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The Effect of Environmental Disclosure on Cost of Equity

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ABSTRACT

The purpose of this study is to determine whether there is significant impact of environmental disclosure on cost of equity. The samples of this study are non-financial companies listed on Indonesia Stock Exchange year 2013-2014. This study find, contrary to our expectation, that there is positive significant impact of environmental disclosure on cost of equity. This study also finds that there is a different impact of different environmental disclosure type and nature on cost of equity. Soft type of environmental disclosure and the nature of positive disclosure have a positive impact on cost of equity. .

Type of paper: Empirical

Keywords: cost of equity; environmental disclosure; firm value

1. Introduction

Business activities often only focus on the desire to gain maximum profits and ignore the larger impact from these activities. One of the most evident impacts is the damage created to the environment. The rapid increase of world population resulted in excessive exploration of natural resources. Not only in Indonesia, the massive impact of excessive resource exploitation has become one of the most problematic global issues to resolve. Environmental issues not only affect the survival of living things, but also affect the economy globally.

Environmental disclosure provides valuable information about firm activities conducted in an ethical way. Iqbal *et al.* (2013) suggested that this is due to the proliferation of media coverage on the issue of climate change and global warming. Furthermore, Huang and Kung (2010) suggested that stakeholders want a more transparent reporting of environmental information. In Indonesia, policy concerning mandatory disclosure of environmental responsibility report of listed firms is stipulated in the Decree of the Chairman of the Capital Market and Financial Institution Supervisory Agency No. KEP-431/BL/2012 regarding Submission of Annual Report of Issuers and Public Firms. All disclosure of environmental responsibility that is not regulated in this regulation is considered as voluntary disclosure.

Previous studies on association between disclosure and cost of capital mostly focus on financial disclosure (please see extensive review on disclosure research by Healy and Palepu, 2001).

These studies suggest that there is a negative association between financial disclosure and the cost of equity. As argued by Merton (1987), higher disclosure improves investors' awareness of a firm's existence and also expand its investor base. This in turn will improve risk-sharingand reduces the cost of capital (Merton, 1987).

Botosan (1987) proposed two arguments for negative association between disclosure and cost of equity. First argument is greater disclosure increases stock market liquidity, and thus decreasing cost of equity through reduced transactions costs or increased demand for firm's securities. Second argument suggests that higher disclosure reduces firm's estimation risk related to investors' estimates of the parameters of an asset's return or payoff distribution. If this estimation risk is non-diversifiable, then investors require compensation for this additional element of risk, in the form of lower cost of equity. These arguments are likely applied to both financial and nonfinancial disclosure, given that this information is value-relevant. One example of disclosure that have an increasing trend is corporate social responsibility (CSR) disclosure in general as well as environmental disclosure. Several studies provide evidence that CSR information is value-relevant (such as Al-Tuwaijri *et al.*, 2004).

Higher environmental disclosure will result in positive response from the investors. As firm's information is largely available, the information risk is reduced, this eventually will decrease cost of equity (Petrova *et al.*, 2012). Although there have been several studies related to corporate social responsibility (CSR) disclosure or environmental disclosure on cost of capital, there results were varied (Sirait and Siregar, 2012; Clarkson, 2013; Plumlee, 2015). This research is expected to provide insights by looking at the effect of quality of environmental reporting on cost of equity in Indonesia. Based on Environmental Performance Index (EPI) 2016, Indonesia was ranked 107 of 180 countries. This ranking indicates thatIndonesia still has a lot of environmental issues to deal with. Hence, it is interesting to examine environmental reporting in Indonesia.

Managers have tendency to release good news information and delay the disclosure of bad news (Kothari *et al.*, 2009). Hence, in this study we divide environmental disclosures into several categories to see if different types of disclosure have different effects on cost of equity. Plumlee *et al.* (2015) separated the environmental disclosure item by the nature of positive, neutral, and negative disclosure to examine its relationship with cost of equity. Our study extended the study of Plumlee *et al.* (2015) with several differences. We used a scoring design developed by Clarkson *et al.* (2008) and adapted to the GRI Core guidelines for reporting environmental responsibilities. Core option guidelines contains essential elements of the environmental responsibility that are more appropriate to be used in measuring the disclosure level for our samples in Indonesia. GRI core options manual identifies every material aspect and disclose at least one indicator on the said aspect. For Indonesia with relatively low disclosure of environmental responsibility is expected, this core option is considered more suitable.

