THE EFFECT OF ENVIRONMENTAL, SOCIAL, & GOVERNANCE DISCLOSURE ON COST OF CAPITAL

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Abstract

Purpose – The purpose of this study is to examine the effect of ESG disclosure on Cost of Capital, Cost of Equity, and Cost of Debt in companies operating in ASEAN Countries from 2014-2017.

Design/methodology/approach – Sample in this study were 283 companies using a purposive sampling technique. The study utilizes structural equation modeling using Smart PLS version 3.0 to test the hypothesis. Hypothesis testing was conducted to determine the effect of overall ESG disclosure on Cost of Capital, Cost of Equity, and Cost of Debt.

Findings – The results of this study indicate that ESG disclosure has a negative effect on Cost of Capital and Cost of Equity. Meanwhile, ESG Disclosure does not affect on Cost of Debt. Control variables of firm size show a positive influence on the Cost of Capital, Cost of Equity, and Cost of Debt. Debt to Equity Ratio has a negative effect on Cost of Capital.

Research Limitations/Implications – The limitations of this study are ESG measurement which only depends on Bloomberg data proxies, the fact that the ESG measurement is not only based on Bloomberg data but also with content analysis from sustainability reporting.

Practical implications – ESG information can reduce information asymmetry for investors, so managers need to focus more on disclosing ESG to produce low Cost of Equity, Cost of Debt, and Cost of Capital.

Keywords: ESG Disclosure, Cost of Capital, Firm Size, DER

1. Introduction

Companies to grow up need financing support, can from investors in the form of investment or creditors in the form of loans. Investors and creditors as providers of funding for the company will expect the rate of return on their investment and loan. When investors invest their funds that expect a rate of return from an investment, meanwhile creditor that provides a loan to the company that is expected short of interest. Both of rate of return and interest is a part of the cost of capital. Therefore, the cost of capital becomes an important aspect during a business because of the cost of capital reflecting the trust of investors and creditors. The higher risk perceives by investor and creditor so the higher of cost of capital that the company releases.

One way to reduce the cost of capital is to encourage communication between companies and funding providers in form of corporate disclosure. Disclosure is very crucial to reduce information asymmetry between companies and investors or creditors. Therefore, full disclosure level and higher transparency will motivate the company to be more intense with creditor and investment consequences to reduce information asymmetry. Information asymmetry can be minimized by full disclosure which can be achieved with various forms of corporate reporting that provide financial information as well as non-financial information. Therefore, corporate disclosure will take a crucial role to reduce information asymmetry through ESG information.

Disclosure of ESG information is considered to reduce the cost of capital because companies can demonstrate their values to stakeholders through sustainability reporting, especially to providers of corporate equity that have an impact on risk. Companies can reduce their risk, respectively, by looking at the company's ESG information to facilitate the achievement of capital and lower financing costs (El Ghoul, Guedhami, Kwok, & Mishra, 2011).

This study will examine the effect of ESG disclosure on cost of capital. Furthermore, the analysis also performed to examine the effect of ESG disclosure on two dimensions of the cost of capital, namely cost of equity and cost of debt. According to Botosan (1997), the extent of disclosure aimed at traders towards stocks will increase and its impact on the cost of capital will also increase. Environmental and social relationships between companies and dependence on debt will increase the cost of capital, namely the cost of debt (Suto & Takehara, 2017). Previous research has usually taken samples in one country or globally but there has been no research that specifically focuses on countries in the ASEAN region, so this research was conducted to fill this gap by taking samples of countries in ASEAN.

2. Literature Review and Hypothesis Development

2.1 Literature review

Stakeholder Theory

Stakeholder theory explains that a company is not an entity that carries out operations only for its self-interests, but also provides benefits for all stakeholders (shareholders, creditors, consumers, government suppliers, society, analysts, and other parties (Ghozali & Chariri, 2014). Stakeholder theory applies to company decisions about the company's sustainability by taking into account various interested parties (Feng, Wang, & Huang, 2015). Sustainability reporting provides information on the environmental and social issues of a company as a company's commitment to stakeholders and corporate responsibility (CSR) practices. Therefore, ESG is an important issue for stakeholders.

