The Value Relevance of Environmental Responsibility Performance

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The Value Relevance of Environmental Responsibility Performance

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Abstract

In Indonesia, research on the value relevance of non-financial information is still very rare, while several studies outside Indonesia also show mixed results. This leaves a challenge to test the value relevance of environmental performance information. This research was conducted in the period of 2010 to 2017, with companies that consistently became PROPER participants for 8 consecutive periods as its research subjects. The result shows that environmental performance information provides additional value relevance, which is indicated by an increase in R squared after entering environmental performance variables.

Keyword : Value Relevance, Environmental Performance, Share Price, PROPER

1. Introduction

Previous research on the value relevance of environmental performance shows varying results. Some research shows that environmental performance have relevant value but has negative effect [1,2-4]. Disclosed information on environmental performance has a negative effect on future financial performance [3]. This is in accordance with cost-concerned school approach, which declared that investment on environmental performance could cause cost increase, which in turn lowered companies' income and market value. Investors also do not necessarily assess a company based on their environmental performance rating [4]. According to [1], additional cost for companies to fulfill their environmental performance will affect companies' profitability.

Other research proved that environmental performance only has value relevance on companies with a good rating, which shows that market values environmental performance differently[5,6,7]. The increase of environmental awareness and higher indirect costs cause future environmental performance information's value relevance to affect an increase in the financial market[6]. This is in accordance with the value creation school approach, which stated that the effort to increase environmental performance is one of the options to increase competitive advantage and investor's returns.

In Indonesia, research on the value relevance of non-financial information is still rare, On the other hand, companies need to know whether their published environmental performance information has value relevance or not. The investment done by the company to achieve good environmental performance needs to be evaluated, whether these investments give value or only increasing the expenses. This research uses modified the Ohlson Model[8] by adding Environmental Performance Ratings (PROPER) to test the value relevance. This research contributes by adding evidence on whether environmental performance has value relevance. Moreover, this research is done in the latest research period, from 2010 to 2017, which is research with the latest data. This research started in 2010 because there are a concept and method renewal on PROPER in that year. The companies used as the research subject are those who have consistently become PROPER's participant for 8 consecutive periods.

The next parts of this research are as follow: Chapter 2 consists of literary review and hypothesis development; Chapter 3 gives the research method; Chapter 4 explains the analysis and discussions, including empirical findings. Research's conclusion and limitation are in the last part of this research.

2. Theoretical Framework and Hypothesis Development

Climate change and globalization make the company and society to be more aware of the importance of corporate social and environmental responsibility. Because of that, the government had made the Law that mandates the company to practice environmental responsibility in order to reduce the impact on the environment[9]. Environmental responsibility will help the companies in using their resource efficiently [10]. Every company has to ensure that its environmental responsibility leads to the

improvement of corporate performance [11,12]. If a company does not do its environmental responsibility right, it may also affect the corporate reputation and image [13].

Nowadays, a company's performance is not only measured financially but also from non-financial factors such as environmental performance [14,15,16]. Non-accounting performance measures make it possible for the company to do continuous improvement so that the company could create value [17]. Environmental performance is a result of corporate strategic activities, where the company tried to manage their impact on the environment [18]. Aside from that, environmental performance is a nonfinancial result that emerges from the company's internal process, which can be a company's competitive advantages. The social pressure is expected to motivate the companies to be responsible for environmental performance so that the resulted information can give the signal to the stakeholders that the companies have a proactive environmental strategy [19].

In Indonesia, environmental performance is measured with PROPER ratings. PROPER is environmental performance ratings that are used to evaluate and give ratings to participated companies with five color codes, from the worst to the best: black, red, blue, green, and gold, which was given by Indonesia's Ministry of the Environment annually. These ratings are given to companies whose operational facilities have significant impacts on the environments.

In the previous research, value relevance is measured with Ohlson Model [8] as the research basis [3,4,6,7,20]. The Ohlson Model [8] basically connects stock price with earning per share (EPS) and book value per share (BVPS) that can be used to influence value relevance. This model is needed to know the connection between stock price change influenced by book value and earning. Thus, the Ohlson Model [8] can be concluded as such:

$$P_{t+1} = \alpha_0 + \alpha_1 \mathrm{BVPS}_{it} + \alpha_2 \mathrm{EPS}_{it} + \varepsilon_{it} \quad (1)$$

Where:

