LIGHTHOUSE

Does the market value "green" companies? Evidence from Indonesia

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ABSTRACT

Financial reporting is important for disclosing crucial information that shows the financial activities and performance of a business. Environmental disclosure in the annual report will enable investors and other interested parties to make informed judgments about the efficiency and impact of managers' sustainability decisions and actions. The aim of this study is to knowledge whether the stock market value the company that are of environmental, by performance and self-disclosure. This study makes significant contributions to the literature in several aspects. First, this is the first study to empirically examine the value relevance of 2 types of non-financial performance that use evidence from Indonesia Stock Market, to the best of our knowledge prior study only use one types of environmental reputation, performance or disclosure itself. This study uses the Ohlson modification model, however, the price model developed by Ohlson in this study modified by adding environmental information as other information that is expected to affect share prices. The results of this study are that environmental performance is value relevant to share prices, which shows that environmental performance influence investors in positive side. Whereas sustainability report disclosure shows different results, the effect is negative towards share prices, these results indicate that companies with high levels of sustainability report disclosure are not highly valued by investors. This can be caused by investors lack of understanding the importance of sustainable companies.

Introduction

Accounting information has value relevance if the accounting information can be used as a basis for predicting the market value of the company (Barth et al., 2001). Producing relevant and reliable accounting information is the main responsibility of the accounting profession (Askary et al., 2018). Relevant and reliability of accounting information are not only originated in the IASB Conceptual Framework but also in US-GAAP and adapted to the local sets of standards. Relevance relates to timeliness, comparability, and understandability to make accounting information capable of affecting users in making decision. Reliability refers to undistorted complete information that is free from errors to increase the trustworthiness of the information (Schöndube-Pirchegger & Schöndube, 2017). Investors as external users are becoming increasingly mindful of companies' environmental performance, by choosing, e.g., sustainable and responsible investments(Middleton, 2015). As managers struggle to compete in the global economy, they must do so within societal constraints marked by increasing environmental responsibility (Al-Tuwaijri et al., 2004). This responsibility includes high public oversight of the company's environmental performance and voluntary environmental disclosure to the public. These environmental responsibilities impact corporate profits and the value of shared equity.

Information regarding the company's environmental performance will be reliable if it is issued by an independent party. Thus, this study will use an assessment from the Ministry of Environment through the Corporate Performance Rating Assessment program in Environmental Management (PROPER). However, in order to reduce information asymmetry, this study also uses voluntary disclosure by measuring the aggregate of the information disclose in the sustainability report. Sustainability reporting is the disclosure of a company's environmental, social, and governance (ESG) goals. Sustainability reporting has been increasingly adopted by corporations worldwide given the demand of stakeholders for greater transparency on both environmental and social issues (Siew, 2015). Signaling Theory states that information from companies published to the market will be assessed as a good signal or a bad signal. Using both environmental performance and environmental disclosures can reduce information asymmetry, so that investors will respond to the information which is then reflected in the company's market value.

How the market value environmental performance continuing debatable. The majority of prior studies and researchers find that environmental performance information is positively valued by investors as reflected in the increase of the company's share price (Middleton, 2015). Investors perceive announcements on environmental performance as a positive signal, leading to an increase in abnormal returns (Yadav et al., 2016a). Sustainability Reporting positively and significantly affects the market value of the company's equity (Amato et al., 2011; Lopatta et al., 2016). Responsibility reporting is a part of a firm's communication tools in order to decrease information asymmetry between managers and investors (Schadewitz & Niskala, 2010). Nevertheless, several studies have shown otherwise (Endrikat, 2016; Sarumpaet et al., 2017).

The purpose of this study is to examine the value relevance of environmental performance and disclosure to the market values of listed companies on the Indonesian Stock Market. This study proposes that the market value of the company will reflect the environmental performance, environmental disclosure, and financial performance. This study makes significant contributions to the literature in several aspects. First, to the best of our knowledge, this is the first study to empirically examine the value relevance of non-financial performance that use two elements of environmental, environmental performance uses environmental rating by third party and environmental disclosure uses sustainability report. Second, contribution to the company provides information on the extent to which the company's efforts regarding the environment are valued relevance for the investors.