Based on the model of social responsibility apart from shareholders, the company has responsibilities to other stakeholders, including suppliers, customers, employees, government, and society (Hult, Mena, Ferrell, & Ferrell, 2011). ESG reporting by companies is considered an important issue for various stakeholders. This includes issues that are beyond economic problems but can also have an impact on economic aspects. The stakeholder theory perspective explains that companies need to meet the demands of internal and external stakeholders. Activities related to ESG are considered as management efforts

to meet stakeholder demands and to improve company performance better (Atan, Alam, Said, & Zamri, 2018).

2.2 Hypothesis

Stakeholder theory explains that a company is not an entity that carries out operations only for its self-interests, but also provides benefits for its stakeholders (shareholders, creditors, consumers, government suppliers, society, analysts, and other parties (Ghozali & Chariri, 2014). The disclosure of information related to corporate responsibility for the environment is one way for companies to be able to improve the company's image in the eyes of stakeholders. If the company's image improves, investors' trust in the company in question will also increase. So that the company expects investors to respond positively to information relating to environmental disclosures.

Theoretically, there is a negative relationship between the level of disclosure and the cost of equity capital. This means that increased disclosure will increase the liquidity of the stock market price, thereby reducing the estimated cost of equity capital, either by reducing transaction costs or through increasing demand for stock securities. This opinion is supported by Amihud and Mendelson (1986), and Diamond and Verrecchia (1991). Management must minimize information asymmetry that can attract investors and creditors which will reduce the cost of capital.

H1: ESG disclosure has a negative effect on cost of capital (COC)

Social factors that are important to stakeholders are human rights, equality, diversity in the workplace, and contributions to society. Stakeholder theory argues that companies need to meet the demands of internal and external stakeholders (Atan et al., 2018). ESG activities are seen as a management effort to meet the information needs of stakeholders as a basis for decision making and to improve good corporate performance. The information presented by ESG is not only financial but also non-financial such as environmental, social, and governance information. This means that ESG information is broader in meeting the information needs of various stakeholders so that ESG information is expected to be able to provide a wider spectrum of information.

Cajias, Fuerst, and Bienert (2014) show that CSR disclosure is measured as two categories of concern and strength related to reducing capital costs. Marginal price imposes capital markets and investors use different corporate strategies regarding the intensity and objectives of responsible activities. The relationship between ESP sustainability performance related to environmental and social dimensions has a negative effect on the cost of capital. Better corporate responsibility performance can reduce the company's cost of equity capital and increase its value (Feng et al., 2015).

H1a: ESG disclosure has a negative effect on cost of equity (COE)

Disclosure reduces information asymmetry and provides companies access to lower external financing (La Rosa, Liberatore, Mazzi, & Terzani, 2018). The social performance of companies has a role in reducing the cost of debt capital. The good corporate social performance will be attractive to lenders. ESG reporting by companies is considered an important issue for various stakeholders. The ESG reporting covers issues that are beyond economic issues but can also have an impact on economic aspects.

The stakeholder theory perspective argues that companies need to meet the demands of internal and external stakeholders. Maximizing sustainable company performance and term value are recognized as a criterion for balancing the interests of all stakeholders. Dhaliwal, Li, Tsang, and Yang (2011) stated that disclosure of information regarding corporate social responsibility activities can reduce the cost of capital. It can attract dedicated institutional investors and analysts. The disclosure will disperse about the lower absolute estimate. Good corporate governance correlates with reduced borrowing costs and smaller credit spreads.

The increased attention from ESG has led to increased awareness of lending institutions about the reputational risks that borrowing companies receive in addition to the risk of default. This means that the lending institution acts as a facilitator of negative ESG practices by the borrowing company, which results in an adverse stakeholder reaction to the lending institution. These risks are an incentive for lending institutions to integrate ESG information into their creditworthiness evaluation process (Eliwa, Aboud, & Saleh, 2019). Research conducted by Talbi and Omri (2014) shows that there is a negative relationship between disclosures made by companies and the cost of debt.