P_{t+1} = the stock price of i company on year t+1

BVPS_{it} = book value per share of i company on year t

EPS_{it} = earning per share of i company on year t

Non-accounting information of environmental performance becomes one of the companies' primary needs because of it relates with the decision making [1,2,4] and sustainability of a company [3,26,27]. Because of that, it is important to know the impact of value relevance from environmental performance information. Thus, this research modified the Ohlson Model [8] by adding Environmental Performance Ratings (EPR) as a non-accounting information variable, Cash Flow Operating (CFO), and control variables from value relevance (firm size and leverage).

$$SP_{it} = \alpha_0 + \alpha_1 \mathrm{EPS}_{it-1} + \alpha_2 BVPS_{it-1} + \alpha_3 CFOS_{it-1} + \alpha_4 PROP_{it-1} + \varepsilon_{it-1} \quad (2)$$

Hypothesis Development

Environmental performance information is one of the stakeholders' demands. This is triggered by globalization and various environmental problems that happened, especially in Indonesia. Indonesia is the biggest country in South East Asia and has a complex geographical environment. According to [21] there is a serious deforestation case in 2013. This shows that it is important to discuss environmental problems in Indonesia. The increase of awareness on the importance of environmental problems in making economic and ethical investors' decisions causes the demand for environmental performance environment to be higher [19].

Previous studies [3,5,21] found that environmental performance does not have value relevance. The companies that received high valuation in environmental performance are not necessarily being valued by investors. The investors think that the improvement of environmental performance needs a lot of expenses and will have negative impacts on future earnings. The improvement in environmental performance is one of the managers' effort in using corporate resources for their own interest, and will affect shareholders return.

The additional cost to fulfill environmental performance will affect companies' profitability [3]. The revealed environmental performance information has negative effects on future financial performance [21]. That research result is in accordance with cost-concerned school approach that stated that investment in environmental performance could cause increased cost that will result in the loss of income and market value.

On the other hand, there is the value creation school, where the effort to improve environmental performance is a way to improve competitive advantage and increase investor return. A green company is being more appreciated in the capital market, product, or services. Producers that shows their effort in minimizing the negative impact to the environment from their product and process, can easily spread their market or even replace their competitors who failed to promote a strong environmental performance.

Value creation school is supported by the research of [4] that also found that environmental performance has value relevance. Environmental performance's information is said to have value relevance if it can help the investor in making an investment decision. Based on value creation school, this research assumed that:

H1: *Environmental performance information increases the value relevance*

3. Research Method

To verify this research, Ohlson's Model[8] is used, which is modified with environmental performance ratings (PROPER) and added with independent variables such as cash from operating (CFO), and control variables. Environmental performance Rating can be considered as an additional information for accounting. The model which can be formulated in this research is as follows:

$$SP_{it} = \alpha_0 + \alpha_1 EPS_{it-1} + \alpha_2 BVPS_{it-1} + \alpha_3 CFOS_{it-1} + \alpha_4 PROP_{it-1} + \alpha_5 VC_{it-1} + \varepsilon_{it-1} \quad (3)$$

Where:

SP_{it} = Stock price of company i on year t
EPS_{it-1} = Company's earning per share i on year t-1
$BVPS_{it-1}$ = Company book value per share i on year t-1
$CFOS_{it-1}$ = Company's operating cash flow per share i on year t-1
$PROP_{it-1}$ = Company's PROPER result i on year t-1
VC_{it-1} = *Control variable* which consists *firms ize* and company *leverage* i on year t-1

Sample

To produce accurate findings, this research applies some criteria of sample selection. First, companies which are listed in the Indonesia Stock Exchange before 2010 and remain as public companies until 2018; second, the companies have at least participated in PROPER and consistently participated in PROPER program for eight consecutive years. There are 208 firm-year that include as the final sample for the period of 2010 – 2017.

Data Analysis Techniques

Obtained data are processed by using the help of GRET'L software. To conduct hypothesis test data analysis technique, it is necessary to conduct a t statistical test which is used to test the hypothesis. The hypothesis is accepted if: 1) Regression coefficient shows the relationship according to the hypothesis; 2) significant t-value <0.05.Best model selection is applied to determine whether research panel data fit with the Ordinary Least Square (OLS), Fixed Effect (FE) or Random Effect (RE). Best model selection requires a chow test and a hausman test.

4. Result and Discussion

Sample Profile

Samples which met the criteria from 2010 to 2017 were 208 observations. The selected samples represent 4 sectors on the IDX, namely manufacturing, mining, energy and oil & gas, agro-industry and regional and service sectors

The number of companies selected as samples represents 5.87% of companies that participated in PROPER. The biggest composition is in the manufacturing sector, which is 61.54%. All selected companies are companies which are companies with high profile, which are companies that have large and widespread impacts on the environment so that the company's activities will get the attention from the community [22].

