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INDONESIA CAPITAL MARKET REACTION TO GREEN INVESTING IMPLEMENTATION

Febrian Eka Putri[1]; Halimatusyadiah[2]
Faculty of Economic and Business, Universitas of Bengkulu, Indonesia[1,2]
Email : febrianekaputri22@gmail.com[1]; halimatusyadiah@unib.ac.id[2]

ABSTRACT

This study aims to see the differences and investor responses to the Indonesian Capital Market's adoption of green investment, will investors prefer to invest in companies that implement environmentally friendly operations. Are there differences and investor responses before and after the implementation of green investing with the launch of an ESG (Environmental, Social, and Governance)-based index, on December 20, 2021, the index is ESG Quality 45 IDX Kehati. The research sample comprises all businesses that are part of the index, i.e. 45 companies with a large, liquid market capitalization, that have an ESG score above the minimum threshold and the Company's operations are based on ESG (Environmental, Social, and Governance) or environmentally friendly. The documentation method is the data collection methodology to obtain data on stock prices, trading volume activity, and IHSG. The data processing methods used are descriptive analysis and difference tests. At 0.001 the significance level, the data demonstrate that the average share or stock price changed significantly before and after the Index was included. The significance value of the t-test on paired samples before and after the company entered the index showed values of 0.0640 and 0.179, showing that there was no discernible change in the abnormal return and trading volume activities of the company before and following its inclusion in the index. In addition, investors did not react significantly to the Company included in the ESG Quality 45 IDX Kehati Index.

Keywords : Capital Market; Green Investing; Investor Reaction; ESG Quality Index

ABSTRAK

Penelitian ini bertujuan untuk melihat perbedaan dan respon investor terhadap implementasi green investing di Pasar Modal Indonesia, akankah investor akan lebih memilih berinvestasi pada Perusahaan yang menerapkan operasional ramah lingkungan. Apakah terdapat perbedaan dan respon investor sebelum dan setelah adanya implementasi green investing dengan peluncuran indeks yang berbasis ESG (Environmental, Social, and Governance) yaitu Indeks ESG Quality 45 IDX Kehati pada 20 Desember 2021. Sampel penelitian adalah semua Perusahaan yang masuk dalam Indeks ESG Quality 45 IDX Kehati sebanyak 45 Perusahaan dengan Kapitalisasi Pasar yang besar, likuid, memiliki ESG Score diatas batas minimum serta operasional Perusahaan yang berbasis ESG (Environmental, Social, and Governance) atau ramah lingkungan. Teknik pengumpulan data yang digunakan yaitu metode dokumentasi untuk memperoleh data harga saham, volume aktivitas trading dan IHSG. Metode pengolahan data yang digunakan yaitu analisis descriptive dan uji beda. Hasil penelitian menunjukan bahwa terdapat perbedaan yang signifikan pada rata-rata harga saham sebelum dan setelah perusahaan masuk Indeks ESG Quality 45 IDX Kehati dengan nilai signfikansi 0.001. Abnormal return dan volume aktivitas trading perusahaan sebelum dan setelah masuk indeks tidak memperlihatkan perbedaan yang

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signifikan, hal ini ditunjukan oleh nilai signifikansi uji paired sampel t-test abnormal return sebelum dan setelah Perusahaan masuk indeks menunjukan nilai 0.0640 dan nilai signifikansi Volume Aktivitas trading yaitu 0.179. Selain itu, investor juga tidak memberikan reaksi yang signifikan terhadap Perusahaan yang masuk dalam Indeks ESG Quality 45 IDX Kehati.

Kata Kunci : Pasar Modal; Investasi Ramah Lingkungan; Reaksi Investor; Indeks ESG Quality

INTRODUCTION

Carbon emissions are one of the hot topics related to the environment globally. Indonesia is one of the largest contributors to carbon emissions in the world contributing 728.88 million tons of CO_2 carbon emissions in 2022 globally or equal to 4.7% of the world's carbon emissions (Ritchie & Roser, 2023). For more than 20 years, Indonesia has always been one of the countries with the largest contributor of carbon emissions in the world.

Concerns about problems related to carbon emissions and the increasing seriousness of global climate and environmental problems make every country take steps to overcome these problems by implementing businesses and industries that adopt environmentally friendly practices and products. The rise of concern about the significance of the environment and sustainable development as well as increasing public concern for the environment are a concern for developed and developing countries.

Currently, the government has determined to target Net Zero Emissions by 2060. This seriousness is proven in 2022 carbon emissions in Indonesia have been reduced to 10.37 million tons of CO2, and also the Indonesian government realizes access to clean electrical energy (green energy). In the 2022 World Economic Forum meeting, the President of Indonesia explained Indonesia's policy strategy to realize a green economy (Eri Sutrisno, 2022). The study and application of economics with an emphasis on the natural environment is known as the "green economy", which is a new development pattern using the Synchronization of economic development approach with sustainable ecological management (Alahverdi & Poorhatami, 2020; Albekov, Parkhomenko, & Polubotko, 2018). The green economy is a development model that synergizes between economic growth and improving environmental quality with the hope that it will encourage new job opportunities (green jobs) and new investment opportunities (green investment) (Eri Sutrisno, 2022). Environmental issues are not only

the responsibility of the government but collaboration between the government, civil society organizations, academics, industry, and society. As a form of industry support, most companies in Indonesia have published Corporate Social Responsibility (CSR) to publicize that companies care about the environment and are sustainable so that they have the opportunity to get sentiment from investors.

