Environmental Performance Analysis on Mining and Agricultural Company Listed in Syariah Share Index (ISSI) Year 2011-2016

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Abstract: ***The purpose of this study is to analyze the mining and agricultural companies listed in the IndeksSaham Syariah Indonesia in disclosing greenhouse gas emissions and environmental performance and to analyze the effect of firm performance, firm size, type of company, and profitability in net profit margin on disclosure of greenhouse gas emission and environmental performance. Disclosures of greenhouse gas emissions and environmental performance are the two dependent variables, while the independent variables consist of a firm performance, firm size, firm type, and profitability in net profit margin. The sample in this research is mining and agricultural company which listed on ISSI in 2011-2016. The number of samples in this research are 225 samples. The analysis technique used in this research is multinomial logistic regression analysis and ordinal logistic regression analysis. The results of this study indicate that firm performance, firm size, type of company, and profitability margin have a significant effect on the disclosure of greenhouse gas emissions. Then the firm performance, firm size, and type of company have a significant effect on environmental performance. While profitability has no significant effect on environmental performance.***

Keywords: ***Disclosure of Greenhouse Gas Emissions, Environmental Performance, Index Saham Syariah Indonesia***

I. INTRODUCTION

Greenhouse gas emissions are a result of wastage of energy-derived gas into the air that causes ozone depletion or depletion (Borges, et al. 2015).Environmental damage is so worrying, but many developed countries do not support the reduction of greenhouse gas emissions. The United States as a developed country as well as the second largest greenhouse gas emitter producer refuses to ratify the Kyoto protocol which is forecasting a greenhouse gas emission reduction agreement (Sunstein,2007).

The world's largest greenhouse gas emitter producer is not tied to the Kyoto Protocol because it is still categorized as a developing country. China along with 24 other countries agreed to refuse to be bound in the Kyoto protocol (Hoffmann, 2011). China assumes in its negotiations to be found in Paris that must take account of the historical responsibility for which developed countries have already exhausted greenhouse gas emissions in the air (Hu and Monroy, 2012).

The European Union as the third largest greenhouse gas emitter producer has even issued the US $ 387 billion to form EU ETS (European Union Emissions Trading Scheme) but has no major impact (Tietenberg, 2010).

According to O "Donovan (2002) states that there are many benefits to social and environmental disclosure that is to avoid pressure or conflict from a particular group, aligning corporate values with social values of society, demonstrating company managerial principles, maintaining and improving image or corporate reputation, and to show the real existence of corporate social responsibility. Company performance is the company's achievement for the proper operation of business operations corporate vision and mission that will be compiled in the company's performance report as an evaluation tool for the company's business continuity. A company's performance can be valued by the company's disclosure of corporate governance (Subanidja et al., 2016) So those social and environmental disclosures as well as media to minimize environmental and social conflicts, can also be a tool of accountability.

According to Rodrigue et al., 2013 argues that firms with better environmental performance in relation to proactive environmental strategies will choose to disclose them with the aim of exposing their strategies to investors and stakeholders in a separate environmental report or in the corporate website.

Based on Chen and Roberts (2010) argue that in the theory of legitimacy and stakeholder there is a problem between environmental performance and reporting the environment of different communication strategies for managing corporate relationships with stakeholders as well as to acquire or retain legitimacy.

Since 2011, in the Indonesian capital market, there are companies that enter the Indonesian Syariah Stock Index (ISSI) based on the fatwa of the National Syariah Council No. 40 / DSN-MUI / X / 2003. The Indonesian Shariah Shares Index (ISSI) is based on Bapepam& LK Regulation No. II. K. 1 on the Criteria and Issuance of Sharia Emission Register (Veronica Siregar, and Bachtiar, 2010).

There are two requirements for companies to enter the Indonesian Shariah Index Index (ISSI). These requirements are the business selection and financial performance selection. Business selection in the form of not running a gambling business, financial services ribawi, commerce containing elements of uncertainty, production or distribution of illegal goods.

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Selection of financial performance in the form of total interest-based debt than total assets not more than 45% and non-halal income compared to halal income, not more than 10% as well as realizing human resources in quality and trustworthy sharia capital market. However, companies that are going to join the Indonesian Shariah Index Index (ISSI) have not included environmental protection requirements. In fact, Al-Qur "an has been instructed to preserve the environment and in the vision and mission of the Syariah capital market stating that it is related to justice, public interest, and continuity (Adnan and Ajija, 2015).

