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Sutrisno 2019 Does the Inclusion of Indonesian Firms in SRI affect Stock Performance (ICEMA Proceeding) (1) tgl 20.4.21

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Does the Inclusion of Indonesian Firms in a Sustainable and Responsible Investment Index Affect Stock Performance?

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Abstract

This study empirically investigates the effect of the addition of Indonesian firms in the sustainable and responsible investment index (SRI-KEHATI index) on stock performance. This study applies an event study methodology using a single index model. The empirical results reveal that there are two days with significant abnormal returns, namely d+1 and d+3. This finding implies that the Indonesian stock market is efficient in semi-strong form. This study also finds that there is no difference in abnormal returns before and after the SKI announcement. The implication of this study is the investors do not have to consider their investment decisions based on the inclusion of a corporation in the SKI.

Keywords: socially responsible investment, event study, abnormal return

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1. Introduction

Socially Responsible Investment (SRI) is concerned with ethical investment decisions. Socially responsible investors use a combination of financial and social criteria to focus on their investment decisions. Hence the investments they select are consistent with their personal value's system and beliefs [1]. SRI reflects an investment process which adopts the issues of ethical considerations. The investment process includes one or more of the Environmental, Social, and Governance (ESG)'s practices in the analysis and monitoring of an investment [2].

The awareness of SRI also exists in Indonesia. This thing is manifest by the creation of an index called the SRI-KEHATI Index (SKI). This index was created by the KEHATI Foundation, together with the Indonesian Stock Exchange (IDX) in 2009. The creation of this index was triggered partly by the environmental destruction caused by some Indonesian companies, such as PT Newmont Nusa Tenggara and PT Newmont Mina-hasa Raya Mine. The society would be made aware of the existence of an index showing companies regarded as beneficial and continually managing sustainable development.

The SKI was established as an ethical index for SRI investors to review the performance of companies' profitability, supported by their ESG performances. The establishment of a socially responsible investment index aimed to raise awareness of the conservation of biodiversity among the shareholders, the industry, and the capital market's players. It also had the objective of providing extensive information to the public regarding the selection and identification of companies included in the index. The inclusion of the firms is assessed twice a year in April and October.

The screening process of the SKI involves an initial exclusion selection of negative line-of-business aspects [such as pesticide use, nuclear, weapons, tobacco, alcohol, pornography, gambling, and Genetically Modified Organisms (GMO)]. This process is then followed by the financial screening of the companies, i.e., their market capitalization and asset ownership of above Rp1 trillion, based on their latest audited financial reports, with a 10 percent public ownership on the Indonesian Stock Exchange. The companies must also have maintained a positive Price/Earnings (PE) Ratio during the last six months. A further screening also evaluates the fundamental aspects of the companies (such as their corporate governance, environmental record, community involvement, business manners, human resources, and human rights record). Finally, the selection process determines 25 companies that are qualified to be included in the SKI.

Prior studies analyze the impact of the inclusion in a sustainability stock index on stock performance. For example, [3] examine British firms concerning their addition in the specific FTSE4Good UK 50 Index, i.e., an index that is created on corporate sustainability performance assessments by the FTSE Group. Furthermore, [4] analyze US firms concerning the inclusion in the specific Calvert Social Index, i.e., an index created by Calvert Investments, an investment management firm which is one of the largest SRI firms in the US. [5] examines US firms concerning their specific inclusion in the Dow Jones Sustainability World Index (DJSI World), i.e., an index that is based on corporate sustainability performance assessments by the SAM (Sustainable Asset Management) Group together with Dow Jones Indexes. [6] investigate the effect of the inclusion in the Dow Jones STOXX Sustainability Index (DJSI STOXX) and the Dow Jones Sustainability World Index (DJI World) on stock performance.

Although SRI is not a new concept in the world, it is still regarded as an emerging issue for investment in Indonesia, with only a few studies of it having been conducted so far. This study contributes to the debate on the impact of the inclusion firms in a sustainable and responsible investment index on stock performance. The decision to choose Indonesia is not without reason. Indonesia is one of the emerging countries in Asia with significant development of the stock exchange. To the best of my knowledge,

this study is the first study in Indonesia to analyze the inclusion effect of the firms in the SKI on share performance.

The rest of the paper is organized as follows. Section 2 presents the literature review and hypotheses development. The methodology is explained in Section 3. Section 4 provides empirical results. Section 5 concludes the paper.

