

The Effect of Environmental Disclosures on ISSI Company Stock Prices

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This study examines the effect of environmental disclosures on stock prices. Specifically, it assesses whether the value of the environmental performance and the value of disclosure of a company's greenhouse gas emissions affect the price of company shares listed in the ISSI (Indonesian Sharia Stock Index). This study uses a quantitative method. A purposive sampling method was used, based on certain considerations as to companies listed in the ISSI and valued by PROPER (Programme for Environmental Performance Rating), on websites or companies' annual report for 2017 to 2018. The findings show that the value of environmental performance does not affect ISSI stock prices. Meanwhile the value of disclosure of the company's greenhouse gas emissions affects the price of ISSI-company shares. It means that many capital market players still do not pay attention to PROPER environmental performance rankings, which are issued by the Indonesian Ministry of Environment regarding the company's environmental performance.

Key words: *Environment Disclosures, ISSI, Stock Prices, Company*

Introduction

Indonesia is the fifth largest producer of greenhouse gas emissions in the world, mainly due to the conversion of its forests and carbon-rich peatlands. This shift in land use has ecological and social consequences, because Indonesia's forests are home to thousands of plant and animal species, and 50-60 million Indonesians depend directly on forests for their livelihoods (World Research Institute, 2018). According to AirVisual (June, 2019), Jakarta is the city with the number one pollution level in the world. AirVisual is a site providing daily online

pollution maps of major cities around the world. Pollution levels are measured by the air quality index (AQI). AQI itself describes the severity of air quality in a region. According to AirVisual, AQI is calculated based on six main types of pollutants, such as PM 2.5, PM 10, carbon monoxide, sulfuric acid, nitrogen dioxide, and ground-level ozone. The value range of AQI is 0 to 500. The higher the value, the higher the level of air pollution in the region. The AQI value for Jakarta is 240 and shows that the air condition in this capital city is very unhealthy. According to AirVisual, poor air conditions with AQI values in the 201-300 range can affect public health at large. A new survey from YouGov and the University of Cambridge revealed, of the 23 countries surveyed, Indonesia had the largest percentage of climate change deniers, followed by Saudi Arabia (16 percent) and the US (13 percent) (Dickinson, 2019). Meanwhile, most global leaks (estimated by Science to range between 55 and 60 percent) are from five emerging markets where growth is very fast, namely: China, Indonesia, the Philippines, Thailand and Vietnam. These countries also throw more plastic into the ocean than the combined amount of all the other countries in the world. This certainly illustrates how Indonesia is a country that is very environmentally unfriendly. Accordingly the Ministry of Environment in Indonesia has acted to preserve the environment through a program of corporate environmental management in Indonesia, called PROPER (Programme for Environmental Performance Rating). If the corporation's social responsibility activities are associated with financial performance and good environmental performance, then the disclosure of its responsibility indirectly increases. Financial performance can be used as one of the factors that become a reference for investors buying shares, and environmental performance is the company's participation in preserving the environment. Environmental performance is measured by PROPER, using the company's performance rating program in environmental management.

In the current Capital Market world, the Indonesian Stock Exchange (IDX) has many indices. One is Sri Kehati which describes companies that are economically profitable and pay attention to environmental sustainability. Another index attends to sharia, namely the Indonesian Sharia Stock Index (ISSI). ISSI is selected by the Financial Services Authority and the National Sharia Council (DSN). DSN and OJK assess halal or haram in business elements and elements of Ribawi in the company's finances. Companies indexed by sharia are also better off being environmentally indexed, because the duty of humans on earth is not only to teach halal or haram but also to preserve the earth for the lives of the next generation. In Islam, maintaining the environment is very important and also one of the human tasks of Allah (SWT) to guard this earth. This is reflected in Surah Al A'raf (Dewi et al., 2017) Paragraph 56:

“And cause not corruption upon the earth after its reformation. And invoke Him (Allah) in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good”. Therefore

companies on the Indonesian Sharia Stock Index (ISSI) should also pay attention to the company's environmental performance in not damaging the Earth.