Thus in this work was done to analyze the mining and agricultural companies listed in theIndeksSaham Syariah Indonesia in disclosing greenhouse gas emissions and environmental performance and to analyze the effect of firm performance, firm size, type of company, and profitability in net profit margin on disclosure of greenhouse gas emission and environmental performance.

II. LITERATURE REVIEW

There are several reported works on environmental performance, disclosure and strategies. Mallin et al.(2013)examined the impacts of the corporate administration demonstrate on social and ecological divulgence (SED) where the revelations of the 100 U.S. Best Corporate Citizens in the period 2005– 2007 was broken down and analyzed, then a progression of concurrent connections between various characteristics of the administration framework and a multidimensional develop of corporate social execution (CSP). Peters et at.(2014)inspected an undeniably vital trait of a company's revelation setting, to be specific the exposure of disclosure of greenhouse gas (GHG) data which shows the non-monetary data about the company's presentation to ecological concerns and is identified with the association's activities and future gainfulness. Galbreath et al.(2010) evaluated how well 98 firms in three enterprises, crosswise over 10 nations, are tending to environmental change through five explicit administration rehearses. Rupley et al.(2012) looked at the connection between explicit parts of administration and media inclusion and the nature of deliberate ecological revelation. Michelonet al (2012) analyzed the relationship of board sythesis, administration and structure on maintainability revelation, and discussed about that great corporate administration and maintainability revelation can be viewed as integral components of authenticity that organizations may use to discourse with partner. Arena et al. (2015) analyzed about whether natural detailing fills in as a straightforwardness instrument to convey sound ecological strategies to partners or rather as a control device of partners' observations. Post et al. (2011) assesses the connection between sheets of executives' arrangement and ecological corporate social obligation (ECSR) by coordinating literary works on board creation, firm corporate social duty, and individual contrasts in demeanors toward and data about natural issues.

III. METHODOLOGY

Hypothesis

The disclosure of greenhouse gas emissions and environmental performance is two dependent variables in this study. While independent variables consist of company performance, company size, industry type, and profitability. So from the two dependent variables and the four independent variables are compiled eight research hypotheses. The explanation of each of the eight hypotheses stated as follows. H1: Company Performance Has Influenced The Greenhouse Gas Emissions Disclosure H2: The Company Size Has Influenced The Disclosure of Greenhouse Gas Emissions. H3: Industry Type Influenced Against Disclosure of Greenhouse Gas Emissions. H4: Profitability Influence Against Disclosure of Greenhouse Gas Emissions. H5: Company Performance Influences Environmental Performance. H6: Enterprise Size Influence on Environmental Performance. H7: Company Type Has Impacted on Environmental Performance. H8: Profitability Influence on Environmental Performance.

Research Design

This study is included in quantitative research. The data used in this study are secondary data covering annual reports and financial reports taken from ISSI (Index Sharia Indonesia) from 2011 to 2016 and environmental performance data obtained from PROPER published by the Ministry of Environment of Indonesia.

Population, Large samples and sampling technique

The population in this study covers all companies incorporated in the Indonesia Shariah Index Index. Whereas, the understanding of the sample is a part of the total population that is then determined and chosen as a research object. The sample of this research is a mining and research company registered in the Indonesian Syariah Stock Index (ISSI) from 2011 to 2016. The sampling of the research uses stratification techniques as a population in ISSI consists of various types of business entities so only taken mining companies and agriculture as a research sample. The total number of samples used in this study was 225 samples consisting of mining companies and agricultural companies registered in ISSI from 2011 to 2016. The sampling criteria used in this study include 1. Companies with types of mining and agriculture listed in the Indonesia Shariah Index Index. 2. Mining and agricultural companies issuing annual reports and financial reports from 2011-2016 on ISSI.

Location and Time of Research and Research instruments

The study began from the beginning of November 2017 until January 2018 by taking the research site in the Indonesia Shariah Index (ISSI) Index mainly against the Annual Report and Financial Statement data for mining and agricultural companies registered in ISSI from 2011 to 2016. Instruments in this study are Statistical Package for Social Scienes or so-called SPSS.

According to Ghozali (2013), the definition of SPSS is a computer software that has the function to analyze a data by calculating data statistics with windows base. The statistical type that SPSS can produce is parametric statistics and non-parametric statistics.