Literature review

Signaling theory

Signaling theory was introduced by Spence in his research in 1973 entitled Job Market Signaling. Spence (1973) stated that by giving a signal, the sender (owner of the information) tries to provide relevant pieces of information that can be utilized by the receiver. The urge to convey or provide information related to financial reports to external parties is based on the existence of information asymmetry between company management and external parties. Signalling theory will likely become more popular as an explanatory framework for describing how stakeholders navigate information problems to help making decisions (Bergh et al., 2014). According to Jogiyanto (2014) the information announced by the company will provide a signal for investors in making investment decisions. When information is announced, market participants first interpret and analyze the information as a good signal or a bad signal. Signalling theory explains the reason why companies have the urge to provide financial information to external parties. The signals given by the company aim to reduce information asymmetry between company management and external parties. Investors pay more attention to the linkages between the investments they make in companies and environmental, social and good corporate governance issues (Hawley and William, 2000). Thus non-financial information is able to provide relevant information for investors in making investment decisions.

Environmental performance

The Ministry of Environment announced press released stated that PROPER is a Public Disclosure Program for Environmental Compliance that show the rating of companies environmental performance. Based on the Regulation of the State Minister of Environment No. 5 of 2011 concerning the Rating Program for Company Performance in Environmental Management, the ratings used in PROPER are: Gold (5), Green (4), Blue (3), Red (2) and Black (1). PROPER ratings are given based on the documentation provided by the participating companies and the environmental audit performed by the ministry (Sarumpaet et al., 2017) The PROPER program covers large companies whose operating facilities are considered as having significant impacts on the environment. PROPER is one of the assessments by external parties to evaluate companies responsibility in controlling environmental pollution or damage and managing hazardous and toxic waste materials. Investors pay more attention to the relationship between the investments they make in companies and environmental, social and good corporate governance issues (Hawley and William, 2000). Thus non-financial information is able to provide relevant information in making decisions. Companies with better environmental performance will increase investors' expectations when investing in these companies. Higher environmental performance will increase the company's value in the stock market so that it will have an impact on increasing company stock returns. In this study we conduct environmental performance variables use this measurement in order to make this research comprehensive.

Environmental disclosure

Sustainability report is a responsibility of the principal to the agent, aside from annual report. However, disclose the sustainability report is voluntary, while the annual report is an obligation. Currently orientation of the company has begun to shift, which previously was only profit-oriented, now it is starting to shift to the triple P bottom line, namely, profit, planet, and people. According to GRI (2013) sustainability report is a report issued by a company or organization regarding the economic, environmental and social impacts caused by daily activities. Hence, sustainability report is an instrument that can be used by companies or government organizations as a communication to the community or its stakeholders as an effort to implement sustainable development. Sustainability reporting is one of mechanism that can be used to communicate companies with stakeholders and it is suggested that social disclosure is an entry point where some organizations use it to gain profits or improve legitimacy.

Environmental performance and value relevance

Sarumpaet et al. (2017) revealed that the market values companies with good and poor environmental performance in different ways. According to Jogiyanto (2014), information published as an announcement will provide a signal for investors in making investment decisions. When information is announced, market participants first interpret and analyze the information as a good signal (good news) or bad signal (bad news). Signal theory explains why companies have the urge to provide financial statement information to external parties. Environmental performance is considered as information that can provide a positive signal for investors to use as additional information in investment decisions. Companies with better environmental performance provide information to the market that companies go hand in hand with the environment, thereby having long-term prospects. It also indicates

that environmental performance information complements some of the accounting information and can be used to explain the value of Indonesia's capital market. Recently, Investors starting to consider environmental information as important information in making their investment decisions. Environmental performance information is relevant information that can increase the value of company shares.

The result of several prior study are consistent with the hypothesis that environmental performance is positively related to share prices. As research by (Clarkson et al., 2004b), there are additional economic benefits that can be felt by companies with low levels of pollution related to ECE investment, but not felt by companies with high levels of pollution. Supported by other studies which show positive results (Al-Tuwaijri et al., 2004; Iatridis, 2012).