2. Literature Review and Hypotheses Development

This paper empirically tests the short-term effect of the inclusion in a sustainable and responsible investment index. Sustainability stock indexes are often considered an appropriate indicator for corporate environmental and social activities, corporate sustainability performance, or corporate social responsibility. Against this background, there are two different competing theoretical perspectives in analyzing the relationship between corporate sustainability performance and financial performance, namely the traditional and revisionist views [6]. The traditional view suggests a negative relation; meanwhile, the revisionist view proposes a positive relation.

The revisionist view is based on neoclassical microeconomics. It suggests that governments do not fully overcome all problems with external effects and that competitive markets are not efficient [7]. Therefore, corporate environmental and social activities can substitute missing markets (and thus missing regulations) if external costs arise from them and can reduce conflicts between firms and stakeholder groups, such as the government, the general public, non-governmental organizations, competitors, employees, or clients. As a result, it can be claimed that the reduction of these conflicts increases corporate profits or financial performance and stock returns.

The social and environmental activities may lead to additional costs, which are not directly productive, so that weaker positive or even negative impacts on financial success are possible. This argumentation is also in line with the traditional view in neoclassical microeconomics. According to this, the operating costs of social activities or corporate environmental outweigh their financial benefits. As a consequence, corporate sustainability performance can lead to reduced profits, decreased firm values, and stock returns.

[3] find that firms were not rewarded for being included in the FTSE4Good UK Index, and they were not penalized for being deleted from it. [4] indicate that the addition of companies to the Calvert social index does not stimulate a positive market reaction. However, deletions result in a significant decline in stock prices of more than 1.5%, on average. [5] does not find any significant effect of index inclusions and exclusions from

the Dow Jones Sustainability World Index on stock return. Nevertheless, on the day of revision, index inclusion (exclusion) stocks impact on the temporary increase (decrease) in stock return. [6] find that stock markets penalize the addition of a firm in the Dow Jones STOXX Sustainability Index and the Dow Jones Sustainability World Index. [8] show that the stocks newly deleted from the Hang Seng Index have abnormal returns over a 5-year holding period, and the newly added stocks do not. [9] shows that there is a significant difference in abnormal returns before and after the acquisition news. [10] reveal that there is no significant difference in abnormal returns before and after the announcement of mergers and acquisitions.

Based on the description above, there are two hypotheses proposed in this study, namely:

Hypothesis 1. There is abnormal return in the days around the SKI announcement on the Indonesia Stock Exchange.

Hypothesis 2. There is a significant difference in abnormal returns before and after the SKI announcement.

3. Research Methods

3.1. Data

This study analyzes Indonesian corporations that were included in the SKI in the years between 2009 and 2019. The data used in this research is individual stock price and composite stock price index. The data is collected from www.finance.yahoo.com.

Panel A of Table 1 shows the number of firms that were added in the SKI based on the announcement date. The total sample of this study is 24 firms. The highest number of inclusion firms occurred on 29 October 2010.

Panel B displays some basic information about the sample firms. These 24 firms come from various industry sectors. The largest sector is the infrastructure, utilities, and transportation sector, as it represents almost 30% of the sample firms. The second and the third largest sectors are the property, real estate, and building construction sectors and the basic industry and chemicals sectors, respectively.

3.2. Event Study Methodology

This study applies an event study approach. An event study tests the stock return behavior for corporations which experience a specific event and therefore aim to

measure the effect on the value of a corporation [11]. The primary variable studied in this study is the abnormal return. It is calculated as the difference from the actual return to the expected return. The abnormal return is formulated as follows:

$$AR_{it} = R_{it} - E(R_{it})$$

where AR_{it} is the abnormal return of stock i for period t, R_{it} is the actual return of stock i for period t, and $E(R_{it})$ is the expected return of stock i for period t. This study employs 11 days for event window. Following [12], this study applies 120 days for the estimation window.

Actual return is computed by using the following formula:

$$R_{it} = In \frac{P_t}{P_{t-1}}$$

where R_{it} is the actual return of stock i in period t, P_t is the stock price i at period t, and P_{t-1} is the stock price i in period t-1.

The calculation of expected return uses the single index model with the following formula:

$$E\left(R_{it}\right) = \alpha_i + \beta_i E(R_{mt})$$

where α_i is part of stock return i which is not affected by market performance, β_i is the sensitivity of stock return i to market movements (also referred to as stock beta i), and R_{mt} is market return in period t which is calculated by using the following formula:

$$R_{mt} = In \frac{JCI_t}{JCI_{t-1}}$$

where JCI is the Jakarta Composite Index.