H1b: ESG disclosure has a negative effect on cost of debt (COD)

3. Research Methods

3.1 Sample and Data Collected Method

The population of this study is companies operating in ASEAN countries, namely Indonesia, Singapore, Malaysia, Philippines, and Thailand from 2014-2017. This study using a purposive sampling technique with the following criteria:

1. Non-financial public companies listed on the stock exchanges of each country from 2014-2017
2. Companies that publish their annual reports from 2014-2017
3. Companies that disclose the environmental, social, and governance scores in Bloomberg during the 2014-2017 research period.
4. Companies that have positive equity from 2014-2017.

The exclusion of companies with negative equity from the research sample, because if the cost of capital is a consideration for investors when forming an investment portfolio, investors will avoid stocks with negative fundamental performance. The final results of the purposive sampling criteria were obtained as many as 283 companies with the details listed in Table I below:

Tabel I Sample Selection

Negara	Non-financial companies in each country	Companies that Disclose of ESG Score on Bloomberg				Total
		2014	2015	2016	2017	
Indonesia	458	19	18	19	14	70
Malaysia	825	12	12	12	10	46
Philippines	541	12	12	12	5	41
Singapore	406	18	18	18	16	70
Thailand	243	15	15	15	11	56
Total Sampel (n)						283

Sources: Secondary Data, 2020

3.2 Variable and Measurement

This measurement of Cost of Capital (COC) refers to the item Modigliani and Miller (1958) using the WACC (Weighted Average Cost of Capital) with the following formula:

$$\text{WACC} = \left(\left(\frac{\text{E}}{\text{D}+\text{E}}\right)\text{Ke}\right) + \left(\left(\frac{\text{D}}{\text{D}+\text{E}}\right)(\text{Kd}(1-\text{T}))\right)$$

WACC = Weighted Average Cost of Capital
Ke = Cost of equity capital (CAPM)
Kd = Cost of debt after tax $\left(\frac{\text{Interest Expense}}{\text{Total Debt}}\right)$
E = Total equity
D = Total debt
T = Corporate tax rate

Sharpe (1964) pioneered the method in determining the cost of equity (COE) which is used in general, namely the CAPM. CAPM is defined in the equation:

$$\text{Ke} = \text{rf} + \beta\text{i}\ (\text{rm} - \text{rf})$$

Rf = Risk-free rate based on the short term treasury bill rate of each country
βi = Instrument beta –i, calculated based on :

$$\beta\text{i} = \frac{\text{Cov}\ (\text{Ri Rm})}{\text{Var}\ (\text{Rm})}$$

Ri = Historical stock return
Rm = The rate of return from the market is calculated as follows:

$$\text{rm} = \frac{\text{Pm}_{\text{t}} - \text{Pm}_{\text{t-1}}}{\text{Pm}_{\text{t-1}}}$$

Pm_{t} = Historical market price in period t
$\text{Pm}_{\text{t-1}}$ = Historical market price in period t-1

The measurement of ESG variables uses ESG ratings published in Bloomberg database. Bloomberg database assesses of ESG disclosure score using a disclosure score that summarizes the company's level of disclosure on the ESG disclosure score and the overall ESG disclosure score (Giannarakis, 2013). The potential control variables used in this study to examine the effect of ESG disclosure on cost of capital are as follows:

1. Firm Size (Size) is measured using the log of total assets (Erragragui, 2018).
2. DER (Debt to Equity Ratio) (Ross, Westerfield, Jaffe, & Jordan, 2016).