Descriptive Statistic

The complete profile of the variables used in this research is presented in Table 1 below:

Table 1. Variable Measurement According to PROPER Rating

Variable (Mean)	PROPER Rating			
	2	3	4	5
Observation	13	141	34	20
SP	1.183,44	2.131,51	9.554,46	8.139,64
BVPS	2.189,06	1.331,87	1.815,51	1.459,99
EPS	-67,74	78,12	373,02	322,35
CFOS	180,22	160,97	459,81	403,56
FS	29,81	29,15	29,81	30,72
LEV	30.46	25,35	18,32	23,61

Table 1 also shows that companies with high PROPER rankings have better financial performance such as EPS and CFOS than companies with lower PROPER rank. Companies which receive PROPER ratings 4 and 5 have a higher mean SP, EPS and CFOS than rank 2 and 3. Companies with high PROPER ratings will receive market appreciation, which can be seen from the average share price of companies in the PROPER group 4 and 5, which are far higher than the average price of the company's shares at a lower PROPER rating.The risk of companies with a higher PROPER rating are lower which can be seen from the LEV value, companies with a red PROPER rating have the highest LEV mean.

The results of the best model selection concluded that the fixed effect is the model that best fits the research data.

Table 2 Panel A. Result Before PROPER

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−23375.7	23329.1	−1.00	0.3177	
BVPS	−0.48	0.35	−1.36	0.1745	
EPS	2.46	1.16	2.13	0.0348	**
CFOS	2.65	1.17	2.27	0.0243	**
FS	884.72	805.25	1.10	0.2734	
LEV	33.11	32.61	1.02	0.3114	

LSDV R-squared	0.88	Within R-squared	0.08
LSDV F(30, 177)	44.46	P-value(F)	4.43e-67
Rho	0.62	Durbin-Watson	0.67

Notes: *** Significant 1% , ** Significant 5% , * Significant 10%

Table 2 Panel B. Result After PROPER

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−14082.8	22435.4	−0.63	0.5310	
BVPS	−0.65	0.34	−1.90	0.0591	*
EPS	3.29	1.12	2.93	0.0038	***
CFOS	2.94	1.12	2.62	0.0094	***
PROP	−2179.02	523.91	−4.16	<0.0001	***
FS	809.90	770.77	1.05	0.2948	
LEV	34.30	31.21	1.10	0.2732	

LSDV R-squared	0.89	Within R-squared	0.17
LSDV F(31, 176)	47.54	P-value(F)	9.24e-70
Rho	0.53	Durbin-Watson	0.77

Notes: *** Significant 1% , ** Significant 5% , * Significant 10%

The results shows an increase after adding PROPER in the Ohlson model, R-squared increase to 0.17 from 0.08. This means that environmental performance information has additional relevance value, however; the information is responded negatively by investors. Investors still consider that environmental performance is not an investment incurred by the company for purposes that do not produce results.

This research adds new evidence that in Indonesia, as a developing country, environmental performance information provides added value relevance. The results of the research support the cost-concern school and are consistent with some of the results of previous studies conducted in developed countries [1,2,4].

[4] argue that if the environmental performance of the company is getting better, the company will increase costs, reduce profits and market value. According to [22], the efforts of managers in environmental or social problems by using company resources can be interpreted by investors as managers' personal interests to build managers' personal image. This is feared to reduce shareholder value.

The pros and cons regarding the benefits environmental performance information in Indonesia in particular, are intense debates, and the results of this study support the opinion of the majority of investors in Indonesia, who find that social responsibility performance is a cost which will potentially reduce shareholder value. However, the results of the study are different from what has been done by [5], who found that the market respects the environmental performance of companies which get high or low ratings differently.

5. Conclusion, Implication and Limitation

This research has a goal to prove whether environmental performance information can provide additional relevant values. The results show that environmental performance information provides additional relevant values as hypothesized and as evidenced by an increase in after adding PROPER in the Ohlson model. Even though it has additional relevant values, the environmental performance information is responded negatively by investors. The environmental performance investment conducted by companies is considered a cost by investors and does not provide benefits, which is in line with the cost concern school.

However, this study does not include all the companies participating in PROPER, due to data availability. Besides that, not many companies consistently involve in PROPER program for the 8 consecutive periods. Future research can address this issue by combining the method of data collection to reach the generalizability of results.

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