2. Literature Review

In accordance with signaling theory, firm with good quality will send signal to the market so that the market and investor can differentiate the firm with those of lower quality. Plumlee *et al.* (2015), suggested that investors perceive the environmental disclosure as a relevant information. Signaling theory indicates that stakeholders, such as investors or creditors, expect companies to disclose environmental information so that it can serve as one benchmark to see whether the

firm performs in regards to to environmental concerns. Clarkson *et al.* (2013) found that each categories of environmental disclosure is informative. Hutton *et al.* (2003) further found that managers tend to provide verifiable forward-looking statements for good news disclosures. Our study would like to see whether objective disclosures, such as hard disclosures, contain more relevant information as this information tends to be quantitative and verifiable. Examples of these information include the amount of energy use, water, waste production, how ISO 14002 certification will affect investor perception, and whether more soft disclosure tends to be qualitative – such as how statements regarding firm's commitment to environmental aspects that are difficult to verify will not affect investors in assessing a company.

Firm strives to maintain or improve its legitimacy through environmental responsibility disclosure to be accepted by nearby community so that it will not be exposed to future legal problems. Dye (1985) explained that managers tend to only reveal good news and only reveal bad news if the cost of disclosure is low or if the cost of information asymmetry between investor and manager is too high. Al-Tuwaijri *et al.* (2004) found that "good" environmental performance is significantly associated with "good" economic performance, and also with more extensive quantifiable environmental disclosures. Dissimilar types of information, such as undesirable pollution information, will negatively affect the firm's value. Likewise, positive information such as appreciation disclosure for firm's environmental performance is expected to give a positive effect on firm value.

According to legitimacy theory, the absence of environmental disclosure is an indication of risk that can arise in a company related to regulatory costs or legal cases. Plumlee *et al.* (2015) documented the benefits of parsing or grouping disclosures into categories to gain a deeper understanding of their relationship to company value, i.e. soft-positive disclosure has a significant negative relationship with cost of equity and is positively related when it is associated with soft-negative disclosure. These results indicate that investors respond positively to positive qualitative information and negatively to negative disclosure. This study suggests that the division of the effect of environmental disclosureinto categories of types and traits (Hard and Positive, Hard and Negative, Soft and Positive, Soft and Negative) will have a different effect on cost of equity. We expect that only disclosure with properties of 'Hard and Positive' and 'Hard and Negative' will have a significant positive and negative effect on cost of equity, respectively.

Plumlee *et al.* (2015) explained that an increase in environmental disclosure is expected to decrease cost of equity, due to reduced information asymmetry and increased liquidity. Dhaliwal *et al.* (2011) find that firms gain the benefit of reduced cost of equity by the initiation of CSR disclosure.

H1: There is a negative effect of environmental disclosure on cost of equity

The legitimacy of firm in society can only occur if the company gains the trust of the community by adhering to the prevailing values of society. In other words, the trust is a signal that firm's risks to be caught in issues related to its environmental responsibilities is small or low, leading to an improvement of investor interest on the company. This is in line with some documentation regarding the impact of different types of disclosures on cost of equity, the subsequent hypothesis related to the impact on the cost of equity capital will also consider that only one type of environmental disclosure will be more informative to

investors. It is alleged that hard type disclosure is easier to be verified and believed to have impact to cost of equity. Therefore, it is inferred that the disclosure of soft type environmental reporting has no significant effect to reduce cost of equity. If investors consider different type of disclosure will have different informativeness and credibility (Clarkson *et al.*, 2008, 2013), we predict that the association between environmental disclosure and cost of equity will differ across disclosure type, as stated below. We predict that different disclosure properties will have different impact on investors' perception and hence will affect the cost of equity capital in different ways. Positive environmental disclosures are expected to attract investors to maintain their investment or attract potential investors to buy the company's stocks, thereby lowering the cost of equity capital. This is different with the disclosure of a neutral environment that allegedly will not affect the assessment of investors. Disclosures that are considered to be negative are expected to cause potential investors feel reluctant to buy shares of the firms and make investors who have invested their capital interested to sell the shares because they are considered to have no good prospects, which will lead to a rise in equity capital costs. Thus, the grouping of environmental disclosures based on its positive/neutral/negative nature will be responded differently by investors and result in different effects on the cost of equity. Therefore, we will also examine these issues.

