International Conference on Sustainable Economics, Management, and Accounting (ICSEMA 2025)
Proceedings
Vol. 01 No.01 Year 2025, Page 3485-3500

THE IMPACT OF ESG LEADER INDEX PUBLICATION ON ABNORMAL RETURNS AND TRADING VOLUME ACTIVITY ON THE INDONESIA STOCK EXCHANGE

Ni Komang Deepa Shanti Dewi[1]*, I Gde Kajeng Baskara[2], and Ica Rika Candraningrat[3]

[1-3] Faculty of Economics and Business, Udayana University, Indonesia
*Email corresponding author: deepa.dewi153@student.unud.ac.id

Abstract

This study examines how the market, particularly investors, responds to the publication of the ESG Leader Index issued by the Indonesia Stock Exchange (IDX), employing an event study methodology. The analysis focuses on two key indicators: Abnormal Return and Trading Volume Activity (TVA), using a 21-day event window spanning from 10 days prior to 10 days following the Index announcement. The findings reveal no statistically significant changes in Abnormal Return or Trading Activity during the event window, suggesting a limited market reaction to ESG-related disclosures in this context. These results challenge the semi-strong form of the efficient market hypothesis, indicating that ESG information, as presented through the ESG Leader Index, may not yet be fully integrated into investor decision-making processes. The study offers empirical insights into the complexities of incorporating sustainability signals into investment strategies within the Indonesian capital market and underscores the need for increased awareness and regulatory reinforcement to enhance the relevance of ESG disclosures.

Keywords: Event Study, Abnormal Return, Trading Volume Activity, ESG, Market Response

INTRODUCTION

The capital market plays an important role in supporting economic activity, particularly in maintaining business sustainability and growth (Cahyani et al., 2021). Officially, the capital market is a place for investors who want to invest their money in individuals or companies that need additional capital for the short or long term (Winata et al., 2023). In addition to stocks, the capital market also includes trading in other financial instruments, such as bonds and mutual funds (Putra & Afriyenti, 2021). Among the various investment instruments available, stocks are the primary choice for investors.

The increased interest in stocks and the capital market, as reflected in data from the Indonesian Central Securities Depository (KSEI, 2024), shows a growing awareness among Indonesians about the importance of investment. This increase indicates a growing interest in various investment instruments among Indonesians. This phenomenon not only reflects investors' confidence in the national economic outlook but also the increasing awareness of the importance of financial management and investment among the public.

The primary motivation for investors in purchasing stocks is to achieve profits or returns on their investments. Stock returns, as one of the key indicators of investment success, are also a crucial focus in an event study. Event studies help understand how changes in information affect stock returns by evaluating the impact of specific events or announcements on stock prices, such as a company's financial performance, macroeconomic conditions, or market sentiment. Therefore, it is important for investors to gain a more comprehensive understanding of the relationship between new information and stock price fluctuations, both in the short and long term (Mehdi et al., 2024).

Investors are required to be prepared to bear a high level of risk, along with the opportunity to obtain a higher rate of return. The principle of high risk, high return states that the higher the

expected return, the greater the risk that must be faced. Conversely, the lower the risk taken, the smaller the potential return (Dewi & Candradewi, 2020). The measurement of stock returns is highly dependent on the timing of the assessment, so the impact of the assessment may vary across different time periods. Stock returns can be positive or negative. A positive stock return indicates a gain, while a negative stock return indicates a loss.

Abnormal return is obtained from the difference between realized return and expected return (Trisnaningsih & Ayu Diantini, 2024). Previous research states that abnormal return is influenced by information disclosed by companies. Information available in the capital market plays a crucial role in influencing various trading activities in that market. This phenomenon occurs because market participants tend to conduct in-depth analysis of every announcement or information published on the Stock Exchange. Information or announcements from issuers will influence the decisions of (prospective) investors in selecting an efficient investment portfolio (Hariyanto et al., 2024).

In addition to abnormal returns, trading volume activity is also an important indicator in assessing market reactions to events in the capital market. One of the measurements used is Trading Volume Activity (TVA). Trading Volume Activity (TVA) is the ratio between the number of shares traded in a given period and the total number of shares outstanding during the same period. A high Trading Volume Activity (TVA) level reflects high investor interest in a stock, which can ultimately drive more dynamic stock price movements. The higher the TVA value, the greater the likelihood of stock price fluctuations due to increased buying and selling activity in the market. (Sari & Dewi, 2021).

Along with the increasing trend of investment and interest in stock instruments and capital markets, the principle of sustainable finance has also developed into one of the main focuses in the world of investment. Sustainable finance is a financial instrument designed to address the challenges of climate change and its impacts through emissions management, promotion of renewable energy, and support for sustainable development (Valdiansyah & Widiyati, 2024). Sustainable finance is expected to increase the activities of financial institutions in Indonesia, which is further deepened by the principles of Environmental, Social, and Governance, commonly referred to as ESG.

ESG is a framework used to evaluate the sustainability and impact of an investment based on three main dimensions: environmental, such as carbon emissions and energy efficiency; social, which includes labor relations and corporate social responsibility; and corporate governance, including transparent corporate management and respect for shareholder rights (Roestanto et al., 2022). With the increasing preference of investors for ESG-based stocks, many companies have begun to prioritize ESG reporting and disclosure to increase their attractiveness in the capital market.

The introduction of ESG-based indices in the Indonesian capital market reflects a strong commitment to promoting business sustainability and improving corporate governance. This step aims to make ESG one of the main focuses of corporate activities, which will not only have a positive impact on the company's reputation but also on the sustainability of the national economy as a whole (Saldi et al., 2023). One of the achievements by the Indonesia Stock Exchange (IDX) is supporting sustainable finance through the launch of the ESG Leader Index in 2020.