Green investments are investments that have a clear environmental mission with professional sector investments enhanced as a component of the worldwide effort to improve environmental sustainability. Additionally, it incorporates environmental objectives into the investment process, such as lowering carbon emissions. Green investment is a transition from the financial sector to responsible investment and environmentally friendly, social and governance (ESG) (Yan, Almandoz, & Ferraro, 2021). Green investment is commonly referred to as green investing is currently an important issue in the financial sector. Green Investing itself is one of the steps that can be taken by the government in achieving the goal of Net Zero Emission in 2060.

The form of green investing can be in the form of green bonds, green funds or green stock. Basically, the application of one green investment instrument will affect each other's markets. The implementation of green inevsting in Indonesia has begun to be implemented, specially with the availability of green bonds and stock indices based on environmental, social and governance considerations (ESG). This is evident from the stock index that the Indonesian Biodiversity Foundation (KEHATI) and the Indonesia Stock Exchange jointly launched on December 20, 2021 to launch indices related to green stocks, one of which is the ESG Quality 45 IDX Kehati Index (Santi, 2021).

Green investing is not just hoping for financial incentives, but companies implement green investing with the aim of obtaining business incentives that are sustainable and have an impact in the long (Indriastuti & Chariri, 2021; Li et al., 2022; Maltais & Nykvist, 2021). Green investing improves the financial performance of businesses, company value and increased company competitiveness (market performance) so that it is expected to attract investors to shift their capital from non-environmentally friendly investments to environmentally friendly investments (Chariri, Bukit, Eklesia, Christi, & Tarigan, 2018; Gupta & Jham, 2021; Indriastuti & Chariri, 2021; Rokhmawati, 2021). The application of green investing is expected to affect investor sentiment and increase investor investment value. Using 54 public corporations

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as a sample that have issued green bonds, the results show that shareholders (investors) see green bond financing as adding value and as a means of mitigating risk (Baulkaran, 2019). The research is supported by Lovleen Gupta and Juhi (Gupta & Jham, 2021) who analyzed the crisis's effect on portfolio demand and verified that the performance of green and non-green portfolios varied during that period , the findings indicated that the trend of green investments increased as a result of the rise in green portfolio market valuation and the average green investment's provision of increased monthly yields. In contrast to Xianfang's research, Su meng analyzed the return performance of green stock investments, which tend to be worse than the return performance of conventional stock portfolios (Su, 2021).

The formulation of the problems raised in this research is 1) After the ESG Quality 45 IDX Kehati Index was introduced, were there any notable variations in the stock prices, abnormal returns, or trading volume activity of the companies included in the index. 2) How the introduction of the ESG Quality 45 IDX Kehati Index, an attempt to adopt green investment in Indonesia, affected the capital market in that country.

This study aims to investigate how the market reacts to companies included in the ESG Quality 45 IDX Kehati Index and if investors will choose to invest in these companies or not. Companies that adopt environmentally friendly practices are chosen to be included in the ESG Quality 45 IDX Kehati Index.

LITERATURE REVIEW

Green Investing

Business sustainability has become the company's focus from now, increasing public awareness related to environmentally caring businesses and implementing environmentally friendly businesses urges companies to create and develop environmentally friendly based businesses. In research conducted by Aaron Maltais & Bjorn Nykvist stated that green investment will result in sustainable business performance so as to ensure the company's long-term sustainability (Maltais & Nykvist, 2021). Green investment have a noteworthy effect on the financial success of the business and sustainability performance, which is an indication that the company is an investment-worthy business (Indriastuti & Chariri, 2021). Green Investing or environmentally friendly investment integrates environmental goals in investment (Yan et al., 2021). Green investing aims to have favorable effects on the environment which

includes the avoidance of negative effects on natural resource preservation and rehabilitation as well as the environment (Doval & Negulescu, 2014). Green investing is the allocation of financial resources intended for projects or companies that focus on sustainability practices and projects that are devoted to minimizing pollution, conserving natural resources, or implementing other ecologically friendly business practices.

Green Stock

Green stocks are stocks that have implemented environmentally friendly practices (green stocks) representing companies that focus on environmentally friendly products, services and technologies where companies are expected to contribute to a sustainable future (Zach, 2023). Green equity or stock involves buying shares in companies that are actively involved in green and sustainability activities, where green stock issuing companies focus on green practices and renewable energy, carbon reduction and sustainable business operations (Johnson, 2023). In Indonesia, the green stock market is included in the agostic group unlike other countries' green stock markets which are classified as non-agnostic (there are specializations in certain industries) (Sakuntala, Majid, Aliasuddin, & Suriani, 2022).