H1: Environmental performance is value relevance

Environmental disclosure and value relevance

From an economic perspective, companies will disclose information if the information will increase firm value (Verecchia, 1983 in Basalamah and Jeremias, 2005). (Schadewitz & Niskala, 2010) revealed that accountability reporting is an important explanatory factor for firm value. (Gumanti, 2009) suggests that in signalling theory, managers or companies qualitatively have more information than outsiders and they use certain measures or facilities to imply the quality of their company. Sustainability report disclosure is suspected as positive information about the company so that it can become relevant information as a basis for decision making, thereby increasing the value of the company's shares. Several studies are consistent with the hypothesis which shows the results that disclosure of sustainability reports can provide additional information for investors as a basis for decision making. (Kaspereit & Lopatta, 2016) found a statistically significant positive relationship between GRI reporting and market value and several other studies support their findings (Amato et al., 2011; De Klerk & De Villiers, 2012; Schadewitz & Niskala, 2010).

H2: Environmental disclosure is value relevance

Methods

The population in this study are companies listed on the Indonesia Stock Exchange (IDX) in 2014-2017. Based on this population, the sample will be determined as the object of research using a purposive sampling technique, Purposive sampling, also known as judgmental, selective or subjective sampling, reflects a group of sampling techniques that rely on the judgement of the researcher when it comes to selecting the units (e.g. people, case/organisations, events, pieces of data) that are to be studied (Sharma, 2017). This study conduct purposive sampling with criteria, companies that publish annual report and sustainability report 2015-2018 period, the report can be accessed through companies website, IDX, and website National Center for Sustainability Report (NCSR), and the companies that get rating from PROPER by ministry of environment. Data used in this study is secondary data, collected from IDX, companies website, and PROPER press release.

In this study, environmental performance that used PROPER rating will be converted into ordinal data as follows:

Table 1. Proper Rating Conversion

Rating	Score
Gold	5
Green	4
Blue	3
Red	2
Black	1

Sustainability reporting measurement uses a checklist measurement instrument referring to the instrument used in the sustainability report which consists of 3 (three) aspects of disclosure, namely 1) disclosure of economic performance 2) disclosure of environmental performance and 3) disclosure of social performance. The SRDI calculation is done by giving a score of 1 if one item is disclosed, and 0 if it is not disclosed. After scoring all items, the scores are then summed to obtain the overall score for each company.. Reporting in the sustainability report is divided into three components (GRI, 2006) namely economic performance, social performance, environmental performance. From three reporting components of the sustainability report according to the GRI G4 guidelines, there are 91 reporting items that are described. The SRDI calculation formula is total item that disclosed (V) divided by total item that recommend to disclosed by GRI G4 (M).

Book value is accounting information in the form of the company's asset value as stated in the financial statement notes. Book value is the rupiah value owned by each share. The research results of (Collins et al., 1997) showed that earnings and book value have value relevance, namely earnings and book value have a positive and significant relationship to share prices. The share prices used in this study vary from one company to another, the company's market share price on April 30 is used for companies that disclose sustainability reports in March and April, while the market share price on December 31 is used for companies that disclose sustainability reports in December.

Earning per share (EPS) is a ratio that shows the profit share for each share. Earning per share (EPS) is the ratio between net profit after tax and the number of shares (Darmadji and Fakhruddin, 2006). The measurement model of value relevance refers to the following price model developed by Ohlson (1995):

$$Pit+1 = \alpha + b1EPSit + b2BVit$$

Pit is stand for share price, EPS it is earning per share, BV is Book Value. However, price model developed by Ohlson in this study modified by adding environmental information as other information that is expected to affect share prices, (Clarkson, 2004) argues that the market uses environmental performance indicators as other information that predicts negative abnormal earnings in the future. Then the research model is explained as follows:

$$Pit+1 = \alpha+ \alpha1BVS\ it+\alpha2\ EPS\ it+\alpha3\ PROPERit+\alpha4\ SRDI\ it-1+e$$

P	= Share Price of company i in year t+1
BVS	= Book Value of Equity per share of company i in year t
EPS	= Earnings per share of company i in year t
PROPER	= Environmental Performance Rating company i in year t
SRDI	= Sustainability Reporting Disclosure Index company i at year t
e	= Errors