The ESG Leader Index is an index that measures the price performance of stocks with good Environmental, Social, and Governance (ESG) ratings, are not significantly involved in controversies, and have good transaction liquidity and financial performance. The implementation of ESG policies can create a positive perception in the market, attract investor interest, and generate strategic value for companies. The relevance of these findings is particularly significant for companies listed in the ESG Leader Index, as the index serves as a benchmark for investors in assessing a company's commitment to sustainability principles.

The publication of the ESG Leader Index serves as the focal event examined in this study. This is because the event has the potential to provide new information that can influence investment decisions, stock returns, and trading activities of companies included in the Index (Tamara & Budiman, 2022). The ESG Leader Index is compiled based on assessments of Environmental, Social, and Governance (ESG) aspects, considering companies with low ESG risk scores, high transparency, and good financial performance. The publication of this Index signals to investors which companies

have the best sustainability practices, thereby becoming a consideration factor in their investment strategies (BEI, 2020). If this information is considered valuable, the publication of the ESG Index should impact stock returns and Trading Volume Activity (TVA), which can be measured using the event study method (MacKinlay, 1997).

Event studies are used to determine whether the publication affects Abnormal Returns (AR) and TVA, reflecting the market's reaction to ESG information. If the publication of the ESG Index truly influences investors, there should be significant changes in stock prices and trading activity of companies included in the Index (MacKinlay, 1997). Therefore, this study aims to test whether the publication of the ESG Leader Index has a real impact on stock performance on the Indonesia Stock Exchange, while addressing the previous research gap regarding the influence of ESG on the capital market.

Fama's (1970) efficient market theory forms the basis of this study. The theory states that efficient markets respond quickly and accurately to new information, including information related to the existence and publication of the ESG Leader Index. In this context, if the market is in a semi-strong form, the publication of the ESG Leader Index should be directly reflected in stock prices and trading activity. Therefore, this theory serves as the basis for testing whether the publication related to the ESG Leader Index indeed influences market reactions through abnormal returns and trading volume activity.

Additionally, signaling theory is used to strengthen the analytical framework in this study. Signaling Theory explains that information conveyed by companies, such as the publication of issuers listed in the ESG Leader Index, can be considered a positive signal by investors regarding the company's prospects and reputation. Thus, the publication of the ESG Leader Index can influence investor perceptions and trigger market reactions reflected in increased trading activity and changes in stock returns.

The differences in the results of this study indicate that the impact of ESG implementation can be influenced by geographical context, market conditions, and investor perceptions of sustainability. Therefore, this study is not only important for enriching the existing literature, but also provides a deeper understanding for stakeholders regarding the relevance of ESG in the context of the Indonesian market. The inconsistency of the research creates an important research gap that needs to be explored further to provide a deeper understanding of how ESG can influence market reactions in Indonesia.

This study aims to empirically evaluate on the impact of the publication of the ESG Leader Index on Abnormal Return and Trading Volume Activity on the Indonesia Stock Exchange. To explore this relationship, this study will measure Abnormal Returns and Trading Volume Activity during the period of ESG report publication by companies included in the ESG Leader Index. The findings are expected to make a significant contribution to supporting decision-making for both companies and investors.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

In Fama's (1970) semi-strong form of the Efficient Market Theory, stock prices should quickly and accurately reflect all public information, including publications regarding the ESG Leader Index. If the market is truly efficient, there will be no significant abnormal returns because they are already reflected in the stock prices of each issuer. However, if there are abnormal returns, this indicates that the market is not yet fully efficient in responding to such ESG information. Based on Signaling Theory, the publication of the ESG Leader Index can serve as a positive signal from companies to investors regarding their commitment to sustainable business practices and good governance (Spence, 1973). This signal is responded to by investors in the form of buying or selling activities that impact stock price changes.

Dinh's (2023) research shows that ESG factors play a significant role in influencing investor reactions to stocks. Maghfira and Utomo (2024) found that ESG disclosure has a significant positive

effect on abnormal returns, indicating increased investor attention to sustainability aspects in decision-making. The publication of the ESG Leaders Index can trigger changes in abnormal returns because it sends a positive signal to the market (Semadhi, 2024). Semadhi also notes that good governance disclosure increases abnormal returns before and after the publication of the ESG index, as it is considered to reflect the long-term reliability of the company. Targanski and Murhadi (2021) found that stocks removed from the index experienced significant positive abnormal returns before the announcement, indicating differing investor perceptions of the event. Maiti (2020) adds that high ESG scores not only influence company valuation but can also predict better future stock returns.

Meanwhile, Hariyanto et al. (2024) found differences in abnormal returns before and after the event, indicating that high AR values can enhance company value and attract investor confidence. On the other hand, Nicolas et al. (2023) found that ESG events actually reduce average abnormal returns by 0.29%. Santoso and Widodo's (2021) research also shows a significant difference in abnormal returns during recession announcements, indicating that macroeconomic information also triggers market reactions. The analysis techniques used to test the hypothesis involve the One Sample t-test for normally distributed data and the One Sample Wilcoxon Signed Rank Test if the data is not normally distributed.

H1: There is a significant difference in Abnormal Returns during the ESG Leader Index publication event

According to Fama (1970), in the semi-strong form of efficient market theory, public information will be immediately integrated into the investment decisions of market players, which is reflected in trading volume activity. If there is a significant difference in Trading Volume Activity (TVA) before and after the publication of the ESG Leader Index, this indicates a non-uniform investor reaction to information, and at the same time is evidence that the market may not be fully efficient. Meanwhile, based on Signal Theory, increasing trading volume reflects investor response to positive ESG signals. The entry of a company into the ESG Leader Index is considered a form of the company's credibility in terms of sustainability, thus encouraging investors to make buying actions (buying pressure), or even selling (profit-taking) (Spence, 1973).