ESG Quality 45 IDX Kehati Index

A stock index is a metric used in statistics that reflects the general price performance of a collection of stocks chosen using specific criteria and periodically assessed. The index can be a benchmark or guideline for investors in choosing investments. Stock indices gather companies or issuers with similar characteristics and criteria. The ESG Quality 45 IDX Kehati Index is one of the indexes that is emphasized. where this index includes a group of companies that are considered to have implemented environmentally friendly projects and fully support the government's plan to achieve Net Zero Carbon (Sakuntala et al., 2022).

The ESG Quality 45 IDX KEHATI is an index of equities that comprises the top 45 stocks based on the evaluation of ESG performance and the financial soundness of the companies. It is well-liquidated. Launched on December 20, 2023, IDX KEHATI's ESG Quality 45 was maintained in partnership with Yayasan KEHATI, the Indonesian Biodiversity Foundation. To be included in the Kehati IDX ESG Quality 45 Index, a company's market capitalization must be significant, its ESG score must be higher than

the minimum level, and its primary business cannot be in the Kehati negative screening industry.

Market Reaction

Sentiment is the optimism or pessimism that investors have towards the future stock market, the price of a stock will increase as the positive sentiment of investors towards the company increases (Piñeiro-Chousa, López-Cabarcos, Caby, & Šević, 2021). Investor reaction to policies carried out by companies and governments is one of the important things for corporate sustainability, one of the policies that can attract market sentiment is the implementation of environmentally friendly practices in company operations to reduce carbon emissions. Investors tend to react more favorably when businesses emphasize revealing the social advantages of investors' capital (Martin & Moser, 2016). Market sentiment towards the implementation of green investment can be seen from stock price movements, abnormal stock returns and trading activity volumes.

Stock Price

Stock price in the Capital Market (Secondary Market) change or move at any time, so investors must choose stocks carefully (Tandelilin & Eduardus, 2017). tock price is a capital market stock price that is affected by market participants and determined by market participants, stock prices are influenced by demand and supply of shares in the financial industry, ensuring that investors expected to pay attention to the factors that affect the stock price (Hartono, 2017). Factor that influence stock price movements are (1) supply and demand, (2) trend, (3) momentum, and (4) market psychology. Stock prices are influenced by investor interest in investing in an issuer, the more those looking to make an investment in an issuer, the stock price of the issuer will move up or vice versa. The condition of demand and supply for this stock fluctuates every day, bringing fluctuating stock price patterns as well.

Stock Return

Stock return is the rate of return or results that investors will get on investments made in a company. Investmentis among the element that can motivate investors to invest (Tandelilin & Eduardus, 2017). The return on shares can take the form of capital gains or dividend distributions from the company, It may raise the asset's value for the investor. Stock returns allow the investor to recognize the response of the market to a

news or event. The return is used to measure price changes in term of value based on the abnormal return. The discrepancy between the actual and predicted returns is known as the anomalous return. If significant information is contained in an occurrence, it creates abnormal returns in the market. It is possible to define an abnormal return as the gap between the expected and actual returns, which arises from an inefficient market that offers a higher return than it ought to. If an abnormal return is positive, it indicates that the market reacts favorably to the news; conversely, if it is negative, it indicates that the market does not react favorably to the news (Purwadi & Khairunnisa, 2020).

Trading Volume Activity

Stock trading volume (trading volume activity) is a measurement of the volume of certain shares that are being traded, which can indicate ease in trading these shares (Hartono, 2017). One metric that is employed is trading volume activity on how the stock market responds to a news or occurrence. A comparison of the number of shares that are outstanding and those that are traded of the corporation during a specific period is known as trading volume (Suganda, 2018), if the trading volume is high, then Investors are requesting the shares or it can be said that the shares are liquid.

Signaling Theory

Signaling theory describes how two-party behavior in solving information asymmetric problems emphasizes the intention of the management of the company to share information and the receipt of information by the market, interests and society (Lee, Raschke, & Krishen, 2022). Regarding environmentally conscious investing, signal theory can be used to explain how information about a company's environmental performance can affect investors' investment decisions. According to signal theory, the market will respond positively when companies implement environmentally friendly policies and give negative responses when companies do not implement environmentally friendly policies (Flammer, 2021). When the Company implements an environment-friendly policy, it will provide positive benefits to investors and increase investor confidence in the Company's commitment so that investors can invest in the Company. Sustainability disclosure practices will signal to investors or stakeholders strong corporate governance, good financial stability, proactive environmental strategies, commitment to climate change that provide competitive advantage for companies (Moratis, 2018).

From the explanation, the following hypothesis is obtained:

H_1: There was a significant share price difference before and after the launch of the ESG Quality 45 IDX Kehati Index

H_2: The return before and after the release of the ESG Quality 45 IDX Kehati Index exhibits a notable anomaly

H_3: The trading volume activity before and after the ESG Quality 45 IDX Kehati Index debut differed significantly

H_4: A notable abnormal return was observed during the ESG Quality 45 IDX Kehati Index introduction period, indicating a response from the market.