Analysis method in this study utilize structural equation modelling using Smart PLS version 3.0. The regression equation are:

$$\text{COC} = \alpha + \beta_1\ \text{ESG} + \beta_2\ \text{Size} + \beta_2\ \text{DER} + \text{e} \quad (1)$$
$$\text{COE} = \alpha + \beta_1\ \text{ESG} + \beta_2\ \text{Size} + \beta_2\ \text{DER} + \text{e} \quad (2)$$
$$\text{COD} = \alpha + \beta_1\ \text{ESG} + \beta_2\ \text{Size} + \beta_2\ \text{DER} + \text{e} \quad (3)$$

4. Result and Discussion

4.1 Descriptive Statistics

Table II Descriptive Statistics Result

Variable	Minimum	Maximum	Mean	Deviation
ENV	0.000	93.020	28.222	17.588
SOC	5.260	70.310	38.159	14.702
GOV	14.460	65.150	36.342	12.747
COC	0.008	1.101	0.030	0.013
COE	0.002	0.078	0.040	0.018
COD	0.001	0.197	0.019	0.016
SIZE	8.709	14.471	11.357	1.519
DER	0.128	12.237	1.240	1.365

Sources: Secondary Data, 2020

Based on table II, it shows that the ESG disclosure variable from the environmental aspect provides a mean value that is greater than the standard deviation value (28,222> 17,588), this means that the sample is owned the same size as each of the other sample companies (not varied). ESG disclosure from the social aspect of the company shows a mean value that is greater than the standard deviation value (38,159>14,702), this means that the sample that is owned is the same size as each of the other sample companies (not varied). ESG disclosure from the governance aspect also shows a mean value that is greater than the standard deviation value (36,342>12,747), this means that the sample size is the same between each of the other samples (not varied). Next are the descriptive ESG statistics of each country.

Table III Comparative Analysis of ESG in ASEAN Countries

Countries	Environmental	Social	Governance
Indonesia	23,722	39,973	34,751
Malaysia	24,145	31,494	29,061
Philipphines	25,083	33,000	34,057
Singapore	25,453	35,289	34,322
Thailand	42,958	48,732	48,509

Sources: Secondary Data, 2020

Based on table III shows that the highest environmental, social, governance values in 2014-2017 were found in companies of Thailand with the highest environmental value of 42,958, the highest social value of 48,732, and the highest governance value of 48,509. Whereas the lowest environmental, social, governance value in 2014-2017 was found in Indonesia with the lowest environmental value of 23.722, the lowest social value was in Malaysia with a value of 31.494, and the lowest governance value was in Malaysia as well with a governance value of 29.061.

4.2 Outer Model Testing

The outer model is a measurement model that connects the indicator with its latent variables. The following is Figure I which shows the scheme of the PLS program model being tested to analyze convergent validity.

1. Convergent Validity

To tests the convergent validity, the outer loading or loading factor value obtained from the smart PLS output is used. An indicator is declared to meet convergent validity in a good category if the outer loading value exceeds 0,7 (> 0,7) (Ghozali & Latan, 2015).

Tabel IV Outer Loading

Variable	Indicator	Outer Loading
ESG Disclosure	Environment	0,939
	Social	0,818
	Governance	0,969
Cost of Capital	COC	1,000
Cost of Equity	COE	1,000
Cost of Debt	COD	1,000
Firm Size	Log Size	1,000
DER	DER	1,000

Sources: Secondary Data, 2020

Based on the data in table IV, it is known that all indicators in the research variable have an outer loading value exceeding 0,7. Therefore, it can be concluded that the research data meets the requirements of convergent validity, so that all indicators are declared worthy of further use.

2. Discriminant Validity

This section will describe the results of the discriminant validity test. The discriminant validity test uses the cross-loading value. An indicator is declared to meet discriminant validity if the cross-loading value of the indicator on the variable is the largest when compared to other variables (Ghozali & Latan, 2015).

Tabel V Cross Loading

Indicator	ESG (X1)	COC (Y1)	COE (Y2)	COD (Y3)	Firm Size	DER
ENV	0,939	-0,096	-0,203	0,045	-0,034	0,003
SOC	0,818	0,031	-0,071	0,071	0,148	0,043
GOV	0,969	-0,070	-0,186	0,092	0,091	0,047
COC	-0,071	1,000	0,813	0,549	0,653	-0,249
COE	-0,189	0,813	1,000	0,163	0,676	-0,049
COD	0,074	0,549	0,163	1,000	0,216	-0,011
LogSize	0,049	0,653	0,676	0,216	1,000	-0,111
DER	0,029	-0,249	-0,049	-0,011	-0,111	1,000

Sources: Secondary Data, 2020

Based on table V, it shows that each indicator in the research variable has the largest cross-loading value on the variable it forms compared to the cross-loading value on other variables. Based on these results it can be stated that the indicators in the study have met discriminant validity.