Data collection and data analysis

The data used in this study are included in secondary data sourced from the annual report and the company's financial statements mining and agriculture registered in ISSI in 2011 through 2016 through the www.idx.co.id website, PROPER rating data by the Ministry of Environment from 2011 to 2016 via the www.menlh.go.id web address. In processing and analyzing the research data that has been collected, SPSS software is used to draw conclusions from data processing result. There are various methods of data analysis used in this study, which include descriptive statistical test and hypothesis test. The hypothesis test in this research uses logistic regression analysis tool.

IV. RESULT AND DISCUSSION

Multinomial Logistic Regression Analysis

In Table 1, the results of the Likelihood Ratio Test test shows the contribution of company performance variables, company size, profitability, and industry type to greenhouse gas emission disclosure variables. Hypotheses on multinomial logistic regression data state that company size, company performance, profitability, and industry type are relevant to the disclosure of greenhouse gas emissions. The results of hypothesis testing presented in table 1 show that company size variables have a significant value of 0,000 smaller than α 0.05; company performance variables have a significant value of 0,000 smaller than 0.05. Furthermore, the profitability variable has a significant value of 0,000 smaller than α 0.05; While industrial type variables have a significant value of 0.002 smaller than α 0.05. Hence, it can be concluded that the hypothesis is accepted in company size variables, company performance, profitability, and industry type which means company size, company performance, profitability, and industry type have a significant influence on greenhouse gas emission disclosure.

Table. 1 Results of the Likelihood Ratio Test for Multinomial Logistic Regression

Effect	Model Fitting Criteria			Likelihood Ration Test		
	AIC of Reduced Model	BIC of Reduced Model	-2 Log Likelihood of Reduced Model	Chi - Square	df	Sig.
Intercept	776.074	895.637	706.074	.000	0	
Company Size	807.148	902.799	751.148	45.074	7	.000
Company Performance	789.770	885.421	733.770	27.697	7	.000
Profitability	788.389	884.040	732.389	26.316	7	.000
Industry type	785.144	880.795	729.144	23.071	7	.002

Model Feasibility Analysis

The feasibility of the model (Goodness of Fit) is performed to see the feasibility of the multinomial logistic regression model from the data obtained is shown in Table 2. The hypothesis tested is Ho or the logit model is feasible to use an H1 or logit model is not feasible to use. The value of Chi-Square value of the Deviance method is 706,074 with a free degree of 1540. The test criterion is minus H0 if = ... or minus H0 when the value is less than 0.05. The Deviance test value in the table above shows that the value of significance is 1,000. The decision is to accept H0 because the value of significance is greater than 0.05. The conclusion is that the logit model is feasible to use.

Table. 2 Goodness of Fit

	Chi Square	df	Sig
pearson	1434.926	1540	.973
Deviance	706.074	1540	1.000

Overall Model Feasibility Test

The overall feasibility analysis of the model is by comparing the -2 Likelihood Log (-2LL) on the only intercept model with the final -2 Likelihood Log (-2LL). If the -2LL model with intercept-only is greater than the final -2LL value, the model is said to be fit with empirical data.

The results of the overall feasibility test of the model for the model regression model of the greenhouse gas emission disclosure presented in table 3. show that the value of -2LL model with intercept only 828,655 and the final -2LL value is 706,074. The existence of 2LL devaluation of 122,581 and significant at 0,000 means that the model by incorporating a variety of greenhouse gas emission disclosure is better than the model only with intercept only so it can be said to be worth the data.

Table. 3 Overall feasibility test of the model for the model regression

Model	Model Fitting Criteria			Likelihood Ratio Test		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	842.655	866.568	828.655			
Final	776.074	895.637	706.074	122.581	28	.000

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Analysis of Model Determination

Determination of multinomial logistic regression data shows the coefficient of determination coefficient of Mc Fadden of 0,148 while Cox and Snell coefficient of determination of 0.420 and coefficient of determination Nagelkerke equal to 0,431 or equal to 43,1%. 43,1% Coefficient of Nagelkerke means that company performance variables, company size, profitability, and industry type are able to explain the variability of environmental performance variables by 43.1% while 56.9% are influenced by other factors that are not included in model testing.

Thus, the ordinal logistic regression equation summarized that Hypotheses on ordinal logistic regression data state that company size, company performance, profitability, and industry type have relevance to environmental performance. The results of the hypothesis testing presented in table 4 show that the company size variables have a positive coefficient of 1,021 x 10 ^ -13 and a significant value of 0,000 smaller than α 0.05; company performance variables have a negative coefficient of -517 and a significant value of 0.015 smaller than 0.05. The NPM variable has a positive coefficient of 847 and a significant value of 0.120 greater than α 0,05. While industrial type variables have positive coefficients of 0.920 and significant value of 0.004 smaller than α 0.05.