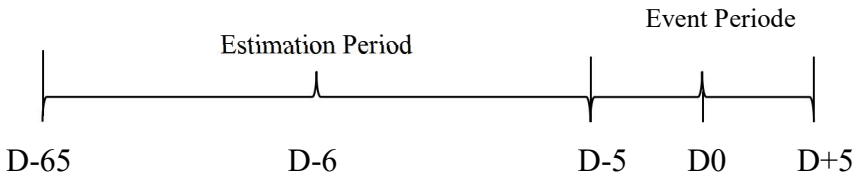
RESEARCH METHOD

This study makes use of event studies, a research methodology that looks at how the market reacts to information contained in specific event announcements or publications. Event Studies explain empirical methods of financial research that let observers determine how events affect the value of a company's stock. An announcement's information content can take the shape of either good or bad news, with the general consensus being that an efficient market will respond favorably to good news and unfavorably to bad news. When good news is announced, it causes abnormally positive returns; when bad news is announced, it causes abnormally negative returns (Sakuntala et al., 2022; Tandelilin & Eduardus, 2017). When a market reacts swiftly to information or events, it can be considered to be an effective market. This is why the event study approach is used to analyze the information included in event reports. When it comes to research, event studies have two time windows: the event date, which is the actual time of the occurrence, and the event window, which is an observation period during which it is not affected by outside factors (Hindayani, 2020).

Determination of research samples is carried out by census method, the census method is a sampling strategy that uses the entire population as a sample for the study. The companies that comprise the ESG Quality 45 IDX Kehati at the launch on December 20, 2021 comprise the study's samples. The documentation method is the one employed for data acquisition to obtain data on stock prices, stock trading volume and JCI. Data is obtained from www.yahoo.finance.com and https://idx.co.id/id websites with a period of There are 60 days for estimation and 11 days for the event. The time of

the event or time benchmark in this study is December 20, 2021, which is the date of the index launch.

Research Period



The research will look at differences in stock price movements, abnoromal returns and trading volume activity before and following the Company entered the index as well as market reaction to the launch of the ESG Quality 45 IDX Kehati Index. The next stages of the analysis will be carried out:

1. Descriptive Statistical Test
2. Use the Kolmogorov-Smirnov test to determine whether the data are normal
3. Test the difference using the T-test approach for normally distributed data and the Wilcoxon Sign Ranks test approach for non-normally distributed data.
4. If the data is normally distributed, use the paired sample t-test approach to assess the difference; if the data is not normally distributed, use the Wilcoxon-signed paired sample approach.

Variable Calculation

Avarage Abnormal Return Calculation (Suganda, 2018):

1. Calculate Abnormal Return with equation::

$$AARt = \sum_{i=1}^{n} AR_{i,t}/n$$

2. Abnormal Return

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

a. Realised Return

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}}$$

$$R_{m,t} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

b. Expected Return

$$E[R_{i,t}] = R_{m,t}$$

Trading Volume Activity Calculation (Suganda, 2018):

1. Trading Volume Activity Calculation

$$TVA = \frac{\sum \text{Trade Stock}}{\sum \text{Outsanding Share}}$$

2. Average Trading Volume Activity Calculation

$$ATVAt = \frac{\sum_{t=1}^{n} TVA_{i,t}}{n}$$

RESULT AND DISCUSSION

Descriptive Analysis

Descriptive analysis is a statistical analysis method used to describe a set of data in the terms of mean, median, mode, standard deviation, highest value, lowest value and other (Sugiyono, 2022). Descriptive analysis is employed in this study to see the mean value or average share or stock price, abnormal average return and average stock trading volume.

Descriptive analysis shows that the average stock price before entering the index was IDR 3068.02 while after join the index the average stock price fell to 3022.71 IDR. The decline in the average stock price from before entering the index to after entering the index shows a negative reaction to the launch of the stock index. The stock price standard deviation before entering the index is IDR 3903.826, while after it is IDR 3905.057. The stock price standard deviation has increased, indicating that the stock price data after the company entered the ESG Quality 45 IDX Kehati Index data is wider and more varied. The standard deviation in the stock price is greater than the average value, indicating that there are many variants of data that differ from the stock price's average value. The lowest share price before the launch of the index was IDR 67 and after the launch it fell to IDR 64 where the lowest share price before and after entering this index was traded by PT PP Properti Tbk. The highest share price before the launch was IDR 21855.00 while the highest price after the launch was IDR 22045.00 which was traded by United Tractors Tbk. Seeing the highest and lowest stock price movements at the launch event indicates that large-capitalization companies have the opportunity to experience an increase in stock prices when incorporate into ESG Quality 45 IDX Kehati Index.

The variable abnormal return has a pre-launch average of -0.000254 and rises to 0.000273 after the launch of the index, indicating that before launch the actual return was smaller than expected but after launch The actual return exceeded the anticipated return. Standard deviation of the abnormal return before launch was 0.005874 and after 0.007519, the standard deviation of abnormal return increased indicating more scattered data after launch. Abnormal return standard deviation is also greater than the average abnormal return value, which indicates that there are many different data variants with the average abnormal return value.