Research by Yuliawati et al., (2024) indicates that announcements or publications of economic events, such as stock splits, have a significant impact on trading volume activity. This finding shows that the impact of an announcement can vary, depending on the context and parameters analyzed. Meanwhile, a study conducted by Widyatmoko et al. (2022) found that there was a significant difference in trading volume activity as a result of the announcement of a rights issue. Research by Astuti & Prayoga (2020) stated that there was a significant difference in Trading Volume Activity before and after the announcement of the Annual Report Award (ARA). This indicates that investors respond to this award information by increasing trading activity in the shares of companies that receive ARA. Research by Hariyanto et al., 2024 shows that Trading Volume Activity increased significantly after the announcement of the ESG Index. This increase indicates that investors are more active in trading shares after the publication of the ESG Index, possibly due to changes in market sentiment towards the shares included in the Index. The analysis technique used in testing the research hypothesis is by using the Paired Sample T-Test if the data is normally distributed or the Wilcoxon Signed Rank Test if the data is not normally distributed.

H2: There is a significant difference in Trading Volume Activity during the ESG Leader Index publication event.

RESEARCH METHODS

This study is an explanatory study that aims to test the causal relationship between the publication of the ESG (Environmental, Social, and Governance) Leaders stock index on abnormal returns and trading volume activity on the Indonesia Stock Exchange. The approach used is a

quantitative method, with numerical data analysis through event studies during a certain observation period (Sugiyono, 2023:34). The event window is set for 21 days, covering 10 days before the event, D-day, and 10 days after the event, referring to Mehdi et al. (2024) to capture the overall market response. An estimation window of 57 days is used to avoid speculation due to information leakage and exclude minor evaluations of the ESG Leaders Index, as suggested by Krivin et al. (2003) and Hartono (2022). This duration is also intended to minimize the influence of external factors such as macro policies or other irrelevant economic events.

The ESG Leaders Index is an Index that measures the stock price movements of companies with high ESG scores. This index includes stocks with low ESG risk based on an independent assessment by Sustainalytics and ensures that the company is not involved in major controversies. Stock selection is based on minimal ESG risk levels and solid financial performance, with a constituent number of between 15 and 30 stocks. The selection process considers various factors, including the elimination of stocks with high ESG risk or involvement in significant controversies. In addition, the weight of stocks in the Index is adjusted based on the free float ratio and ESG tilt factor to maintain portfolio balance.

Abnormal return or abnormal return is the difference between the actual return or profit level (actual return) and the expected return level (expected return). In this study, the market model calculation method is used in estimating the expected return.

1. Actual return

   Actual return is the actual return calculated from the difference between the current stock price and the previous stock price.

   $$R_t - \frac{P_t - P_{t-1}}{P_{t-1}}$$ = (...%).....(1)

   Information:

   Rt = Stock return on day t

   Pt = Share price on day t

   Pt-1 = Stock price on day-to-day (t-1)

2. Expected return

   Expected return is calculated based on the historical relationship between stock returns and market returns.

   $$RTN_{i,t} = R_{i,t} - E[R_{i,t}]$$ .....(2)

   Information:

   • RTNi.t is the Abnormal Return of stock i on event t (or on day t)

   • Ri.t is the actual return on stock i that occurs on day t

   • E [Ri.t] is the expected return for stock i on day t

   The expectation model can be formed by using Ordinary Least Square (OLS) regression with the formula:

   $E[Ri,t] = \alpha i + \beta i \, . \, RMi + \varepsilon it$ .....(3)

   Information:

   • E[Ri,t] is the expected return for stock i on day t

   • αi is the intercept for security i

   • βi is the slope coefficient which is the Beta of security i

   • RMi is the market return at time t

   • εit is the residual error of security i in the estimation period t

3. Market return

$R_{mt} = \frac{(IHSGj - IHSGj-1)}{IHSGj-1}$ ..... (4)

Information:

- IHSGj is the value of the IHSG (Composite Stock Price Index) at time j
- IHSGj-1 is the value of the IHSG at time j-1

4. Abnormal return

   Abnormal Return is an abnormal return obtained from the difference between the actual return and the expected return.

   ARi,t=Ri,t−E(Ri,t) = (...%).....(5)

5. Average abnormal return

   AAR tests the average Abnormal Return of all securities simultaneously (cross-section) for each day in the specified event period.

$$AARt = \frac{\sum_{i=1}^{k} AR\ i,t}{k}$$ .....(6)

Trading Volume Activity reflects the level of activity of a company in the market and its success in attracting investor interest. Trading Volume Activity (TVA) can be calculated using the following formula:

$TVAi,t = \frac{\sum Share\ i\ is\ traded\ at\ time\ t}{\sum Shares\ outstanding\ at\ time\ t}$.....(7)

Description:

TVA = TVA of company i on day h
i = name of sample company
t = specific day

The population of this study includes all companies listed on the ESG Leader Index during the period 2020 to 2024 with a total of 30 companies in each publication period. The sample in this study is all companies listed on the ESG Leader Index during the period 2020 to 2024. This research is classified as a census method research, where all members of the population are used as samples. Therefore, this research does not face problems related to generalization.

The quantitative data used in this study are stock prices to calculate Abnormal Return and Trading Volume Activity at 10 days before publication, 10 days after publication, with an estimation window of 57 days. Normal return estimation is carried out in an estimation window period of 57 days before the event window, as suggested by Hartono (2022) that this period is sufficient to represent normal returns without too much noise that can affect the expectation model. The data sources used in this study come from secondary data that has been published by the issuer on the issuer's official website. In addition, the data in this study were also obtained from the Indonesia Stock Exchange, accessed through the site www.idx.co.id, as well as the websites investing.com and finance.yahoo.com. The data collection method in this study is non-participant observation, where the researcher acts as an independent observer without being directly involved in the activities of the subjects being observed.