One concern with our models is that the strong performance of high environmental performance firms may be due to omitted variables that happen to be correlated with firms share price, and not due to environmental performance itself. To overcome this issue, we include several control variables in our study. The control variables chosen for the analysis are widely recognised in the literature as variables that affect firm share price. First, we control for firms' size, Company size is measured from the total assets of the sample companies which are then transformed into the natural logarithm form. Second, we control firm's leverage, The debt-to-equity ratio shows the ratio of the company's total debt to the company's total equity, which shows how much the company depends on creditors in financing the company's equity. Third, we use foreign ownership to control our regression model, Foreign Ownership is measured by the percentage of company shares owned by foreign citizens, foreign business entities, and foreign governments.

Results

The population in this study are manufacturing, plantation and mining companies listed on the Indonesia Stock Exchange in 2014-2017 because these sectors whose operating facilities are considered as having significant impacts on the environment. Data from the Ministry of Environment and Forestry (KLHK) shows that as many as 2,897 manufacturing sector industries generated B3 waste in 2020. Therefore, the community will focus more on manufacturing company policies in minimizing the negative impact of operating waste. Based on the results of observations that have been made with reference to the sample selection criteria, the research data is obtained as follows:

Table 2. Data Population

Description	2014	2015	2016	2017
Manufacturing, plantation and mining companies listed on the Indonesia Stock Exchange	184	187	189	201
Companies with PROPER rating	72	73	76	74
Companies publishing sustainability reports	12	13	14	15
Total Observation		**54**		

In this study we conduct Multiple linear regression analysis was performed on the model proposed by the researcher using SPSS 20 software to predict the relationship between the independent variables and the dependent variable. The results of multiple linear regression analysis tests carried out to test the effect of disclosure of company environmental performance on company share prices can be seen in the following table:

Table 3. Test Results of Multiple Linear Regression Analysis

Model	Hypotesis	Regression Coefficient	Sig.	Description
Konstanta		6,387	0,016	
BV	positive significant	0,584	0,002	positive significant
EPS	positive significant	0,501	0,000	positive significant
PROPER	positive significant	0,765	0,005	positive significant
SR	positive significant	-5,504	0,001	negative significant
SIZE	positive significant	-0,447	0,011	negative significant
LEV	positive significant	1,644	0,042	positive significant
FOR	positive significant	0,316	0,963	Not significant
N		**: 54**		

R^2	: 0,788
Adj. R^2	: 0,751
F-Statistik	: 20,767
dependent variable	: Share price

The test results obtained an R2 value of 0.788, which means that 78.8% of the company's share price can be explained by the disclosure of sustainability reports, PROPER rating information, book value of equity per share, earnings per share (EPS), size, leverage, and foreign ownership. While remaining 21.2% is explained by other factors not tested in the study. From the results of this test in table 3 shows that the significance value is 0.016 which is less than 0.05, so by looking at the level of significance it can be said that this model can be used to predict company share prices as measured by the value relevance of accounting information in companies listed on BEI and obtained a PROPER rating from the Ministry of Environment, as well as disclosing a sustainability report for the 2014-2017 period. Thus, this equation model is fit or feasible to use.

A constant value with a positive sign of 6.387 states that if there are no activities from all of these independent variables that affect the share price, then the share price will be positive 6.387. The book value of equity per share is positive at 0.584, has a significance value of 0.002 less than 0.05 so that it can be said that the book value of equity per share has a positive and significant effect on share prices. Thus, the book value of equity per share has value relevance to the company's share price. Earnings per share (EPS) is positive at 0.501, and has a significance value of 0.000 which is less than 0.05 so that earnings per share has a positive and significant effect on share prices. Accounting information in this research, Book value and earning per share (EPS) has value relevance to company's share price.