Descriptive analysis also shows that before entering the ESG Quality 45 IDX Kehati Index, the average volume of trading activity was 0.00134204 and after entering the index was 0.00119433, indicating a decrease in trading volume activity or a decrease in stock trading transactions in these companies. The standard deviation recorded before the launch of the index was 0.001412012 increased to 0.001753699 after entering the index which indicates the increasingly widespread data on Trading Volume Activity after the Company entered the index. The Trading Volume Activity Standard Deviation is also greater than the average value of Trading Volume Activity, which indicates that there are many data variances that differ from the trading volume activity's average value. Prior to being included in the index, the largest stock trading volume was 153,165,400 shares, namely PT Bank Republik Indonesia and the highest trading volume after entering the index was 204,581,800 shares traded by Perusahaan Gas Negara Tbk. on the first day after the launch of the index.

Normality Test

Finding out if the study data is regularly distributed is the goal of the normality test. To determine whether the study data are normal, Kolmogorov Smirnov's One-sample Test was used. The Kolmogorov Smirnov One-Sample Test is used to assess whether the sample distribution of research data is significantly different from the distribution of a particular distribution, generally the normal distribution (Suliyanto, 2014). If the significance value is more than 0.05, the study data is regarded as regularly distributed; if it is less than 0.05, the data is not.

The Kolmogorov-Smirnov one-sample test results for the average stock price data before and after businesses were included in the ESG Quality 45 IDX Kehati Index index showed values of 0.200 > 0.05, indicating that the data is normally distributed.

The normality test results of the abnormal return variables Before and After entering the index are 0.200 > 0.05 so that the abnormal return data can be said to be normally distributed. While the normality test uses the variable Trading Volume Activity Before entering the index, which is 0.174. 0.05 so that the Trading Volume Activity Before data enters the normally distributed index. After entering the index, the significant value the Trading Volume Activity data's normalcy test increases to 0.200 > 0.05 so that the After Company data entered in the index is also normally distributed.

Paired Sample Test

In order to determine whether there were any significant differences in stock price, trading volume activity, and anomalous returns before and after companies entered the ESG Quality 45 IDX Kehati Index, a difference test utilizing the Paired Sample Test was performed. The purpose of the paired sample test is to determine if sample pairs actually vary on average (Santoso, 2019).

Paired Sample Test Average Stock Price

The correlation test between the average stock prices of the ESG Quality 45 IDX Kehati Index before and after is shown in Table 4. The correlation coefficient value of 1,000 and the probability value of 0.000 in the table show that there is a connection between the stock price before and after the ESG Quality 45 IDX Kehati Index launch. This is because the probability value is less than the probability of 0.05.

The results of the Paired Sample T Test for the stock price sample indicate that there is a significant difference between the stock prices of before and after companies entered the index, with a value of 0.001 less than the significance level of 0.05 (0.001<0.05). The Paired Sample Test also contains information related to the value of the Mean Paired Difference with a lower value of 16.833 and for the upper of 70.7802, this value shows the difference between the Before and After price variables of the event 70.7802 – 16.833 = 53.9472 (95% Confidence Interval of the Difference).

Paired Sample Test Abnormal Stock Return

The ESG Quality 45 IDX Kehati Index's abnormal average return before and after, as shown by a correlation test. According to the data, the link between the company's average abnormal return before and after the ESG Quality 45 IDX Kehati Index is weak and inconsequential, with a correlation coefficient value of -0.08473 and a probability value above 0.05, or 0.58.

Based on the paired sample test for abnormal returns before and after index launches, it can be concluded that there is no discernible difference between abnormal returns before and after index launches, which has a value of 0.064 bigger than the significance value of 0.05 (0.064>0.05). The Paired Sample Test also contains information related to the value of the Mean Paired Difference with a lower value of -0.0057982 and for the upper of 0.0001658, this value shows the difference between the Before and After price variables of the event 0.0001658-(-0.0057982)= 0.005964 (95% Confidence Interval of the Difference).

Test Paired Sample Trading Volume Activity

The correlation test's findings between the ESG Quality 45 IDX Kehati Index's average Trading Volume Activity Before and After. The correlation between Trading Volume Activity Before and After Companies in the ESG Quality 45 IDX Kehati Index is high and significant, as indicated by the correlation coefficient value of 0.908 in the table and the probability value below 0.05, which is 0.000.

The Paired Sample Test Table for Stock Trading Activities is 0.197 greater than the set significance value of 0.05 so that when viewed the stock trading volume there is no significant difference between the company's inclusion in the index and its debut before and after. The Stock Trading Volume Paired Sample Test has the lowest Mean Paired Difference value of -0.000792 and the highest is 0.0003745 which shows there is a difference of 0.0003745- (-0.000792) = 0.0011665 between Before and After the launch of the index (95% Confidence Interval of the Difference).

From these different tests, as may be observed, the typical stock price movement, abnormal returns, and stock trading volume reject the signaling theory, which should give a positive signal with the launch of the ESG Quality 45 IDX Kehati Index. Companies the index comprises businesses that carry out environmentally friendly projects and operations. Judging from the average stock price, it has a significant difference but with a significance value 0.001<0.05. Abnormal return on the Paired Sample Test difference test shows the value 0.064>0.05, does not show a significant difference. The trading volume of the stock does not show a significant difference between Before and After Companies entered the index indicated by significant values 0.197>0.05.