This study uses descriptive statistical analysis to present an overview of the data through the average, minimum, and maximum values with the help of SPSS version 25 (Ghozali, 2021). Furthermore, a normality test was carried out using the Shapiro-Wilk method, because the number of samples was less than 50 (Sugiyono, 2023). Data is said to be normal if the significance is > 0.05.

For hypothesis testing, it is carried out through several stages: One Sample t-test: Testing whether the average abnormal return (AAR) is significantly different from zero, if the data is normally distributed. One Sample Wilcoxon Signed Rank Test: Nonparametric alternative if AAR is not normal. Paired Sample t-test: Testing the difference in average trading volume activity (TVA) before and after the event, for normal data. Wilcoxon Signed Rank Test: Used if TVA data is not normally distributed. All tests are carried out with a significance level of 5%. If the p-value < 0.05, then the null hypothesis

is rejected, which indicates a significant difference or influence from the publication of the ESG Leaders Index on AAR and TVA.

RESULTS AND DISCUSSION

This study uses descriptive statistics to provide an overview of the data collected in terms of the number of samples, minimum value, maximum value, and average value.

Table 1. Results of Descriptive Statistical Analysis of Average Abnormal Return Period 2020 to 2024

Event Period	Average Abnormal Return								
day	2020	2021M1	2021M2	2022M1	2022M2	2023M1	2023M2	2024M1	2024M2
t-10	0,003	0,004	-0,006	-0,006	-0,004	-0,004	0,004	-0,008	-0,005
t-9	-0,003	0,000	0,001	-0,003	0,003	0,003	-0,009	0,002	0,008
t-8	0,001	-0,005	0,000	-0,006	-0,002	-0,003	0,006	-0,003	-0,014
t-7	-0,002	0,003	0,013	-0,002	-0,011	-0,006	0,000	-0,003	-0,001
t-6	-0,004	0,005	0,006	0,001	0,004	-0,005	-0,003	0,001	0,004
t-5	-0,009	-0,003	0,008	-0,002	-0,004	-0,005	-0,003	-0,005	-0,007
t-4	0,001	-0,004	0,001	0,003	0,004	-0,003	0,000	-0,006	-0,002
t-3	-0,009	0,005	0,003	-0,002	-0,002	0,002	-0,001	0,005	0,010
t-2	-0,002	0,002	0,010	-0,011	0,005	-0,002	0,012	0,002	-0,001
t-1	-0,007	0,009	0,003	0,014	0,000	-0,003	-0,001	-0,003	-0,006
t-0	-0,002	0,000	-0,005	0,023	0,001	-0,006	-0,004	0,003	0,011
t+1	0,004	0,001	-0,001	0,005	0,006	0,008	-0,003	-0,003	0,003
t+2	-0,001	-0,002	-0,004	0,001	0,010	0,000	-0,004	-0,009	0,003
t+3	0,003	0,008	0,004	0,002	0,007	-0,010	0,003	0,006	-0,003
t+4	0,002	0,000	0,004	-0,007	-0,004	-0,006	-0,006	-0,001	0,009
t+5	0,011	0,003	-0,001	-0,003	0,000	-0,006	0,005	0,003	0,002
t+6	0,013	-0,005	-0,001	0,009	-0,005	-0,005	0,001	0,002	0,008
t+7	0,018	0,001	-0,001	-0,002	0,000	-0,004	-0,001	0,001	-0,006
t+8	0,008	0,003	0,002	0,017	0,000	-0,006	-0,005	0,002	0,009
t+9	-0,013	-0,002	0,006	-0,002	0,003	0,005	0,001	0,005	0,001
t+10	0,007	-0,003	0,004	0,009	0,001	0,009	0,000	-0,007	-0,008
Min	-0,01335531	-0,005309	-0,006152	-0,011146	-0,011347	-0,009585	-0,008665	-0,0094	-0,014292
Max	0,018017595	0,008846	0,012659	0,0226157	0,0098326	0,0085942	0,0115075	0,005769	0,0110465
Mean	0,0009107	0,0009731	0,0021609	0,0018047	0,0003989	-0,002204	-0,000376	-0,000704	0,0006711

Source: Data Processed, 2025

Based on Table 1., in the 2020 period, AAR showed quite significant fluctuations. There were a total of 11 days with positive AAR values, indicating a market reaction that tended to be positive to the observed events out of a total of 21 days. The maximum AAR value of 0,018 occurred on day t+7, indicating the highest investor response during that period. Meanwhile, the minimum AAR of −0,013355 was recorded on day t+9, reflecting negative pressure from the market at the end of the event window.

During the 2021M1 period, AAR was recorded 14 days with positive values, indicating a relatively balanced market response between optimism and caution. The highest AAR value of 0,00885 occurred on day t+3, while the lowest value of −0,0053 was recorded on day t-8. This indicates a fairly rapid change in market perception in responding to available information approaching the ESG Leader Index publication event. In the 2021M2 period, there were 14 days with positive AAR, which is the same as the number of Positive AAR in the previous major evaluation, indicating the dominance of positive sentiment from investors. The maximum AAR value of 0.01266 occurred on day t-7, while the minimum value of −0,0062 was recorded on day t-10. This indicates

that despite an overall positive market response, residual negative sentiment persisted on t-10, potentially due to uncertainty prior to the index publication.

During the 2022M1 period, AAR showed relatively stable results with 10 days recording positive values. The highest value of 0,02262 which occurred on day t-0 reflects a very optimistic market sentiment at the time of the publication of the ESG Leader Index. Meanwhile, the lowest value of −0,0111 occurred on day t-2. This indicates a rapid increase in market confidence after the negative response before the publication. In the 2022M2 period, there were 14 days showing positive AAR, with a maximum value of 0,00983 recorded on day t+2. Conversely, the minimum value of −0,0113 occurred on t-7. These results illustrate the market reaction that tends to fluctuate and is not yet fully stable in responding to certain information or events.