3.3. Hypothesis Testing

This study employs one sample t-test to examine the first hypothesis. Meanwhile, the paired samples t-test is used to test the second hypothesis.

4. Empirical Results

Table 2 summarizes abnormal returns before and after the inclusion in the SKI. It shows that the average abnormal returns before and after the inclusion in the SKI are -0.025% and 0.021% respectively. The average abnormal returns after the inclusion are higher than before the inclusion. Before the inclusion in the SKI, most of the abnormal returns

TABLE 1: Number of inclusion firms in the sample by announcement date and sector.

Panel A		
Announcement date	Number of firms	
29 October 2009	2	
30 April 2010	0	
29 October 2010	5	
29 April 2011	1	
28 October 2011	0	
27 April 2012	2	
29 October 2012	1	
29 April 2013	2	
30 October 2013	0	
29 April 2014	2	
27 October 2014	0	
27 April 2015	3	
29 October 2015	0	
28 April 2016	2	
27 October 2016	0	
25 April 2017	1	
27 October 2017	0	
30 April 2018	2	
31 October 2018	0	
26 April 2019	1	
Total	24	
Panel B		
Sector	Number of firms	Percent
Agriculture	1	4.17%
Basic Industry and Chemicals	4	16.67%
Miscellaneous Industry	1	4.17%
Consumer Goods Industry	2	8.33%
Property, Real Estate, and Building Construction	6	25.00%
Infrastructure, Utilities, and Transportation	7	29.17%
Finance	1	4.17%
Trade, Services, and Investment	2	8.33%
Total	24	100%

are negative. On the other hand, most of the abnormal returns are positive after the addition. This finding implies that the investors react positively to the addition of the companies in the SKI.

TABLE 2: Average abnormal returns around the inclusion in the SKI.

Day	AAR
d-5	-0.00043
d-4	-0.00048
d-3	-0.00027
d-2	-0.00010
d-1	0.00001
d-0	0.00031
d+1	0.00010
d+2	0.00025
d+3	0.00011
d+4	0.00023
d+5	0.00034
BEFORE	-0.00025
AFTER	0.00021

Table 3 displays the results of one sample t-test. The results show that there are two days where the abnormal returns are different from zero, namely days d+1 (statistically significant at the 5% level) and d+3 (statistically significant at the 1% level). Meanwhile, there are no significant abnormal returns on other days. This finding indicates that the Indonesian stock market has been efficient in semi-strong form. This result is different from previous studies [4–6].

Furthermore, this study examines whether there is a difference in abnormal returns before and after the inclusion of the SKI. In doing so, this study employs the paired samples t-test. In Table 4, the t-value is insignificant. This study indicates that there is no significant difference in abnormal returns before and after the inclusion of the research sample in the SKI.

5. Conclusions

This study examines whether abnormal returns exist around the inclusion of Indonesian companies in the SKI. This study also investigates whether there is a difference in abnormal returns before and after the SKI announcement. This study concludes that

there are two days with significant abnormal returns, namely d+1 and d+3. This finding implies that the Indonesian stock market is efficient in semi-strong form. This study also finds that there is no significant difference in abnormal returns before and after the SKI announcement.

The implication of this study is the investors do not have to consider their investment decisions based on the inclusion of a corporation in the SKI. Some suggestions for future research are as follows. First, future research should investigate not only the abnormal return but also the trading volume around the inclusion of the SKI. Second, future research employs other asset pricing models, namely the capital asset pricing model and Fama-French three-factor model [13], Carhart four-factor model [14], and the Fama-French five-factor model [15].

TABLE 3: The result of one sample t-test.

Day	AAR	t-value
d-5	-0.00043	-0.10157
d-4	-0.00048	-0.49730
d-3	-0.00027	-0.95817
d-2	-0.00010	-0.24732
d-1	0.00001	1.28445
d-0	0.00031	0.61776
d+1	0.00010	2.11625**
d+2	0.00025	0.43132
d+3	0.00011	2.75582***
d+4	0.00023	0.60058
d+5	0.00034	0.11043

*** and ** denote significance at the 1% and 5% levels, respectively

TABLE 4: The result of the paired samples t-test.

Difference	t-value	Conclusion
-0.00046	-0.43897	No difference

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