Significance Test Abnormal Return

The purpose of the One Sample T-Test is to determine whether there is an abnormal return on the day of the event that would indicate a significant difference; the abnormal return would be the market's reaction to news or an event. In the study, there is one day whose data is not normally distributed, namely on the fifth day after the incident, thus on the fifth day utilizing the Wilcoxon Signed-rank Test. The data used for the One Sample T-Test must be normally distributed or greater than 0.05.

Table 10 indicates that there was a significant abnormal return during the event period, or observation period, which included the second day before, the second day after, and the fifth day after the event date. The significance value of the data is less than 0.05. This demonstrates how the market reacted to the news of the ESG Quality 45 IDX Kehati Index debut on the second and fifth days following the event. The market does not react strongly on the day of the event since the importance value of the event is greater than 0.05 on the other days.

Discussion

Green investing has not been well welcomed by investors or the market, according to a test of variations in average stock prices, abnormal returns, and trading volume activity businesses before and after the establishment of the ESG Quality 45 IDX Kehati Index. Although the average stock price differs between the two periods, it is a negative difference, and the average share price after the company entered the index was lower than before. Trade volume activity did not appear to change in any noticeable way or anomalous returns. The abnormal returns of an average of -0.00254 prior to and 0.018896066 following the introduction of the index show that abnormal returns before and after the inclusion of businesses in the ESG Quality 45 IDX Kehati Index are not substantially different from one another. The paired sample t-test's significant value of 0.064>0.05 suggests that there is no discernible variation in return between the period prior to and following the company's inclusion in the ESG Quality 45 IDX Kehati Index. In a similar vein, the Trading Volume Activity with the average Trading Volume of the stock prior to the index introduction was 0.00134204 and decreased to 0.00119443 following the index launch; the paired test sample t-test demonstrated a significant value of 0.179>0.05.

Following the introduction of the ESG Quality 45 IDX Kehati Index, the market only responded somewhat: on the second day, December 22, 2021, with a significance value of 0.000309<0.05, and on the fifth day, December 27, 2021, with a significance value of 0.046343<0.05. This is contrary to research conducted by Agata Adamska, et al (Adamska & Dąbrowski, 2021) Analyzing investor responses to reconstitutions of the sustainability index: Variations in institutional settings, this study states that investors will give a positive response regarding the announcement of the addition of companies to the sustainability index, supported by the research of Thanki, et al in the research of Malzara, et al (Malzara, Widyastuti, & Buchdadi, 2023) The relationship between investment and individual intentions, impacted by individual perceptions in their abilities to support environmentally good investment intentions, is described by the discovery that social responsibility intentions are subjective and that positive norms have a major effect.

The market's lack of response to the index's launch May be ascribed to several elements, including investors' ignorance of environmentally friendly investments. They often view the company's environmental disclosures as an additional expense to the environmental externalities they bear, rather than as a hedge, since shareholder theory holds that using company funds for purposes other than maximizing profits is equivalent to paying an agency fee. Because the money spent may result in the elimination of shareholder possibilities (Lubis & Rokhim, 2021). Furthermore, investors' comprehension of environmentally friendly investments is not thorough and comprehensive due to the lack of a formal definition of what constitutes an environmental investment (Chang, Nelson, & Witte, 2012).

Another factor that causes the lack of investor reaction to the implementation of green investing and the average stock price differs negatively before and after the company is added to the ESG Quality 45 IDX Kehati Index, although there is no unusual variation in return or trading volume activity is the global issue that entered Indonesia at the end of 2021 in the form of the spread of the Omicron variant of the Covid-19 virus, Geopolitical tensions between the United States and China that caused uncertainty in global financial markets including share prices in Indonesia, as well as Corporat Actions carried out by several Companies in periods of events such as share buybacks carried out by PT AKR Corporindo Tbk (December 14,2021), PT Ace

Hardware Indonesia Tbk (December 15,2021), PT Sumber Alfaria Trijaya Tbk (December 20,2021), PT Aneka Tambang Tbk (December 20,2021), PT Astra International Tbk (December 20,2021), dan PT Adi Sarana Armada Tbk (December 21,2021). In addition, on December 20, 2021, PT Adhi Karya (Persero) Tbk conducted a rights issue that affected the Company's Trading Volume Activity and Share Price. As well as the issuance of global bonds by PT Bank Negara Indonesia (Persero) Tbk (December 14,2021), PT Bank Rakyat Indonesia (Persero) Tbk (December 22,2021), dan PT Bank Tabungan Negara (Persero) Tbk (December 23,2021). The company's share price and the volume of outstanding shares will be impacted by its corporate actions, which will also have an effect on the company's average trading volume, average stock price, and abnormal return. Investors also have other considerations in investing such as technical and fundamental analysis which are the foundation of investors in investing.

CONCLUSION

This study provides empirical evidence of the Indonesian capital market's response to the implementation of green investing by examining differences in average stock prices, abnormal returns, and trading volumes during the period of the ESG Quality 45 IDX Kehati Index launch on December 20, 2021, using data from 45 index companies.

It can be concluded that investors were not responsive to the launch of the ESG Quality 45 IDX Kehati Index as an implementation of green investing in Indonesia because the average stock price before and after the index's launch showed a negative difference, indicating a decrease in stock prices after the company entered the index. However, abnormal returns and trading volume activities did not show a difference. The lack of notable variances is driven by a number of factors, including investor preferences, global challenges, company behavior, and market conditions throughout that time period, as well as investors' ignorance about green investing.