During the 2023M1 period, there were only 5 positive AAR days. The maximum AAR value of 0,00859 was recorded on t+1, while the minimum AAR of −0.0096 occurred on day t+3. The average AAR in this period was also negative, indicating that the market tended to respond pessimistically to information in this period. In the 2023M2 period, there were 10 days with positive AAR. The maximum value of 0,01151 occurred on day t-2, while the minimum value of −0,0087 was recorded on day t-9. The significant difference between the two days before the publication indicates that the information received by the market caused a drastic change in perception.

During the 2024M1 period, the market showed a high reaction compared to the previous period, with 11 days of positive AAR. The highest value of 0,00577 occurred on day t+9, while the lowest value of −0,0094 appeared on day t+2. This indicates a fluctuation in investor reactions to information circulating after the publication of the ESG Leader Index. In the 2024M2 period, there were 11 days with positive AAR, which was the same as the previous major evaluation period. The highest value of 0,01105 was recorded at t-0, and the lowest value of −0,0143 occurred on day t-8. This indicates the possibility of a market reaction from investors at the time of the ESG Leader Index publication event.

Table 2. Results of Descriptive Statistical Analysis of Trading Volume Activity Period 2020 to 2024

	2020	2021M1	2021M2	2022M1	2022M2	2023M1	2023M2	2024M1	2024M2
Min	-0,005733	-0,004507	-0,003584	-0,001969	-0,002302	-0,003745	-0,002179	-0,001609	-0,001448
Max	0,009731	0,007332	0,001423	0,000673	0,001402	0,002787	0,001764	0,003060	0,001154
Mean	0,000642	-0,000270	-0,000202	-0,000146	-0,000004	-0,000019	-0,000089	0,000219	0,000156

Source: Data Processed, 2025

Based on the results of data processing, the publication of the ESG Leaders Index shows a tendency for increasing trading volume activity (TVA) in several issuers, although with varying intensity in each period and issuer. In 2020, the average TVA increased significantly with a value of 0,000641897, which was the highest value throughout the observation period. The issuer with the highest increase was PT Perusahaan Gas Negara Tbk (PGAS), while the lowest increase was recorded by PT Sarana Menara Nusantara Tbk (TOWR). Conversely, in 2021, there was a decrease in the average TVA value, both in the first major evaluation (-0,000269786) and the second (-0,000202085). The most significant decrease occurred in PT Integra Indocabinet Tbk (WOOD), which previously showed an increase in the 2020 period. This indicates a different market response to ESG publications in that year. 2022 also shows a downward pattern, with an average TVA of -0,000145544 in M1 and almost neutral in M2. However, there are exceptions for certain issuers, such as PT Aneka Gas Industri Tbk (AGII) which is a newcomer to the ESG Index and recorded the highest increase in TVA in 2022M2.

In 2023, although the average TVA still showed a negative value, there was an improvement compared to the previous period. The highest increase was recorded by PT GoTo Gojek Tokopedia Tbk (GOTO), while the deepest decline occurred in PT Adi Sarana Armada Tbk (ASSA). The 2023M2 period recorded the highest average TVA in the five years of observation, although the value has not

shown a change towards positive overall. In contrast to previous years, the 2024 period showed more positive results, with an average TVA that was positive in both major evaluations, respectively 0,000219025 and 0,000156213. The highest increase was achieved by PT Aspirasi Hidup Indonesia Tbk (ACES), while several issuers such as PT Erajaya Swasembada Tbk (ERAA) and PT Media Nusantara Citra Tbk (MNCN) still recorded a decline.

Table 3. AAR Normality Test Results ESG Leader Index Publication Events

Variable	N	Sig.	Criteria	Information
2020	21	0,493	0.05	Normally Distributed
2021M1	21	0,373	0.05	Normally Distributed
2021M2	21	0,145	0.05	Normally Distributed
2022M1	21	0,001	0.05	Not Normally Distributed
2022M2	21	0,111	0.05	Normally Distributed
2023M1	21	0,101	0.05	Normally Distributed
2023M2	21	0,015	0.05	Not Normally Distributed
2024M1	21	0,086	0.05	Normally Distributed
2024M2	21	0,215	0.05	Normally Distributed

Source: Data Processed, 2025

In 2020, a normality test was conducted on the AAR variable, where the test results showed that the significance value was 0,493, which was greater than the criterion value of 0,05. Thus, it can be concluded that the AAR data in 2020 was normally distributed. The normality test in 2021 showed that the significance value was at 0,373 and 0,145 for the First Major and Second Major before and after the event, respectively. Thus, all stock return data in 2021 can be categorized as normally distributed, which means that there is no deviation from the normality assumption.

In 2022, the results of the normality test showed that the significance value was 0,001 and 0,111. In the second major, the data was still normally distributed with the criterion of 0,05, but in the evaluation of the first major, the data was <0,05 so that the data was not normally distributed.

The results of the normality test in 2023 showed a significant difference between the majors, namely 0,101 for the first major evaluation and 0,015 for the second major. This means that for the second major evaluation the data is not normally distributed. Therefore, the data in this period is classified as normally distributed only for the first major evaluation. The normality test in 2024 showed different results, with significance values of 0,086 and 0,215 for the first and second majors, respectively. So it can be concluded that the AAR before and after the publication of the ESG Leader Index in 2024 was normally distributed.