4.3 Coefficient of Determination (R^2)

Testing the coefficient of determination (R-Square) is used to measure how much the dependent variable is influenced by other variables. The results of 0.67 and above for the

independent variable against the dependent are included in the good category, whereas if the results are 0.33 - 0.67 then it is in the medium category, and if the results are 0.19 - 0.33 then it is in the weak category (Ghozali & Latan, 2015).

Tabel VI R-Square Value

	R Square
Cost of Capital (Y1)	0,467
Cost of Equity (Y2)	0,508
Cost of Debt (Y3)	0,051

Sources: Secondary Data, 2020

R-square Cost of Capital is worth 0.467 or 46.7%. This shows that the variability of the cost of capital can be explained by ESG disclosure from environmental, social, and governance aspects, firm size, and DER by 46.7% and categorized as “medium”, while the remaining 53.3% is the contribution of other factors not discussed in this study.

R-square of Cost of Equity is 0.508 or 50.8%. This can indicate that the variability of the Cost of Equity can be explained by ESG disclosure, firm size, and DER of 50.8%, and is in the "medium" category, while the remaining 49.2% is the contribution of other factors that are not discussed in this study. R-square of Cost of Debt is 0.051 or 5.1%. This can indicate that the variability of Cost of Debt can be explained by ESG disclosure, firm size, and DER of 5.1% and is in the “weak” category, while the remaining 94.9% is another factor not discussed in this research.

4.4 Hypothesis Test

The research hypothesis can be stated as accepted if the P-Values value <0.05. The following are the results of hypothesis testing obtained in this study through the inner model:

Tabel VII1 Path Coefficients Result

	Original Sample	T Statistics	P Values
ESG Disclosure (X1) -> COC (Y1)	-0,097	2,520	**0,012****
ESG Disclosure (X1) -> COE (Y2)	-0,223	5,959	**0,000****
ESG Disclosure (X1) -> COD (Y3)	0,063	1,156	0,248
Firm Size -> COC (Y1)	0,638	20,438	**0,000****
Firm Size -> COE (Y2)	0,691	21,723	**0,000****
Firm Size -> COD (Y3)	0,214	3,901	**0,000****
DER -> COC (Y1)	-0,176	5,393	**0,000****
DER -> COE (Y2)	0,035	0,928	0,354
DER -> COD (Y3)	0,011	0,255	0,799

Sources: Secondary Data, 2020

The Effect of ESG Disclosure on Cost of Capital (COC)

The results of statistical analysis in table VII states that ESG disclosure has a negative effect on Cost of Capital, as evidenced by the value of ESG → COC = 0.012 <0.050 with a coefficient value as βESG → COC = - 0.097. This means that the hypothesis 1 which states that ESG disclosure has a negative effect on Cost of Capital is accepted. The meaning of these findings is ESG disclosure has a significant effect on reducing COC. The amount of

reduction in COC is βESG → COC = 9.7% for each increase in ESG disclosure by 1%. The findings of this study are consistent with the results of the study by Cantino, Devalle, and Fiandrino (2017) which state that the disclosure of ESG performance which represents sustainability has a significant negative effect on cost of capital (COC). COC consists of a Cost of Debt (COD) and a Cost of Equity (COE) which is known as the financial capital structure.

One of the components of COC is the Cost of Equity (COE), which is the level of return expected by investors on the equity invested in the company (Damodaran, 2002). Botosan (1997) states that COE is affected by the risk of inaccurate ESG performance disclosure (sustainability report) due to information asymmetry. Another COC component is COD, which is the rate of return expected by creditors on credit given to companies (Fabozzi, Cheng, & Chen, 2007). COD in the form of interest paid to creditors (banks or private creditors) on credit received by the company. COD is calculated based on the interest cost of credit for each debt instrument (bank credit, bonds, securities, mortgage, leasing, etc.). COD is influenced by elements of debt, including the size of debt, the size, and characteristics of the company (Francis, Khurana, & Pereira, 2005). Creditors face two types of risk: first, the inability of the debtor (company) to repay the debt owed; and second, if the debtor goes bankrupt, the creditor will only receive half of the loan amount returned.