The results for non-accounting information shows that the PROPER rating is positive at 0.765, and has a significance value of 0.005 less than 0.05 so that it can be said that the PROPER rating has a positive and significant effect. This study finds that PROPER rating has value relevance to company's share price. The sustainability report has a negative value of -5.504 and has a significance value of 0.001 which is less than 0.05 so that the level of disclosure of the sustainability report has a negative and significant effect. Thus indicating that the sustainability report has a value relevance to share prices, but with a negative effect. The results of the study show that the higher the disclosure level of the company's sustainability report, the lower the company's share price. Because, this report is still voluntary, there are still few companies that disclose sustainability reports, therfore investors still not considering sustainability report as an importance information in making investment decisions. Environmental performance and disclosure of the company valued differently by the market. Environmental performance use PROPER rating has value relevance to the market, the higher company's PROPER rating, the more investor value the company. Otherwise, company's environmental disclosure has negative value to the market.

The result of control variables shows that firm size has a negative value of -0.447 and has a significance value of 0.011 which is less than 0.05 so that it can be said that firm size has a significant negative effect on the company's share price. leverage (LEV) is positive at 1.644, and has a significance value of 0.042 less than 0.05 so that leverage has a positive and significant effect on share prices. Foreign ownership has a positive sign of 0.316, but has a significance value of 0.341 greater than 0.05 so that foreign ownership has no effect on the company's share price.

Discussion

Environmental performance and share price

Based on the results of the PROPER rating test, which has 5 levels of environmental performance assessment, the company shows positive and significant results, which means that PROPER level rating information has an effect on increasing the company's share price. These results are in line with research by (Sarumpaet et al., 2017) which shows that companies with good environmental performance will affect the increase in company share prices. In companies with PROPER superior performance. (Amato et al., 2011) Find a positive impact on share price for companies ranked in the top quartile of Dow Jones Sustainability Index (DJSI).

These results support the signalling theory which says that any information will be valued by the market, both good and bad. Information regarding the company's PROPER rating received a positive response from investors so that it was able to affect company's share price. The results of this study are also in line with previous research by (Al-Tuwaijri et al., 2004; Amato et al., 2011; Clarkson et al., 2004a; Iatridis, 2013) which showed that there are additional economic benefits for companies with low pollution levels related to ECE investment, but not to companies with high pollution levels. This study also shows that companies with a higher PROPER rating will positively affect share price. Environmental disclosures with high quality and effective environmental performance will provide additional information that is relevant to investors and increases the value of shares (Iatridis, 2013).

Yadav et al. (2016b) conduct environmental performance use Newsweek's 'Green Rankings' announcement of 2012 for large US firms, the result shows that companies with repeated green rankings for enhancing environmental performance showed significantly higher abnormal return than other companies with either reduced or unchanged environmental performance. (Clarkson et al., 2004a) stated that investors use environmental performance information to assess unrecorded environmental liabilities. Environmental information has shifted into information that is important for the sustainability of the company, by considering that, investors and the community are currently concern on the environment. Thus, if company wants to alongside with investors and the community, the company also needs to show concern for current environmental issues.

Environmental disclosure and share price

Based on the results of testing the disclosure of sustainability reports as measured using a dummy variable, it shows a negative and significant effect on share prices. Shows that the higher the level of disclosure of the company's sustainability report, the lower the company's share price will be. Sustainability reporting in Indonesia this period still voluntary, so Investors still do not consider corporate sustainability disclosures in the sustainability report as a basis for making investment decisions. The level of corporate GRI disclosure in the sustainability report does not guarantee the perception of the capital market (Kaspereit & Lopatta, 2016).

The research results are in line with research by (Cardamone et al., 2012; Hassel et al., 2005; Kaspereit & Lopatta, 2016) who found that environmental performance has a negative relationship with market value indicating that companies with high levels of environmental disclosure are not valued highly by investors either. Also in line with the results of (Cardamone et al., 2012) who found a significant negative relationship between social disclosure and share prices, this indicates that the market does not appreciate the disclosure content of sustainability reports. And in line with the research of (Lorraine et al., 2004) who found that disclosure of information related to environmental performance has no effect on share prices. (Lorraine et al., 2004) suspected that investors actually responded to the information, but not so enthusiastically that it did not cause a substantial effect on share prices. This can be caused by a lack of understanding (attention) of investors in the Indonesian capital market for the long-term benefits of sustainability reporting (Budiman et al, 2009).