Table 4. TVA Normality Test Results for ESG Index Publication Events

Variable	N	Sig.	Criteria	Information
2020	30	0,001	0,05	Not Normally Distributed
2021M1	30	0,000	0,05	Not Normally Distributed
2021M2	30	0,000	0,05	Not Normally Distributed
2022M1	30	0,034	0,05	Not Normally Distributed
2022M2	30	0,007	0,05	Not Normally Distributed
2023M1	30	0,000	0,05	Not Normally Distributed
2023M2	30	0,003	0,05	Not Normally Distributed
2024M1	30	0,001	0,05	Not Normally Distributed
2024M2	30	0,191	0,05	Normally Distributed

Source: Data Processed, 2025

Based on Table 4., in 2020, the significance value (Sig.) generated from the normality test was 0,001, smaller than the $\alpha = 0,05$ criterion. This shows that the TVA data in 2020 was not normally

distributed. The year 2021 is divided into two majors, namely 2021M1 and 2021M2. Both periods showed significant results of 0,000 each, which is far below the 0,05 criterion. This means that in 2021, both in the first and second majors, the TVA data was not normally distributed. In 2022, the significance results were 0,034 and 0,007 for the first and second major periods, respectively. Both values are still below the 0,05 limit, so it is concluded that the TVA data for 2022 also does not meet the normality assumption. In 2023, it shows that TVA data is still not normal. This shows that although ESG has become a deeper part of corporate policies and investment strategies, the market response to ESG publications still causes the data to not be normally distributed. The year 2024 shows different dynamics. For 2024M1, the significance value is 0,001, which still indicates that the data is not normally distributed. However, in the 2024M2 period, there was a significant change, where the significance value increased to 0,191, which is greater than 0,05. This indicates that in the second major of 2024, TVA data is normally distributed.

Table 5. One Sample T-Test Average Abnormal Return Results 2020 (Initial Publication)

	Test Value = 0.00024518849855639					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2020	0,394	20	0,698	0,00067	-0,0029	0,0042

Source: Data Processed, 2025

Based on Table 5., AAR at the beginning of the launch in 2020 shows a significance value of 0,698. This value is greater than the decision-making criteria, which is > 0,05 so that H1 is rejected. This means that there is no significant difference in abnormal returns in the publication event of the ESG Leader Index for the 2020 period.

Table 6. One Sample T-Test Average Abnormal Return Results 2021 Major Evaluation I

	Test Value = 0.000261984					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2021M1	0,825	20	0,419	0,0007111	-0,001087	0,002509

Source: Data Processed, 2025

Based on Table 6., AAR in the 2021M1 period shows a significance value of 0,419. This value is greater than the decision-making criteria, which is > 0,05, so H1 is rejected. This means that there is no significant difference in abnormal returns during the ESG Leader Index Publication Event Period.

Table 7. One Sample T-Test Average Abnormal Return Results Year 2021 Major Evaluation II

	Test Value = 0.000581786					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2021M2	1,541	20	0,139	0,0015791	-0,000558	0,003716

Source: Data Processed, 2025

Based on Table 7., AAR in 2021M2 shows a significance value of 0,139. This value is greater than the decision-making criteria, which is > 0,05, so H1 is rejected. This means that there is no significant difference in abnormal returns in the ESG Leader Index publication event for the 2021M2 period.

Table 8. One Sample T-Test Average Abnormal Return Results Year 2022 Major Evaluation II

	Test Value = 0.000107393					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2022M2	0,280	20	0,783	0,0002915	-0,001883	0,002466

Source: Data Processed, 2025

Based on Table 8., AAR during the ESG Leaders Index publication event at the beginning of the launch of 2022M2 shows a significance value of 0,783. This value is greater than the decision-making criteria, which is > 0,05 so that H1 is rejected. This means that there is no significant difference in abnormal returns in the ESG Leader Index publication event for the 2022M2 period.

Table 9. One Sample T-Test Average Abnormal Return Results Year 2023 Major Evaluation I

	Test Value = -0.000593378					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2023M1	-1,524	20	0,143	-0,0016106	-0,003815	0,000594

Source: Data Processed, 2025

Based on Table 9., the ESG Leaders Index Publication Event at the beginning of the launch in 2023M1 shows a significance value of 0,143. This value is greater than the decision-making criteria, which is > 0,05, so H1 is rejected. This means that there is no significant difference in abnormal returns in the ESG Leader Index publication event in 2023M1.

Table 10. One Sample T-Test Average Abnormal Return Results Year 2024 Major Evaluation I

	Test Value = -0.000189601					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2024M1	-0,517	20	0,611	-0,0005146	-0,002591	0,001562

Source: Data Processed, 2025

Based on Table 10., AAR in the 2024M1 period shows a significance value of 0,611. This value is greater than the decision-making criteria, which is > 0,05 so that H1 is rejected. This means that there is no significant difference in abnormal returns in the ESG Leader Index publication event for the 2024M1 period.

Table 11. One Sample T-Test Average Abnormal Return Results Year 2024 Major Evaluation II

	Test Value = 0.000180671					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
2024M2	0,324	20	0,749	0,0004904	-0,002662	0,003643

Source: Data Processed, 2025

Based on Table 11., AAR during the ESG Leaders Index publication event in 2024M2 shows a significance value of 0,749. This value is greater than the decision-making criteria, which is > 0,05, so H1 is rejected. This means that there is no significant difference in abnormal returns during the ESG Leaders Index publication event for the 2024M2 period.

Table 12. Paired Sample T-Test Results Trading Volume Activity ESG Leader Index Publication Events

Paired Sample T- Test				
Publication Event Period	t	df	t table = 5%	Sig. (2-tailed)
2024M2_BEFORE - 2024M2_AFTER	-1,632	29	1,7613	0,113

Source: Data Processed, 2025

Based on Table 12., the results of the Paired Sample T-Test show a t value of -1.632 with a significance level of 0.05. This means that H0 is accepted or there is no significant difference in Trading Volume Activity between before and after the event in the 2024 Major Evaluation II period.