Suggestion

For the next researcher who may be researching related to the implementation of green investing in Indonesia, they can add other variables that are aligned such as the Inauguration of the Carbon Exchange in Indonesia and also better filter the companies

to be studied with terms and conditions in the selection of samples. In addition, you can also see the influence of green investing in the long term.

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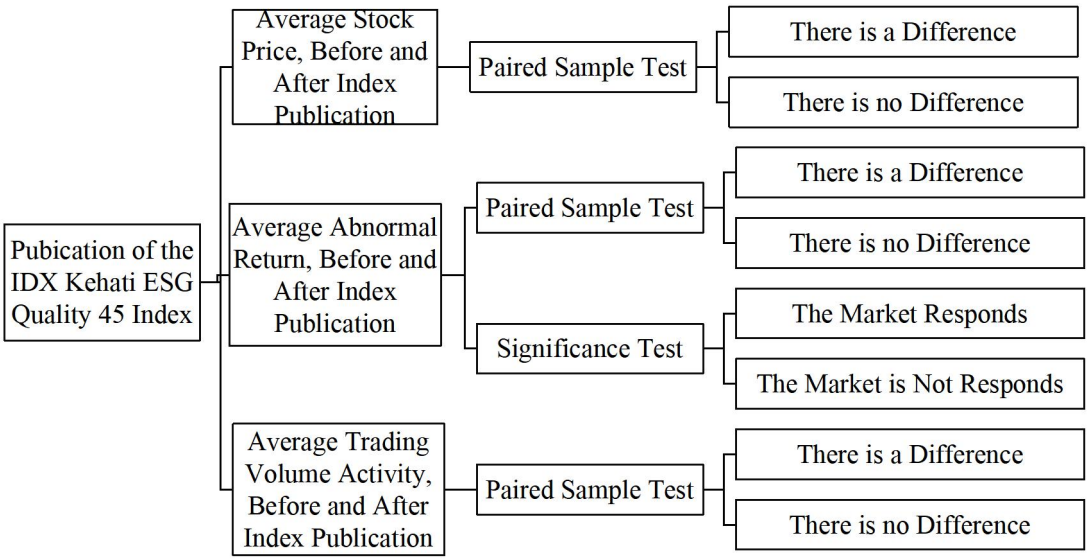
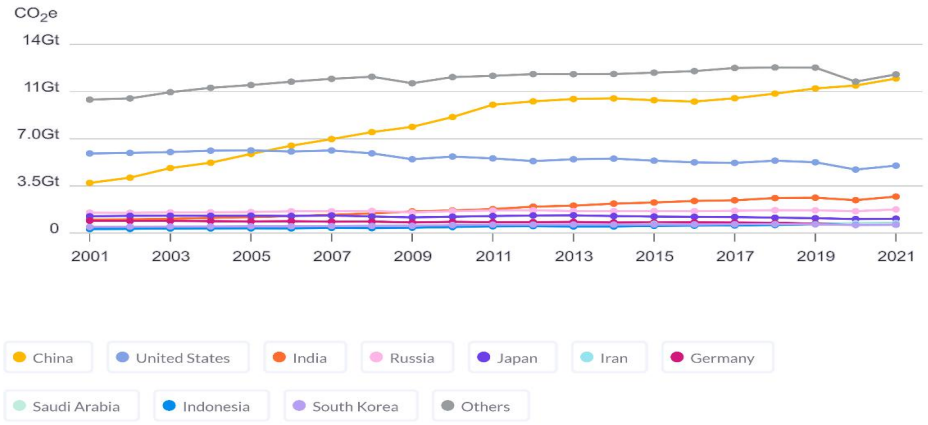
PICTURE, GRAPH AND TABLE