Based on the test results of EPS, BV, leverage and company size have a positive and significant relationship to the company's share price in the following year. Thus, financial information has value relevance to the share prices in increase company share prices. This could be due to the fact that the disclosure of sustainability reports is still voluntary, so not many companies in Indonesia have disclosed sustainability reports, nor have investors considered the level of corporate environmental disclosure as important information in making investment decisions.

Conclusion

This study aims to examine the effect of the value of environmental information as measured by the PROPER rating and the GRI index on share prices in manufacturing, plantation and mining companies listed on the Indonesia Stock Exchange in 2014-2017. Based on the research results, it can be concluded that environmental performance has a value relevance on share prices. Information regarding the company's PROPER rating received a positive response from investors so that it was able to influence an increase in the company's share price. The results of this study are in line with several previous studies. Environmental information has shifted into information that is important for the sustainability of the company, considering that investors and the community are currently focusing on the environment so that if the company wants to go hand in hand with investors and the community, the company also needs to show concern for current environmental issues. However, it is inversely proportional to the results of the second hypothesis research, Disclosure of sustainability reports has a value relevance on share prices but in a negative direction. This result is in line with several previous studies which stated that environmental information has a negative relationship with market value indicating that companies with high levels of environmental performance are not highly valued by investors either. O'Donovan (2002) states that if a company earns high profits, the company feels no need to disclose environmental disclosures because the company has achieved financial success. This could be due to the fact that the disclosure of sustainability reports is still voluntary, so not many companies in Indonesia have disclosed sustainability reports, nor have investors considered the level of corporate environmental disclosure as important information in making investment decisions.

This study make significant contributions to the literature in several aspects. First, enrich the literature on the effect of environmental reputation on companies share price. Second, the contribution to the companies provides information on the extent to which the company's efforts to sustainable environmentally are positively assessed by investors, so this study expected to assist managers in implementing policies related to the environment that in line with the company's goal of generating profits. There are several limitations of this study. First, The sustainability report in this study only uses the company's disclosure level index, the disclosure assessment in this study is only limited to following cross-references on the sustainability report without conducting a more in-depth analysis of whether the disclosure is made in full or in part. Second, this study did not examine other corporate environmental performance than PROPER. Environmental information involving corporations which are published by the press may also contain information for investors in assessing companies value. Future researcher may considering these limitations to addresses a gap in the literature.

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References

Al-Tuwaijri, S. A., Christensen, T. E., & Hughes, K. E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach. *Accounting, Organizations and Society*, *29*(5–6), 447–471. https://doi.org/10.1016/S0361-3682(03)00032-1

Amato, A. D. ', Mazzanti, M., Nicolli, F., & D'amato, A. (2011). *CEIS Tor Vergata Waste Sustainability, Environmental Management and Mafia: Analysing Geographical and Economic Dimensions Waste Sustainability, Environmental Management and Mafia: Analysing Geographical and Economic Dimensions* (Vol. 9, Issue 213).

Askary, S., Abu-Ghazaleh, N., & Tahat, Y. A. (2018). Artificial intelligence and reliability of accounting information. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *11195 LNCS*, 315–324. https://doi.org/10.1007/978-3-030-02131-3_28

Barth, M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view $. In *Journal of Accounting and Economics* (Vol. 31).

Bergh, D. D., Connelly, B. L., Ketchen, D. J., & Shannon, L. M. (2014). Signalling theory and equilibrium in strategic management research: An assessment and a research agenda. *Journal of Management Studies*, *51*(8), 1334–1360. https://doi.org/10.1111/joms.12097

Cardamone, P., Carnevale, C., & Giunta, F. (2012). The value relevance of social reporting: Evidence from listed Italian companies. *Journal of Applied Accounting Research*, *13*(3), 255–269. https://doi.org/10.1108/09675421211281326

Clarkson, P. M., Li, Y., & Richardson, G. D. (2004a). The Market Valuation of Environmental Capital Expenditures by Pulp and Paper Companies. In *THE ACCOUNTING REVIEW* (Vol. 79, Issue 2).

Clarkson, P. M., Li, Y., & Richardson, G. D. (2004b). The Market Valuation of Environmental Capital Expenditures by Pulp and Paper Companies. In *THE ACCOUNTING REVIEW* (Vol. 79, Issue 2).