H1a: There is a negative effect of hard type environmental disclosure on cost of equity.
H1b: There is no significant effect of soft type environmental disclosure on cost of equity.
H1c: There is a positive effect of negative environmental disclosure on cost of equity.
H1d: There is a negative effect of positive environmental disclosure on cost of equity.
H1e: There is no significant effect of neutral environmental disclosure on cost of equity.
H1f: There is a negative effect of Hard and Positive environmental disclosure to cost of equity.
H1g: There is a positive effect of disclosure of Hard and Negative environmental disclosure on cost of equity.
H1h: There is no significant effect of Soft and Positive environmental disclosure on cost of equity.
H1i: There is no significant effect of Soft and Negative environmental disclosures on cost of equity.

3. Research Method

Research data is obtained from firm annual report and financial report, as well as IDX Fact Book of companies listed on Indonesia Stock Exchange since 2013-2014. Other data are obtained from the websites of each firm, Pefindo website (www.pefindo.com/), and Damodaran (http://pages.stern.nyu.edu/~adamodar/).

We examined environmental disclosure during 2013-2014. Year 2013 was chosen due to the measurement of the voluntary environmental disclosures used an index developed by Clarkson *et al.* (2008) that has been adjusted to GRI Guideline G4 dated 22 May 2013. GRI G4 guidelines have been implemented by many listed firms in Indonesia since 2013. The sample selection criteria is as followinng: non-financial firms listed on the Indonesia Stock Exchange in 2013-2014, has complete data for all variables, and issued annual report or sustainability report in 2013-2014. The result of sample selection is as follows:

Table 1. Result of Sample Selection

Firms listed on Indonesia Stock Exchange on 2013-2014	1.025
Financial firms listed on Indonesia Stock Exchange on 2013-2014	(189)
Non-financial firms listed on Indonesia Stock Exchange on 2013-2014	836
Firms with incomplete data	(310)
Total observations	526

The research models used in this study are a modified version of Ohlson (1995) used by Plumlee *et al.* (2015). The first model focuses on the effect of environmental disclosure on cost of equity.

$$COEC_{it} = e_0 + e_1 DScore_{it} + e_2 CER_{it} + e_3 BETA_{it} + e_4 LSIZE_{it} + e_5 LBTM_{it} + e_6 LEV_{it} + \varepsilon_{it} \quad (1)$$

We then parsed model 2 into several models:

$$COEC_{it} = f_0 + f_1 HardD_{it} + f_2 SoftD_{it} + f_3 CER_{it} + f_4 BETA_{it} + f_5 LSIZE_{it} + f_6 LBTM_{it} + f_7 LEV_{it} + \varepsilon_{it} \quad (1.1)$$

$$COEC_{it} = g_0 + g_1 PosD_{it} + g_2 NeuD_{it} + g_3 NegD_{it} + g_4 CER_{it} + g_5 BETA_{it} + g_6 LSIZE_{it} + g_7 LBTM_{it} + g_8 LEV_{it} + \varepsilon_{it} \quad (1.2)$$

$$COEC_{it} = h_0 + h_1 Hard\_PosD_{it} + h_2 Hard\_NegD_{it} + h_3 Soft\_PosD_{it} + h_4 Soft\_NegD_{it} + h_5 CER_{it} + h_6 BETA_{it} + h_7 LSIZE_{it} + h_8 LBTM_{it} + h_9 LEV_{it} + \varepsilon_{it} \quad (1.3)$$

The main independent variable is Voluntary Environmental Disclosure (Dscore). We used the index developed by Clarkson *et al.* (2008) and aligned with the latest GRI Environmental Responsibility Assessment (G4) assessment guidelines. The items on the disclosure index used in this study are divided by type and nature. By type, environmental disclosures are classified into Hard/Objective and Soft/Subjective categories. Based on the nature, environmental disclosure is divided into positive, neutral or negative categories. Items that fall into the Hard type category are objective data that can be verified quickly, such as disclosure related to company certification in the environmental field, awards related to environmental performance, energy use data, and more. Items included in the Soft type are more likely to be subjective because they focus more in the form of statements that company discloses on firm's commitment to environmental responsibility. To measure firm's environmental disclosure, company total score is divided by the total score of the entire index (95 disclosure items).