Table. 4 Hypothesis Test Results Relevance to Environmental Performance

		Estimate	Std. Error	Wald	df	Sig	95% confidence interval	
							Lower Bound	Upper Bound
Threshold	Performance 0	1.275	.274	21.673	1	.000	.738	1.812
	Performance 1	1.304	.275	22.532	1	.000	.765	1.842
	Performance 2	3.706	.419	78.151	1	.000	2.884	4.527
	Performance 3	5.326	.616	74.868	1	.000	4.119	6.532
	Company Size	1.021E-013	1.533E-014	44.322	1	.000	7.203E-14	1.321E-013
Location	Performance	-.517	.213	5.901	1	.015	-.933	-.100
	NPM	.847	.544	2.422	1	.120	-.220	1.914
	Industry type 1	.920	.322	8.181	1	.004	.290	1.551
	Industry type 2	0			0		.	.

Thus based on Table 4, the summary of testing hypotheses based on the results of the logistic regression test are described as follow. Based on the hypotheses, H1, Company performance has a significant effect on the disclosure of greenhouse gas emissions. Significantly, the hypothesis is accepted. As for H2, Company size has a significant effect on the disclosure of greenhouse gas emissions. Significantly, the hypothesis is accepted. As for H3, Profitability (NPM) has a significant effect on the disclosure of greenhouse gas emissions. Significantly, the hypothesis is accepted. As for H4, Industry type has a significant influence on the disclosure of greenhouse gas emissions. Significantly, the hypothesis is accepted. As for H5, Company performance has a positive effect on environmental performance, thus significantly, the hypothesis is accepted. As for H6, Company size negatively impacts environmental performance, Significantly, the hypothesis is accepted. As for H7, Industry type positively affects environmental performance. significantly, the hypothesis is accepted. As for H8, Profitability (NPM) has a positive effect on environmental performance which is Not significant, the hypothesis is rejected. Thus based on the hypothesis outcome, several studies has supported it.

According to Rankin et al. (2011) argues that the understanding of the greenhouse emission disclosure variable is a measure of the company's disclosure aimed at reducing the risk of global climate change. It was reported by Hair et al., 2015 that with the increasing pressure due to the size of the company, the more resources the company has to generate useful information in the annual report for information users. This study is in line with the results of the research Bae Choi et al (2013) where there is a positive relationship between disclosure of greenhouse gas emissions with company size and illustrates that enterprise characteristics such as company size are the main drivers for determining the extent to which the disclosure of greenhouse gas emissions. Borghei et al. (2016) argues that firms that are intensively producing quantities of carbon emissions will tend to further disclose their carbon emissions information to information users to demonstrate the company's accountability and transparency to the public in order to maintain the

legitimacy status of the company.

Clarkson et al, 2008 concluded that companies with financial benefits would be more likely to deliver environmental performance.

The results of this study in line with Luo et al, 2013, some companies will be more careful in reducing and disclosing it, especially regarding the expenditure associated with carbon prevention measures.

V. CONCLUSION

Based on the results of ordinal and multinomial logistic regression analysis, it can be concluded as follows; Some companies or as many as 20.9% of mining and agriculture listed in Indonesia's syariah stock index in 2011 - 2016 do not disclose emissions of greenhouse gas emissions. The performance of mining and agricultural companies registered in Indonesia's syariah stock index in 2011 - 2016 has a significant effect on the disclosure of greenhouse gas emissions. The size of mining and agricultural companies registered has a significant effect on the disclosure of greenhouse gas emissions. The type of industry in the form of mining and agriculture registered in Indonesia's syariah stock index in 2011 - 2016 has a significant effect on the disclosure of greenhouse gas emissions. Profitability on mining and agricultural companies has a significant effect on the disclosure of greenhouse gas emissions. Most companies or as much as 66.2% of mining and agriculture do not get environmental performance assessments. The performance of mining and agricultural companies has a significant effect on environmental performance. The size of mining and agricultural companies registered has a significant effect on environmental performance. The type of industry in the form of mining and agriculture has a significant effect on environmental performance. Profitability on mining and agricultural companies listed did not significantly affect environmental performance. This work was limited to the usage of secondary data of companies registered in Indonesia's syariah stock index in 2011 – 2016. Thus as future work, the authors will focus on primarily data given by the companies and also to add to the research period and the sector of the company under study.

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