Table 13. One Sample Wilcoxon Signed Rank Test Results Year 2022 Mayor I and 2023 Mayor II

Tahun	p-value (Sig.)	Decision	Mean
2022M1	0,813	Retain the null hypothesis	There is no difference in medians
2023M2	0,221	Retain the null hypothesis	There is no difference in medians

Source: Data Processed, 2025

Based on the results of the One-Sample Wilcoxon Signed Rank Test, the significance value for 2022M1 is 0,813 and for 2023M2 is 0,221, both of which are greater than 0,05. Thus, there is no significant difference between the median abnormal return and the zero value. This means that the publication event of the ESG Leader Index in both periods did not cause statistically significant abnormal returns.

Table 14. Wilcoxon Signed Rank Test Results Trading Volume Activity ESG Leader Index Publication Events

Publication Event Period	Z	Asymp. Sig. (2-tailed)
2020	-1,368	0,171
2021M1	-2,766	0,006
2021M2	-1,429	0,153
2022M1	-1,142	0,254
2022M2	-,792	0,428
2023M1	-,442	0,658
2023M2	-,895	0,371
2024M1	-1,656	0,098

Source: Data Processed, 2025

Based on Table 14., there are a total of eight publication events tested, covering the M1 and M2 periods from 2020 to 2024 the first major. Of all the events tested, only one period showed statistically significant results, namely the 2021M1 period with a significance value of 0.006 ($p < 0.05$). Meanwhile, the other seven events showed significance values above 0.05, which means that there is no significant difference between trading volume before and after the publication of the ESG Leader Index or in other words, there is no significant change in stock trading volume activity in response to the publication of the ESG Leader Index. This shows that the publication of the ESG Leader Index has not become a dominant factor in investor behavior in the Indonesian capital market.

This study aims to examine market reactions to the publication of the ESG Leaders Index, measured by abnormal return (AR) and trading volume activity (TVA). The test results indicate that the publication of the ESG Leaders Index does not trigger a significant market reaction, either in terms of abnormal returns or trading volume. This suggests that the information related to the index is not perceived as impactful enough by investors to influence short-term investment decisions.

These findings address the first research question, showing that there is no statistically significant difference in abnormal returns before and after the publication of the ESG Leaders Index. This result implies that investors have not fully processed ESG index inclusion as a relevant signal. It aligns with the findings of Nicolas et al. (2023), who reported a decrease in average abnormal returns following ESG-related events, and supports Santoso and Widodo (2021), who noted that markets respond primarily to information with strong economic value.

Regarding trading volume activity, no significant difference was observed between the pre- and post-event periods. This answers the second research question and suggests that the publication did not generate meaningful trading reactions. The findings differ from those of Hariyanto et al. (2024), who found that changes in abnormal return reflected investor trust in published information. This contrast may be attributed to the relatively low prioritization of ESG considerations among domestic investors in Indonesia.

These results suggest that the Indonesian capital market is not fully efficient in the semi-strong form, as publicly available information such as ESG index inclusion is not quickly reflected in stock prices. This supports the weak form of the Efficient Market Hypothesis (EMH), where only historical information is factored into prices. Moreover, the findings imply that signaling theory may not be fully applicable in this context. Although ESG index inclusion should serve as a positive signal, it may lack impact without real improvements in transparency and firm performance. These findings suggest the need to recontextualize signaling theory in emerging markets, where non-financial disclosures such as ESG ratings may require stronger reinforcement through regulatory or reputational mechanisms to influence investor behavior.

From a practical perspective, these findings highlight that while ESG is globally recognized as a critical issue, Indonesian investors may not yet consider it a primary factor in decision-making. This calls for increased efforts by regulators and listed companies to raise awareness, strengthen ESG integration in corporate strategy, and ensure effective communication of ESG initiatives to the investing public.

CONCLUSION

This study concludes that the publication of the ESG Leaders Index has not generated statistically significant abnormal returns or changes in trading volume activity (TVA) in the Indonesian capital market. Although slight positive indications were observed in certain periods, the overall market reaction remains limited. These findings suggest that ESG-related information is not yet perceived as a strong signal by investors, indicating that the semi-strong form of market efficiency has not been fully realized in this context.

The practical implication of this research is that ESG information, while increasingly emphasized globally, still requires greater integration into the investment decision-making process in Indonesia. Investors are encouraged to enhance their literacy regarding ESG factors to improve portfolio quality and support responsible investing. Corporations included in the ESG Leaders Index should strengthen sustainability practices and improve ESG disclosures. Regulators such as the OJK and IDX are expected to foster ESG adoption through regulatory improvements, transparency incentives, and enhanced infrastructure for sustainability information.

This study is subject to several limitations. The scope of observation is constrained to the period of 2020–2024 and does not include qualitative insights from market participants. In addition, the analysis relies solely on secondary quantitative data and focuses on short-term market reactions, which may not fully capture the strategic long-term relevance of ESG factors.

For future research, it is recommended to expand the observation period to capture long-term patterns and to combine quantitative methods with qualitative approaches such as interviews or investor surveys. This would provide deeper insight into how ESG information is interpreted and utilized in investment decision-making. Moreover, future studies may also explore the role of corporate ESG performance in influencing other market indicators beyond return and trading volume.

BIBLIOGRAPHY

Astuti, F., & Prayoga, A. S. (2020). Market reaction analysis of annual report award announcement: An event study using abnormal return, trading volume activity, and stock price. *EkBis: Jurnal Ekonomi dan Bisnis*, 4(1), 340–352. https://doi.org/10.14421/EkBis.2020.4.1.1186

Bursa Efek Indonesia. (2020–2024). Pengumuman evaluasi indeks IDXESGL. https://www.idx.co.id

Cahyani, C. P., Permadhy, Y. T., & Aziz, A. (2021). Analysis of stock return of LQ45 index in Indonesia Stock Exchange. *Korelasi*, 2(2020), 349–361.