By type, scoring items are divided into two categories, Hard and Soft Disclosure (*HardD* and *SoftD*). Items with Hard/Objective disclosure type amounted to 79 items and 16 items are Soft/Subjective disclosure types. For further classification, the items in the disclosure index are divided by their nature or properties, such as positive, neutral, and negative. Referring to Plumlee *et al.* (2015), items will be classified in positive category (PosD) if the disclosed item is positive. An example of the case is disclosure regarding waste recycling, energy efficiency, and others. Furthermore, items are categorized to be neutral (NeuD) if the item is in nature

more neutral or less affecting company value, such as the disclosure of water usage. Items are included as in negative properties (NegD) if they are judged to reduce the firm value such as greenhouse gas emissions, fines related to environmental practices, and others. Items grouped into positive categories amounted to 54 items, items with the category of neutral amounted to 14 items, and items with negative categories are 27 items. The disclosure was also divided by type and nature in which as many as 40 items are *Hard and Positive* category and 25 items are included into the *Hard and Negative*. Furthermore, 14 items entered into the *Soft and Positive* category and 2 items into the category *Soft and Negative.*

We use CAPM to measure cost of equity. We included several control variables on our research models. To see if the company have separate environmental disclosure report, this research use CER variable as dummy variable that is 1 if company do disclose separate voluntary sustainability report and 0 if otherwise. The next control variables are Book Value per share, Abnormal Earnings (as measured from Net Profit - (Cost of Equity Capital x Book Value per share)). Other than that, control variables also includes Book-to-Market and leverage. Beta is measuring systematic risk (we used adjusted Beta) and firm size uses market capitalization.

4. Results

Descriptive statistics of all variables is presented in Table 2. The mean of the environmental disclosure score (Dscore) is 0.090, which is relatively low. The low average of Dscore, which is 0.09, indicates that most non-financial companies in Indonesia still consider that environmental disclosure does not provide economic benefits to the company.The standard deviation is 0.134, which shows the diversity in the level of environmental disclosure in each company. There are firms that do not voluntarily disclose the environment in their annual reports, websites, or in separate environmental reports. Furthermore, 21% of the observations do not disclose environmental information so that it has a zero score in this study.

From industry type perspective, the highest total environmental disclosure is in the mining industry, which is classified as environmentally sensitive industry, of 18.39%. The lowest disclosure rate is in trade and service industry, which is 3.60%. The high level of disclosure in companies engaged in natural resource processing is due to mandatory government regulation, although the disclosure detail is still voluntary.

Sample firms are more likely to disclose information that is subjective (Soft) such as corporate disclosure regarding action that firms has done in the field of environmental responsibility. Soft disclosure is 22.08% while the level of Hard disclosure (Objective) is only 6.37%. These results are consistent with the results obtained by Setroyini and Isaac (2012) that the level of environmental disclosure in Indonesia is dominated by soft disclosure. Hard disclosure is an objective, verifiable disclosure that can result in a lawsuit. Soft type disclosure, however, are subjective (qualitative) and tend to be more easily imitated by companies with poor performance. The nature of hard-to-verify in soft disclosure make all companies can present their social and environmental performance.

From the nature of disclosure perspective, our samples report positive disclosure of 11.70%. This result is consistent as the lowest negative disclosure result is 4.34%. The results of the study are consistent with previous research that found that firms tend to reveal “good news” (Kothari *et al.* 2009), that expected to increase share prices. There is an increase in environmental disclosure

Table 2. Descriptive Statistics

	COE	BETA	SIZE	BTM	LEV	DSCORE
Mean	0.119	0.910	11,902.37	1.49	0.228	0.090
Maximum	0,185	2.10	300,893	102.9	0.889	0.726
Minimum	0.083	0.336	19	0.02	0	0
Std. Dev.	0.02	0.364	35,859.74	4.874	0.185	0.134

PRICE = Firm stock price; COE = Firm cost of equity; Dscore = environmental disclosure index; BV = Book Value per share; AE = Abnormal Earnings; BETA = Beta of firm; SIZE = market capitalization; BTM = Book-to-market; LEV = Leverage

Table 3. Regression Result– Cost of Equity

Variable	Expected Sign	Coefficient	t-stat	Prob>|t|
Dscore	-	0.094	3.55	0.000***
CER	-	-0.008	-1.08	0.141
Beta	+/-	0.047	21.87	0.000***
LSIZE	+/-	0.005	4.54	0.000***
LBTM	+/-	0.001	0.89	0.188
LEV	+/-	0.025	5.99	0.000***
F-Stat	105.58	R-Squared		0.77
Prob. (F-Stat)	0.000	No.Observation		526

Significant at α *10%, α **5%, α ***1%. COECC = cost of equity; Dscore = environmental disclosure index; CER = 1 if firms has stand-alone environmental report and 0 if otherwise; BETA = Beta of firm; SIZE = market capitalization; BTM = Book-to-market; LEV = Leverage