Companies that are indexed at ISSI also have PROPER indices. However, it only needs to be seen whether the existence of this PROPER index and recognition of the greenhouse gas emissions for companies in the ISSI will impact company profits. This research is important, because the disclosure of whether these factors can increase ISSI stock prices will later improve the performance of the ISSI Index itself. The importance of improving the performance of the ISSI Index is in attracting investors to switch to Sharia investment. The purpose of this study is to find out how the influence of the company's environmental performance is known through the value of PROPER, and disclosure of greenhouse gas emissions to ISSI-company stock prices listed in the ISSI.

Literature Review

Environmental Performance

In PROPER the Ministry of Environment has formed a program to structure companies' environment in Indonesia. It assesses environmental performance, and makes every company more concerned about the environment. The company's performance in playing a role in environmental preservation, as a form of corporate social responsibility, is called environmental performance. Success in environmental performance is measured by the company achievements in participating in PROPER (Dewi et al., 2017).

According to the Ministry of Environment (<http://www.menlhk.go.id/>) PROPER was developed with several basic principles. PROPER participants are selected from industries that have a significant impact on the environment and care about image or reputation. PROPER utilizes communities and markets to pressure industry to improve environmental management. Community and market empowerment is carried out by the distribution of credible information, so that it can create an image or reputation. Information about company performance is communicated using colours to facilitate the absorption of information by the public. The ranking of business performance and / or activities provided consists of:

- a) Gold is for businesses and / or activities that have consistently demonstrated environmental excellence in the production or service process, and carried out ethical and responsible businesses.
- b) Green is for businesses and / or activities that have carried out environmental management more than required by regulations (beyond compliance) through the implementation of an environmental management system, efficient use of resources and good social responsibility efforts.
- c) Blue is for businesses and / or activities that have made environmental management efforts that are required in accordance with the provisions or legislation in force.

- d) Red is the effort of environmental management carried out not in accordance with the requirements as regulated in the law.
- e) Black is for businesses and / or activities that deliberately involve acts or negligence resulting in pollution or environmental damage, violating the laws and regulations or not imposing administrative sanctions.

Disclosure of Greenhouse Gas Emissions

According to the study of (Dawkins dan Fraas, 2011), environmental performance has a positive relationship with environmental disclosure that is related to greenhouse gas emissions. Where companies with poor environmental performance records will withhold disclosure in an effort to avoid negative exposure, companies with good environmental performance will try to distinguish themselves by voluntarily disclosing information about their performance (Dawkins dan Fraas, 2011). This is in line with the research of Luo et al., (2013), which says that companies with good carbon performance will tend to provide reports on carbon disclosure. In recent years companies from different countries have increased their disclosure on environmental issues (Harte and Owen, 1991) by considering forests, protection of the ozone layer, climate change, water, energy and natural resources, biodiversity, and so forth. According to a recent survey from YouGov and the University of Cambridge, of the 23 countries surveyed, Indonesia had the largest percentage of climate change deniers, followed by Saudi Arabia (16 percent) and the US (13 percent) (Dickinson, 2019). Even so, companies that have emission disclosure values have a significant positive relationship to ISSI stock prices. Disclosure of social responsibility information not only plays an important role in the discovery of market prices and the optimization of asset allocation (Cao et al., 2012) but also can strengthen the management level within the company, enhance financial stability, improve corporate image, acquire social prestige and reduce operational risks (Li and Peng, 2010; Zhu et al., 2014; Tian et al., 2014; McDonnell and King, 2013). Anna (2010) shows a positive relationship between the quality of environmental disclosure and environmental performance, but there is no relationship between economic performance and environmental performance, and no relationship between economic performance and the quality of environmental disclosures. According to Clarkson et al (2008), companies with superior environmental performance have a proactive environmental strategy. This encourages companies to inform investors and other stakeholders through voluntary disclosures about the environment.