The Effect of ESG Disclosure on Cost of Equity (COE)

The results of statistical tests in table VII state that ESG disclosure has a negative effect on the cost of the equity model, as evidenced by the p-value of ESG → COE = 0.000 <0.050 with an unstandardized coefficient value of -0.223, which means that hypothesis 1a states that ESG disclosure has a negative effect on COE is acceptable. The findings of this study are in line with research conducted by Feng et al. (2015) and Ng and Rezaee (2015).

This is logical because the company will disclose the ESG if it believes that the ESG performance score is good. If not, then the ESG disclosure with a low ESG performance score will reduce the company value as proxied by the Price Book Value (PBV) and the market value of the company concerned. The reason for this argument is that companies with a high level of disclosure will have a low information risk, and tend to have a lower cost of capital than companies with a low level of disclosure and high information risk. The concept of disclosure which says that the more disclosures that are made will reduce information asymmetry and in the end will reduce the cost of share capital. The decrease in COE is due to reduced costs arising from information asymmetry (Aman & Nguyen, 2013).

The Effect of ESG Disclosure on Cost of Debt (COD)

The results of statistical analysis in table VII state that ESG disclosure does not affect on the Cost of Debt, as evidenced by the value of ESG → COD = 0.248> 0.05 with an unstandardized coefficient value of 0.063, which means hypothesis 1b which states that ESG disclosure has a negative effect on Cost of Debt was rejected. The meaning of these findings is ESG disclosure does not affect in reducing COD. The path direction of the COD coefficients was even positive. Asymmetry involves crucial information about the company's financial performance that is part of the audit material, the elements of ESG (environment, social, and governance) required by principals, shareholders, stakeholders,

and investors. The effects of information asymmetry include errors in making decisions (adverse selection), moral hazard, opportunistic behavior, and lowering trust and reputation.

At this point, ESG disclosure has no significant effect on COD. ESG disclosure does not decrease cost of debt but even increases COD due to information asymmetry. There are two main problems related to information asymmetry. First, moral hazard in the form of hidden agendas/intentions which are then applied by management after the contract. This, in turn, leads to opportunistic behavior that benefits management and at the same time harms investors, principals, shareholders, and stakeholders. Second, costs arise as a result of agency conflicts and errors in selection or decision making. This is what causes COD to increase and ESG disclosure to be insignificant because the information disclosed is false and does not represent the true reality.

5. Conclusion, Implication, and limitation

This research examines the effect of ESG disclosure on the cost of capital. ESG disclosure has a negative effect on the cost of equity. This means that companies with a high level of disclosure will have a low information risk, and tend to have a lower cost of equity than companies with a low level of disclosure and high information risk. Meanwhile, ESG disclosure does not affect the cost of debt. This means that the perception of creditors does not see ESG disclosure as a basis when providing credit. The reason for this argument is that when creditors provide credit, the main thing that is assessed by creditors is the company's ability to pay its debts and the possibility of default or bankruptcy in the future. ESG has a negative effect on the cost of capital. The reason for this argument is the cost of capital, which consists of the company's cost of equity and cost of debt. Because when a company needs capital either from a loan or issuance of shares, it requires supporting information in the form of ESG disclosure to reduce the information asymmetry received by creditors as stakeholders and investors as shareholders, which in turn will reduce the company's cost of capital.

The implications of this study are ESG information can reduce information asymmetry for investors, so managers need to focus more on disclosing ESG to produce low Cost of Capital, Cost of Equity, and Cost of Debt. Meanwhile, the limitations of this study are ESG measurement which only depends on Bloomberg data proxies, the fact that the ESG measurement is not only based on Bloomberg data but also with content analysis from sustainability reporting. Then this research model is only a direct relationship. In fact that the ESG in each country has contextual factors or characteristics in each country that may not be the same.

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