Picture 1. Research Conceptual Framework



Graph 1. World Carbon Emissions Data
Source: Climatewatch

Table 1. ESG Quality 45 IDX Kehati Index Company

No.	Kode	Nama Saham
1	ACES	Ace Hardware Indonesia Tbk.
2	ADHI	Adhi Karya (Persero) Tbk.
3	AKRA	AKR Corporindo Tbk.
4	AMRT	Sumber Alfaria Trijaya Tbk.
5	ANTM	Aneka Tambang Tbk.
6	ASII	Astra International Tbk.
7	ASSA	Adi Sarana Armada Tbk.
8	BBCA	Bank Central Asia Tbk.
9	BBNI	Bank Negara Indonesia (Persero) Tbk.
10	BBRI	Bank Rakyat Indonesia (Persero) Tbk.
11	BBTN	Bank Tabungan Negara (Persero) Tbk.
12	BJBR	Bank Pembangunan Daerah Jawa Barat dan Banten Tbk.
13	BJTM	Bank Pembangunan Daerah Jawa Timur Tbk.
14	BMRI	Bank Mandiri (Persero) Tbk.
15	BNII	Bank Maybank Indonesia Tbk.
16	BSDE	Bumi Serpong Damai Tbk.
17	BTPS	Bank BTPN Syariah Tbk.
18	CPIN	Charoen Pokphand Indonesia Tbk
19	DSNG	Dharma Satya Nusantara Tbk.
20	ELSA	Elnusa Tbk.
21	EMTK	Elang Mahkota Teknologi Tbk.
22	ICBP	Indofood CBP Sukses Makmur Tbk.
23	INCO	Vale Indonesia Tbk.
24	INDF	Indofood Sukses Makmur Tbk.
25	INTP	Indocement Tunggal Prakarsa Tbk.
26	JPFA	Japfa Comfeed Indonesia Tbk.
27	JSMR	Jasa Marga (Persero) Tbk.
28	KLBF	Kalbe Farma Tbk.
29	LSIP	PP London Sumatra Indonesia Tbk.
30	PGAS	Perusahaan Gas Negara Tbk.
31	POWR	Cikarang Listrindo Tbk.
32	PPRE	PP Presisi Tbk.
33	PPRO	PP Properti Tbk.
34	PTPP	PP (Persero) Tbk.
35	RALS	Ramayana Lestari Sentosa Tbk.
36	SCMA	Surya Citra Media Tbk.
37	SIDO	Industri Jamu dan Farmasi Sido Muncul Tbk.
38	SMBR	Semen Baturaja (Persero) Tbk.
39	SMGR	Semen Indonesia (Persero) Tbk.
40	TLKM	Telkom Indonesia (Persero) Tbk.
41	UNTR	United Tractors Tbk.
42	UNVR	Unilever Indonesia Tbk.
43	WEGE	Wijaya Karya Bangunan Gedung Tbk.

44	WIKA	Wijaya Karya (Persero) Tbk.
45	WTON	Wijaya Karya Beton Tbk.

Source: idx.co.id

Table 2. Descriptive Analysis of Average Stock Prices, Abnormal Return and Trading Volume Activity

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
P-Before	45	67.80	21855.00	3068.02	3903.82604
P-After	45	64.60	22045.00	3022.71	3905.05745
AAR- Before	45	-0.015174	0.009133	-0.002543	0.005874
AAR- After	45	-0.018860	0.018896	0.000273	0.007519
Volume- Before	45	0.000158	0.007838	0.001342	0.001412
Volume- After	45	0.000061	0.010037	0.001194	0.001754

Source: Data processed 2023

Table 3. Test Normality of Average Stock Price, Abnormal Return and Trading Volume Activity

One-Sample Kolmogorov-Smirnov Test

		H-Before	H-After	AAR-Before	AAR-After	Volume-Before	Volume-After
N		45	45	45	45	45	45
Normal Parameters[a,b]	Mean	3.902087	3.890892	-0.002543	0.000274	0.033083	0.029548
	Std. Deviation	0.535278	0.540237	0.005874	0.007519	0.015912	0.018129
Most Extreme Differences	Absolute	0.108773	0.099943	0.101347	0.102463	0.114087	0.196937
	Positive	0.052188	0.048328	0.074785	0.092011	0.114087	0.196937
	Negative	-0.108773	-0.099943	-0.101347	-0.102463	-0.098835	-0.136102
Test Statistic		0.108773	0.099943	0.101347	0.102463	0.114087	0.196937
Asymp. Sig. (2-tailed)		.200[c,d]	.200[c,d]	.200[c,d]	.200[c,d]	.174[c]	.200[c]

Source: Data processed 2023

Table 4. Paired Sample Correlation Test Average Stock Price

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Before & After	45	-0.08473	0.580016

Source: Data processed 2023

Table 5. Stock Price Paired Sample Test

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Before-After	45.3067	84.7894	12.6397	16.833	70.7802	3.6	44	0.001

Source: Data processed 2023

Table 6. Paired Sample Correlation Test Abnormal Stock Return

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Before - After	45	1.000	0.000

Source: Data processed 2023

Table 7. Uji Paired Sample Test Abnormal Return

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Before-After	-0.00282	0.00992	0.00148	- 0.00579	0.00016	-1.9	44	0.064

Source: Data processed 2023

Table 8. Test Paired Sample Correlation Trading Volume Activity

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Before & After	45	0.908	0.000

Source: Data processed 2023

Table 9. Uji Paired Sample Test Trading Volume Activity

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Before-After	0.000147	0.000755	0.000112	-0.000079	0.00037	1.3	44	0.197

Source: Data processed 2023

Table 10. Test One Sample T-Test Abnormal Return

Uji One Sample T-Test

	Sig. (2-tailed)	Description
Day Five Before	0.252094	No Significant Abnormal Return
Day Four Before	0.237448	No Significant Abnormal Return
Day Three Before	0.599802	No Significant Abnormal Return
Day Two Before	0.043923	There is a significant abnormal return
Day One Before	0.317582	No Significant Abnormal Return
Day of Events	0.119232	No Significant Abnormal Return
Day one After	0.323263	No Significant Abnormal Return
Second day After	0.000309	There is a significant abnormal return
Third day After	0.207969	No Significant Abnormal Return
Day four After	0.831614	No Significant Abnormal Return
Day five After	0.046343	There is a significant abnormal return

Source: Data processed 2023