Dewi, N. K. A., & Candradewi, M. R. (2020). Optimal portfolio formation on IDX80 index stocks using Markowitz model. *E-Jurnal Manajemen*, 9(4), 1614–1633. https://doi.org/10.24843/EJMUNUD.2020.v09.i04.p19

Dinh, M. T. H. (2023). ESG, time horizons, risks, and stock returns. Research in International Business and Finance, 65, Article 101981. https://doi.org/10.1016/j.ribaf.2023.101981

Fama, E. F. (1970). Efficient capital markets: A review of theory and empirical work. *The Journal of Finance*, 25(2), 383–417. https://doi.org/10.2307/2325486

Hariyanto, W., Ningdiyah, E. W., & Abidin, F. I. N. (2024). Abnormal return (AR) and trading volume activity (TVA) on firm value in banking companies in Indonesia. *Journal of Artificial Intelligence and Digital Economy*, 1(11), 23–37. https://doi.org/10.61796/jaide.v1i11.1154

Hartono, J. (2022). *Portfolio Theory and Investment Analysis*. BPFE.

Krivin, D., Patton, R., Rose, E., & Tabak, D. (2003). Determination of the appropriate event window length in individual stock event studies. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.466161

MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature*, 35(1), 13–39.

Maghfira, A., & Utomo, D. C. (2024). The effect of ESG disclosure on abnormal return moderated by financial health during COVID-19 pandemic in Indonesia. *Diponegoro Journal of Accounting*, 13(3).

Maiti, M. (2020). Is ESG the succeeding risk factor? *Journal of Sustainable Finance & Investment*, 10(2), 300–314. https://doi.org/10.1080/20430795.2020.1723380

Mehdi, M., Nabil, S., & Benslimane, I. (2024). Investors' reaction to the introduction of new ESG indexes: Evidence from an event study approach. *Management Control, Auditing and Finance Review*, 1(2), 41–53.

Nicolas, M., Desroziers, A., Caccioli, F., & Aste, T. (2023). ESG reputation risk matters: An event study based on social media data. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4517269

PT Kustodian Sentral Efek Indonesia. (2024). Indonesia Capital Market Statistics: December 2024.

Putra, R., & Afriyenti, M. (2021). The influence of good corporate governance mechanisms and CSR disclosure on stock returns. *Jurnal Eksplorasi Akuntansi*, 3(2), 248–263. https://doi.org/10.24036/jea.v3i2.332

Roestanto, A., Vivianita, A., & Nurkomalasari, N. (2022). The effect of firm size, age, industry type, and ownership structure on environmental, social, and governance (ESG) disclosure: An empirical study of companies listed on IDX 2017–2020. *Jurnal Akuntansi STIE Muhammadiyah Palopo*, 8(1), 1. https://doi.org/10.35906/jurakun.v8i1.958

Saldi, G. D., Knauss, K. G., Spycher, N., Oelkers, E. H., & Jones, A. P. (2023). A combined experimental and modelling study of granite hydrothermal alteration. *Geothermics*, 108, Article 102633. https://doi.org/10.1016/j.geothermics.2022.102633

Santoso, R. Y. P., & Widodo, H. (2021). The reaction of the Indonesian capital market when Indonesia experiences recession in 2020. https://doi.org/10.21070/acopen.5.2021.2210

Sari, P. E. P., & Dewi, G. A. K. R. S. (2021). A comparative analysis of trading volume activity and abnormal return of IDX30 stocks before and after the WHO pandemic announcement. *Jurnal Ilmiah Mahasiswa Akuntansi*, 12(03), 876–885.

Semadhi, I. N. S. Y., & Masdiantini, P. R. (2024). The effect of environmental, social, and governance (ESG) disclosure on market reaction. *JIMAT: Jurnal Ilmiah Mahasiswa Akuntansi*, 15(4), 1003–1014.

Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*. Oxford University Press.

Sugiyono. (2023). Quantitative, Qualitative, Combination, and R&D Research Methods. Alfabeta.

Tamara, D., & Budiman, F. (2022). New index ESG leaders & investment decisions in Indonesia relating to ESG principles. *Journal of Management and Sustainability*, 12(1), 64. https://doi.org/10.5539/jms.v12n1p64

Targanski, K., & Murhadi, W. (2021). Sustainable and responsible investment in Indonesia and Malaysia: An event study on SRI-KEHATI and FTSE4GBM indices. *Jurnal Siasat Bisnis*, 25(1), 69–78. https://doi.org/10.20885/jsb.vol25.iss1.art6

Trisnaningsih, K., & Ayu Diantini, N. (2024). A comparative analysis of stock trading volume and abnormal return before and after stock split. *E-Jurnal Manajemen*, 13(7), 1202–1221. https://doi.org/10.24843/EJMUNUD.2024.v13.i07.p08

Valdiansyah, R. H., & Widiyati, D. (2024). The role of sustainable finance in Indonesia's MSME sector: Opportunities and challenges. *Journal of Law, Administration, and Social Science*, 4(1). https://doi.org/10.54957/jolas.v4i1.713

Widyatmoko, M. K., Suja'i, A. Y. I., & Salim, A. (2022). Effects of right issue announcement on abnormal return and stock trading volume: A case study on companies listed on the Indonesia Stock Exchange. *Budapest International Research and Critics Institute (BIRCI) Journal*, 5(2), 12306–12317. https://doi.org/10.33258/birci.v5i2.5072

Winata, S., Selfiyan, S., Suhendra, S., & Samara, A. (2023). The effect of current ratio, return on assets, and total assets turnover on stock prices in food and beverage companies listed on IDX (2017–2021). *ECo-Buss*, 5(3), 1058–1069. https://doi.org/10.32877/eb.v5i3.596

Yuliawati, T., Waspada, I., & Saric, M. (2024). Measuring market efficiency: The impact of stock split on trading activity and stock return in Indonesia. *Jurnal Akuntansi*, 19(2), 107–115. https://doi.org/10.37058/jak.v19i2.10993