stock Market in Indonesia Based on Announcements of Changes in Stock Composition on the Jakarta Islamic Index (JII)." *Jurnal Magister Akuntansi Trisakti*, 2015. <https://doi.org/10.25105/jmat.v2i1.4943>.
- Nanda, and Fajri Adrianto. "Abnormal Return Momentum in Sharia Stocks on the Jakarta Islamic Index." *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen* 4, no. 4 (2019): Hal 773-785.
- Ningrum, Mersa Lestari, and Asep Risman. "Semi-Strong Efficient Market Hypothesis in Dividend Announcements at Indonesia Stock Exchange (IDX)." *The EUrASEANs: Journal on Global Socio-Economic Dynamics* 2, no. 2(33) (2022): 23–34. [https://doi.org/10.35678/2539-5645.2\(33\).2022.23-34](https://doi.org/10.35678/2539-5645.2(33).2022.23-34).
- Nurhasanah. "Efficiency and Integration of Sharia Capital Markets (Empirical Study in Indonesia, Malaysia, Japan, China, Europe, and the United States for the Period 2014-2018)." Universitas Islam Negeri Syarif Hidayatullah, 2019.
- Octavianus, Handi. "Literature Review of the Efficient Market Hypothesis," no. November (2021): 417. <https://doi.org/10.13140/RG.2.2.17253.93925>.
- Oktavia, Puput. "Analysis of Efficiency in the Sharia Capital Market of Indonesia Before and After Good News, Bad News, and No News Earnings Announcements (Study on Companies Listed on the JII from 2019 to 2021)." Universitas Islam Negeri Raden Mas Said Surakarta, 2022.
- Otoritas Jasa Keuangan. "Statistik Saham Syariah - Desember 2023." OJK, January 22, 2024. <https://ojk.go.id/id/kanal/syariah/data-dan-statistik/saham-syariah/Pages/Statistik-Saham-Syariah---Desember-2023.aspx>.
- Rodoni, Ahmad, Haikal Djauhari, Yusro Rahma, and Alhussaini Alawad Alhassan. "Comparative Analysis of Efficient Market for Sharia and Conventional Stocks in ASEAN Countries." *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah* 14, no. 1 (2022): 1–22. <https://doi.org/10.15408/aiq.v14i1.25025>.
- Samudra, Suryadi. "Analysis of Capital Market Efficiency on the Sharia Stock Index at the Indonesia Stock Exchange." *Jurnal Katalogis* 4, no. 6 (2016): 134–42.
- Samuels, Peter, and Mollie Gilchrist. "Paired Samples T-Test," no. April (2014).
- Setiyawan, Edi, Ari Kristin Prasetyoningrum, and Dessy Noor Farida. "Analysis of the Difference in Abnormal Returns Before and After the Announcement of the Jakarta Islamic Index." *Kompartemen: Jurnal Ilmiah Akuntansi* 17, no. 1 (2020): 69–84. <https://doi.org/10.30595/kompartemen.v17i1.3980>.
- Stefhani, Yosi. "Analysis of Sharia Capital Market Efficiency in Indonesia." *Diponegoro Journal of Accounting* 2, no. 1 (2017): 2–6.
- Suryomurti, Wiku. "Geopolitical Risk and Investor Reaction in Indonesia: Evidence from Russia- Ukraine's Conflict." *Proceedings of Femfest International Conference on Economics, Management, and Business* 1 (2023): 664–74.
- Syariati, Alim. "Islamic Corporate Social Responsibility (ICSR) in the Jakarta Islamic Index (JII): Mediation and Moderation Analysis." *Jurnal Iqtisaduna* 8, no. 2 (2022): 166–80. <https://doi.org/10.24252/iqtisaduna.v8i2.33218>.