Collins, D. W., Maydew B', E. L., & Weiss, I. S. (1997). Accounting &Economids Changes in the value-relevance of earnings and book values over the past forty years. In *Journal of Accounting and Economics* (Vol. 24). ELSEVIER.

De Klerk, M., & De Villiers, C. (2012). The value relevance of corporate responsibility reporting: South African evidence. *Meditari Accountancy Research*, *20*(1), 21–38. https://doi.org/10.1108/10222521211234200

Endrikat, J. (2016). Market Reactions to Corporate Environmental Performance Related Events: A Meta-analytic Consolidation of the Empirical Evidence. *Journal of Business Ethics*, *138*(3), 535–548. https://doi.org/10.1007/s10551-015-2598-0

gumanti 2009. (n.d.).

Hassel, L., Nilsson, H., & Nyquist, S. (2005). The value relevance of environmental performance. *European Accounting Review*, *14*(1), 41–61. https://doi.org/10.1080/0963818042000279722

Iatridis, G. E. (2012). Voluntary IFRS disclosures: Evidence from the transition from UK GAAP to IFRSs. *Managerial Auditing Journal*, *27*(6), 573–597. https://doi.org/10.1108/02686901211236409

Iatridis, G. E. (2013). Environmental disclosure quality: Evidence on environmental performance, corporate governance and value relevance. *Emerging Markets Review*, *14*(1), 55–75. https://doi.org/10.1016/j.ememar.2012.11.003

Kaspereit, T., & Lopatta, K. (2016). The value relevance of SAM's corporate sustainability ranking and GRI sustainability reporting in the European stock markets. *Business Ethics*, *25*(1), 1–24. https://doi.org/10.1111/beer.12079

Lopatta, K., Buchholz, F., & Kaspereit, T. (2016). Asymmetric Information and Corporate Social Responsibility. *Business and Society*, *55*(3), 458–488. https://doi.org/10.1177/0007650315575488

Lorraine, N. H. J., Collison, D. J., & Power, D. M. (2004). An analysis of the stock market impact of environmental performance information. *Accounting Forum*, *28*(1), 7–26. https://doi.org/10.1016/j.accfor.2004.04.002

Middleton, A. (2015). Value relevance of firms' integral environmental performance: Evidence from Russia. *Journal of Accounting and Public Policy*, *34*(2), 204–211. https://doi.org/10.1016/j.jaccpubpol.2014.12.001

Sarumpaet, S., Nelwan, M. L., & Dewi, D. N. (2017). The value relevance of environmental performance: Evidence from Indonesia. *Social Responsibility Journal*, *13*(4), 817–827. https://doi.org/10.1108/SRJ-01-2017-0003

Schadewitz, H., & Niskala, M. (2010). Communication via responsibility reporting and its effect on firm value in Finland. *Corporate Social Responsibility and Environmental Management*, *17*(2), 96–106. https://doi.org/10.1002/csr.234

Schöndube-Pirchegger, B., & Schöndube, J. R. (2017). Relevance versus reliability of accounting information with unlimited and limited commitment. *Business Research*, *10*(2), 189–213. https://doi.org/10.1007/s40685-017-0050-2

Sharma, G. (2017). *Impact Factor: 5.2 IJAR. 3*(7), 749–752. www.allresearchjournal.com

Siew, R. Y. J. (2015). A review of corporate sustainability reporting tools (SRTs). In *Journal of Environmental Management* (Vol. 164, pp. 180–195). Academic Press. https://doi.org/10.1016/j.jenvman.2015.09.010

Yadav, P. L., Han, S. H., & Rho, J. J. (2016a). Impact of Environmental Performance on Firm Value for Sustainable Investment: Evidence from Large US Firms. *Business Strategy and the Environment*, *25*(6), 402–420. https://doi.org/10.1002/bse.1883

Yadav, P. L., Han, S. H., & Rho, J. J. (2016b). Impact of Environmental Performance on Firm Value for Sustainable Investment: Evidence from Large US Firms. *Business Strategy and the Environment*, *25*(6), 402–420. https://doi.org/10.1002/bse.1883