Table 4. Regression Results– Parsed Models

Variable	Expected Sign	Coefficient	Prob>|t|	Coefficient	Prob>|t|	Coefficient	Prob>|t|
HardD	-	-0.02	0.229				
SoftD	Tidak Sig	-0.039	0.000***				
PosD	-			-0.09	0.000***		
NeuD	+/-			0.066	0.061*		
NegD	+			-0.011	0.342		
Hard_PosD	-					-0.029	0.077*
Hard_NegD	+					0.052	0.225
Soft_PosD	+/-					-0.032	0.000***
Soft_NegD	+/-					-0.005	0.016**
CER	+/-	-0.001	0.386	-0.003	0.320	-0.0004	0.468
Beta	+/-	0.049	0.000***	0.049	0.000***	0.049	0.000***
LSIZE	+/-	0.005	0.000***	0.005	0.000***	0.005	0.000***
LBTM	+/-	0.001	0.115	0.001	0.079*	0.0008	0.11
LEV	+/-	0.023	0.000***	0.023	0.000***	0.023	0.000***
F-Stat		143.27		128.64		120.22	
R-Squared		0.8		0.8		0.8	
Prob. (F-Stat)		0		0		0	
No. Observations				526			

from 2013 to 2014 (from only 8.83% in 2013 to 9.21% in 2014), however the increase is quite small. Only 9.89% of companies have a stand-alone environmental reporting. This indicates that the level of awareness of Indonesian companies on the importance of sustainability in conducting business activities is still low. This is coupled with voluntary environmental disclosure, which makes environmental issues still considered not very important. Indonesia's

economic condition is also one of the factors that causes many industries in Indonesia are still focused solely to improve financial performance in order to survive.

Results of regression model (1) is presented in Table 3. There is positive effect of Dscore on cost of equity, hence H1 is supported. Based on the results of regression model 1.1 (Table 4), *HardD* is insignificant and *SoftD* negatively affects cost of equity (H1a and H1b are not supported. Based on the results of regression model 1.2 (Table 4), *PosD* has negative effect on cost of equity and *NeuD* has positive effect, while *NegD* is insignificant. Hence, H1d is accepted whereas H1c and H1e are not supported. Based on the results of regression model 1.3 (Table 4), hard positive information is perceived as positive while hard and negative information is insignificant, and soft type variable with positive or negative characteristic has negative effect on cost of equity (H1f is accepted whereas H1g, H1h, and H1i are not accepted).

5. Discussion

Based on the result of regression analysis, there is positive effect of Dscore variable on cost of equity, which is inconsistent with the result from Plumlee *et al.* (2015). However, the result is consistent with the study from Richardson and Welker (2001). According to Richardson and Welker (2001), these outcomes may occur for several reasons. First the existance of consistent bias, such as firms with high social disclosure costs discloses more than the average of other firms, so companies tend to report positive social contributions made but report little negative impacts on their social activities. Second, CSR investment enables market to respond differently (several investors see different sides of the disclosure (the negative side)) that increase the overall risk of the company.

Information on the type of subjective disclosure(*Soft*) resulted in the decline in the cost of equity is the impact of disclosure of company statements regarding its commitment related to environmental responsibility. Inconsistent with the hypothesis, we find that soft disclosure turns out to be responded well by investors. This may occur due to the high amount of disclosure done by the company is assessed by investors as a form of company's commitment in carrying out its environmental responsibilities so that corporate risk involved legal issues related to environmental responsibilities in the future becomes reduced. Investors value high soft-type environmental disclosure as a form of corporate commitment in conducting sustainable business operations. As expected, positive information is positively responded by investors. However, in contrary with expectation, neutral environmental disclosure is perceived as a bad signal. Maybe it is because the grouping of disclosures into categories of neutral properties (such as corporate disclosure of executive compensation for environmental performance and water use) illustrates that the company is paying enormous costs to do its environmental responsibilities so that it is valued as something costly. Consistent with our expectation, we find that positive disclosure has a negative effect on cost of equity .Furthermore, our finding is consistent with Plumlee *et al.* (2015) that found how neutral disclosures have a positive effect on the cost of equity capital. We do not find evidence that negative disclosure has positive effect on cost of equity.

We also find an evidence consistent with Plumlee *et al.* (2015) that soft and positive disclosures are negatively related to cost of equity but *Hard and PosD* and *Soft and NegD* disclosure have negative impact on cost of equity. This findings show that not only hard and positive disclosure have an impact on the decrease in the cost of equity, but also disclosure with the soft type and

the positive or negative nature – initially expected will not have an impact on the cost of equity – turns out to be responded positively by investors as a form of information.