ISSI Share Value

The ISSI share value will be reflected in its share price. The market price of the company's shares, formed between buyers and sellers when a transaction occurs, is called the company's market value. The stock market price is considered a reflection of the actual value of the



company's assets. ISSI stock prices formed through indicators of stock market value are strongly influenced by investment opportunities. The existence of investment opportunities can provide a positive signal about the company's growth in the future, so that it will increase stock prices, and with rising stock prices, the ISSI stock price will increase (Anna, 2010).

According to Sujoko and Soebiantoro (Zafar and Kantola, 2019) ISSI's stock price is an investor's perception of the company's success rate that is closely related to its stock price. In this case the success of management is seen from its company's ability to improve shareholder welfare. High stock prices make ISSI's stock prices also high, and increase market confidence not only in the company's current performance but also in the company's prospects.

ISSI Registered Company

The Indonesia Sharia Stock Index was launched on 12 May 2011. It is a composite index of Islamic stocks listed on the Stock Exchange. ISSI is an indicator of the performance of the Indonesian Islamic stock market. ISSI constituents are all sharia shares listed on the IDX and entered into the Sharia Securities List (SSL) issued by OJK (www.idx.co.id). ISSI constituents are reviewed every six months (every May and November) and are published at the beginning of the following month. ISSI constituents are also adjusted if new Islamic shares have been recorded or written off from the SSL. The ISSI calculation method uses a weighted average of market capitalization. The shares included in this index are stocks that meet the criteria for sharia shares as determined by the National Sharia Board and the Stock Exchange. These criteria consist of quantitative criteria and qualitative criteria. Karim, (2001), states that the selection and implementation of investment transactions must be carried out according to the principle of prudence (ihtiyaath) and participants are not allowed to do speculation which contains elements of uncertainty (gharar). This action includes making a fake offer (najsy); do gambling on goods that are not yet owned (short selling); disseminate information that is misleading or use insider information to benefit from prohibited transactions (insider trading); make placements or investments in companies that have debt ratios (ratios) above the prevalence of companies in similar industries.

Methodology

The approach used in this study is a quantitative approach. According to Almack (Nazir, 2014), the scientific method is a way of applying logical principles to discovery, validation, and explanation of the truth. This qualitative approach was chosen because this study wanted to see the effect of variable x on y.

The data collection technique is to take secondary data, from the list of ISSI companies issued by the official website of PT, the Indonesia Stock Exchange and the PROPER value in the company's annual report or on the company's official website. Of the 300 data collected, there are only 34 companies that meet the criteria. The criteria for the sample are:

1. Companies in ISSI (Indonesian Sharia Stock Index),
2. Publish the PROPER (Programme for Environmental Performance Rating) value of the Indonesian Ministry of Environment on the company's website or annual report, and
3. Reveal the assessment of greenhouse gas emissions owned (Choi et al., 2013) on the company's website or annual report from 2017 to 2018.

Based on the selection above, it is clear that this study uses a purposive sample in selecting data for research.

In this study, the value of PROPER is illustrated by numbers for research such as Table 1 below:

Table 1: PROPER value

Colour rating	Score
Gold	5
Green	4
Blue	3
Red	2
Black	1

The analysis technique used in this study is a simple linear regression analysis technique with the help of the GRETL program. This technique is used to determine the effect of environmental performance (Proper Value) and disclosure of ISSI greenhouse gas emissions from ISSI stock prices. The simple linear regression equation is shown by the following equation:

$$Y = \alpha + \beta X_1 + \beta X_2 + e$$

Y = Stock price
 X_1 = PROPER value from the Ministry of Environment
 X_2 = Disclosure of Greenhouse Gas Emissions
 α = Constant
 β = Regression coefficient
 ε = Standard error

With the hypothesis

H1: The Company's environmental performance (Proper Value) influences ISSI stock prices

H2: The disclosure of the value of the company's greenhouse gas emissions affects the ISSI stock price

Discussion

After the data is collected and screened, the following are the results of the data that have been tested using the GRETL program with the Ordinary Least Square model:

Model 1: OLS, using observations 1-34 Dependent variable: StockPrice2018

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>
const	2065.21	8166.54	0.2529	0.8020
ProperValue	-1568.68	2620.79	-0.5986	0.5538
Disclosure of Greenhouse-Gas Emissions	1697.59	536.463	3.164	0.0035

Mean dependent var	4840.294	S.D. dependent var	9124.082
Sum squared resid	2.05e+09	S.E. of regression	8133.130
R-squared	0.253577	Adjusted R-squared	0.205421
F(2, 31)	5.265717	P-value(F)	0.010746
Log-likelihood	-352.7994	Akaike criterion	711.5988
Schwarz criterion	716.1779	Hannan-Quinn	713.1604

Then the regression equation is obtained as follows: $Y = 2065.21 + (-1568.68)X_1 + 1697.59X_2 + \varepsilon$

Based on the above equation, things can be explained as follows:

1. The constant value of 2065.21 shows that if the value of the environmental performance variable (X) is zero, then the value of the company's stock (Y) will increase by 2065.21.
2. The value of coefficient $\beta X_1 = -1568.68$ means that if the environmental performance of proper value (X_1) increased by 1 unit, then the value of the company's shares (Y) will

decrease by 1568.68 unit assuming the other independent variables are constant (*Ceteris Paribus*).

3. Coefficient value $\beta X_1 = 1697.59$ means that if the disclosure value of greenhouse gas emissions (X_2) increased by 1 unit, then the value of the company's shares (Y) will increase by 1697.59 units assuming the other independent variables are constant (*Ceteris Paribus*).

The results of hypothesis testing obtain the results that the first hypothesis is rejected which is indicated by a significant level of 0.5538 which is greater than the real level in this study, which is 0.05. This means that environmental performance does not affect ISSI stock prices. In other words, information about the company's environmental performance will not affect the company's stock price. The absence of a relationship between PROPER's environmental performance on ISSI stock prices indicates that the company's PROPER environmental performance is not seen by investors. There are other variables used by capital market players in Indonesia in determining investment portfolios in non-financial public industry companies, such as macro conditions, financial ratios, investment risks, and others.

However, the second hypothesis is accepted as indicated by the results of hypothesis testing with a significant level of 0.0035 which is smaller than the real level in this study, which is 0.05. Hypothesis 2 (H_2) is the disclosure of greenhouse gas emissions that have a positive effect on ISSI stock prices. This means that the higher the environmental disclosure, the greater the company's stock price. The results of this study are in accordance with the results of the research of Almilia and Wijayanto (2007), which indicate that there is a positive influence of Environmental Disclosure variables. The results of the study also support the research of Al Tuwajri (2003), [31]. From an economic perspective, companies will disclose information if the information will increase stock prices (Verecchia, 1983, in Basamalah et al., 2005). Suratno et al. (2006) and Nuraini (2010) found that companies with good environmental performance have better long-term value compared to companies with poor environmental performance. If viewed in terms of costs, good environmental performance will reduce the disclosure of future environmental costs for the company. This is the same as legitimacy theory. Companies try to gain legitimacy from the community by implementing programs that are in line with community expectations, one of which is by taking into account the environment around the company operating.

Based on stakeholder theory and signals wherein stakeholders will provide a signal if the company has good information to stakeholders, so too with this information stakeholders can make their decisions in investing. The existence of the company's environmental performance is able to increase the economic performance of the company, and the market can respond positively to fluctuations in stock prices followed by an increase in the company's stock returns. Relatively, many investors are interested in buying company shares to invest, this is a



reflection of the achievement of economic performance (Dian and Erna, 2013) Vice versa if the company has a poor environmental performance. There will be doubts from investors about the company, and negative responses with fluctuations in the company's stock prices in the market declining.