Additional test is conducted in order to examine whether there are differences of the results by eliminating companies with zero environmental disclosure score (there are 110 observations with zero environmental disclosure or 21% of observations that do not disclose environmental information). There is no difference in the results between the main test and the additional test, except for hypothesis 1d.

6. Conclusion

The purpose of this study is to see the effect of disclosure of environmental reporting on cost of equity. Contrary with our expectation, we find that there positive effect of environmental disclosure on cost of equity. However, if the environmental is divided based on *soft* type, positive, and *Hard&Positive, Soft&Positive,* and *Soft&Negative*, there is a negative effect of the disclosure on cost of equity. In contrast to our expectation, the cost of equity even decreases with the increase in Soft type environment disclosure. Neutral type disclosure has a positive effect on cost of equity.

This study has several limitations. We used stock price after the annual report release in the same year that is used for scoring the environmental disclosure. Future research is expected to take account of time lag because there is a possibility of a time lag between disclosures with changes in stock prices. We have not yet examined the differential effect of environmental disclosure on firm value and cost of equity for each industry type.

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References

Akeem, L. B., Memba, F., and Muturi, W. (2016). The Effect of Identification of Environmental Cost on Quality of Disclosure: ACritical Analysis of Shipping Lines in Nigeria. *European Journal of Business, Economics and Accountancy,* 4 (2).

Al-Tuwaijri, S. A., Christensen, T. E., and Hughes, K. E. (2004). The relations among environmental disclosure, environmental performance, and economic performance: a simultaneous equations approach. *Accounting, Organizations and Society*, 29(5), 447-471.

Clarkson, P. M., Li, Y., Richardson, G. D., and Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society,* 33(4), 303-327.

Clarkson, P. M., Fang, X., Li, Y., and Richardson, G. (2013). The relevance of environmental disclosures: Are such disclosures incrementally informative? *Journal of Accounting and Public Policy,* 32(5), 410-431.

Dhaliwal, D. S., Li, O. Z., Tsang, A., and Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review,* 86(1), 59-100.

Dye, R. A. (1985). Disclosure of nonproprietary information. *Journal of Accounting Research,* 23 (1), 123-145.

Healy, P., and K. Palepu. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31, 405–440.

Huang, C. and Kung, F. (2010). Drivers of Environmental Disclosure and Stakeholder Expectation: Evidence from Taiwan. *Journal of Business Ethics*, 96 (3), 435-451.

Kothari, S. P., Shu, S., and Wysocki, P. D. (2009). Do managers withhold bad news? *Journal of Accounting Research*, 47(1), 241-276.

Lorraine, N. H. J., Collison, D. J., and Power, D. M. (2004). An analysis of the stock market impact of environmental performance information. *Accounting Forum,* 28 (1), 7-26.

Merton, R.C. (1987). A simple model of capital market equilibrium with incomplete information. *The Journal of Finance*, 42, 483–510.

Petrova, E., Georgakopoulos, G., Sotiropoulos, I., and Vasileiou, K. Z. (2012). Relationship between Cost of Equity Capital and Voluntary Corporate Disclosure. *International Journal of Economics and Finance*, 4 (3), 83-96.

Plumlee, M., Brown, D., Hayes, R. M., and Marshall, R. S. (2015). Voluntary environmental disclosure quality and firm value: Further evidence. *Journal of Accounting and Public Policy*, 34(4), 336-361.

Richardson, J. A., and Welker, M. (2001). Social Disclosure, Financial Disclosure and Cost of Equity Capital. *Accounting, Organizations and Society,* 26, 579-616.

Setroyini, C, T., and Ishak, Z. (2012). Corporate Social and Environmental Reporting: A Case of Mometic Isomorphism. *American International Journal of Contemporary Research,* 2 (5), 11-17.

Sirait, S. D. Y., and Siregar, S. V. (2012). Hubungan Antara Biaya Modal Ekuitas Dengan Tingkat Pengungkapan Tanggung Jawab Sosial dan Modal Intelektual Pada Sektor Perbankan di Indonesia. *Jurnal Akuntansi dan Auditing*, 9 (1), 70-85.

Suhardjanto, D., and Choiriyah, U. (2010). Information Gap: Demand Supply Environmental Disclosure di Indonesia. *Jurnal Keuangan dan Perbankan*, 14 (1), 36-51.