Conclusions and Recommendations

After the research was conducted, it turned out that the results were not as expected by the author. The PROPER value given by the Ministry of Environment had no effect on the ISSI stock price. This illustrates that Indonesia still does not care about the importance of protecting the environment. The possibility is that there are still many capital market players who do not pay attention to the PROPER information regarding companies' environmental performance. Capital market players still have not shown a response or use environmental performance (PROPER) ranking information issued by the Ministry of Environment in making their investment decisions. This resulted in the absence of a positive significant relationship between environmental performance and economic performance. From that, the suggestion is for the government is to pay more attention to companies that violate regulations set by the Ministry of Environment. The company must also obey the regulations set by the government because the bad effects caused by it will also harm other countries. Suggestions for further research are to the ability to discuss research that is still not covered by this research, such as other causes that make the company's environmental performance value not influence the ISSI stock price.



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Appendix

GHG Emission Disclosure Index

Num.	Item	Score
Category: <i>CC-Climate Change</i> i.e. Weather Changes: Risks and Opportunities		
1.	Risk assessment / description (both special and general rules / regulations) relating to weather changes and actions taken to manage those risks.	1
2.	Current (and future) assessment / description of the financial, business implications and opportunities of climate change.	1
Category: <i>GHG-Greenhouse Gas Emissions Accounting</i> i.e. Accounting for GHG Emissions		
3.	Description of methods used to calculate GHG emissions (for example, based on the Kyoto Protocol or ISO and so on).	1
4.	The existence of external verification of quantity of GHG emissions by whom and on what basis.	1
5.	Total GHG emissions (metric tons) produced.	1
6.	Disclosure of scope 1 and 2, or 3 GHG emissions.	1
7.	GHG emissions disclosures based on origin or source (for example: coal, electricity, etc.).	1
8.	GHG emissions disclosure based on facilities or operating segment level.	1
9.	Comparison of GHG emissions with previous years.	1
Category: <i>EC-Energy Consumption Accounting</i> i.e. Accounting for Energy Consumption		
10.	Amount of energy consumed (eg tera-joule or PETA-joule).	1
11.	Disclosure of energy used from renewable resources.	1
12.	Disclosure of energy consumption based on type, facility or operating segment.	1
Category: <i>RC-Greenhouse Gas Reduction and Cost</i> i.e. GHG Emission Reduction and Costs		
13.	Details of plans or strategies to reduce GHG emissions.	1
14.	Specifications of level targets and years of GHG emission reduction.	1
15.	GHG emission reductions and costs or reserves (costs or savings) are currently achieved as a result of GHG emission reduction plans.	1
16.	Future GHG emissions costs are taken into account in planning capital expenditure.	1
Category: <i>ACC-Carbon Emission Accountability</i> i.e. Carbon Emission Accountability (GHG)		
17.	Indications that management (company) has responsibility for actions related to weather changes.	1



18.	Description of the mechanism that management (company) reviews the company's progress regarding weather changes.	1
Total Score		18

Source: Choi et al. (2013)

Description Scope 1, 2, and 3:

1. Scope 1: Direct GHG Emissions
 - a. GHG emissions occur from sources that are owned or controlled by the company, for example: emissions from burning boilers, stoves, vehicles owned by companies; emissions from chemical production on equipment owned and controlled by the company.
 - b. GHG emissions directly from biomass combustion that are not included in scope 1 but are reported separately.
 - c. GHG emissions not contained in the Kyoto Protocol, for example CFC, NO_x, and others should not be included in scope 1 but reported separately.
2. Scope 2: Indirect GHG Emissions Derived from Electricity
 - a. Includes GHG emissions from power plants purchased or consumed by the company.
 - b. Scope 2 physically occurs at the facility when electricity is generated.
3. Scope 3: Other Indirect GHG Emissions
 - a. An optional reporting category that allows for treatment of all other indirect emissions.
 - b. Includes consequences of company activities, but occur from sources not owned or controlled by the company.

Examples of scope 3 are extraction and production of raw materials purchased, transportation of fuel purchased, and use of products and services sold.