Jurnal Mantik, 5 (2) (2021) 919-931

Published by:Institute of Computer Science (IOCS)

Jurnal Mantik

Journal homepage: www.iocscience.org/ejournal/index.php/mantik/index

The Effect of Environmental Financial Accounting Practices on the Cost of Capital in Public Companies Listed on the Indonesia Stock Exchange

Sari Dewi[1], Natalia Harini[2]

[1,2,]Faculty of Economics, Universitas International Batam, Batam, 29442, Indonesia.

E-mail: sari@uib.ac.id

ARTICLE INFO

Article history:
Received: 10/06/2021
Revised: 20/06/2021
Accepted: 10/07/2021

Keywords:
Environmental Accounting Performance Practices, Cost of Equity Capital, Cost of Debt Capital.

ABSTRACT

This study aims to identify the relationship between the Level of Environmental Financial Accounting Practices (EFAP) and the Cost of Capital. The audit results from the financial statements and the Sustainability Report from the 2016 – 2019 period are secondary data used in the research. Fulfillment of the criteria to be used as a research sample amounted to 56 companies which were then tested using the Eviews 10 program. The study proved that company size (SIZE) had a significantly negative effect on the Cost of Equity Capital. Market to Book Ratio (MTB), Return on Assets (ROA), Cash Flow Operations (CFO), Cash Ratio (CR), and Net Loss (LOSS) have no significant effect on the Cost of Equity Capital. Company size (SIZE), Leverage (LEV), and Net Loss (LOSS) have a significant effect on the Cost of Debt Capital in addition, Environmental Financial Accounting Practices (EFAP), Market to Book ratio (MTB), Return on Assets (ROA), Cash Flow Operations (CFO), and Cash Ratio (CR) have no significant effect on the Cost of Debt Capital.

1. Introduction

Cost of Equity Capital is the total return received in the future against the costs invested in the company. Cost of Equity Capital is the total return determined by several parties who contribute to the financial aspect, such as preferred and common stockholders, and creditors. Meanwhile, to fund the company, the company requires the most competitive interest rate using the cost of debt. In addition, to measure the level of risk in a company, you can use the Cost of Debt. If the Cost of Debt is high, it means the company has a high level of risk as well.

Environmental Financial Accounting includes all total costs such as profit and loss resulting from investment by adjusting the company's conditions [1]. Environmental Financial Accounting is more directed to the rules and regulations in the country or the policies of the rules that are determined, and the results of the reports submitted are still voluntary by adjusting the needs of external parties. In addition, Environmental Financial Accounting is divided into planning and implementing a structured management system for the company to be able to influence operational activities related to the costs required.

According to Nguyen and Tran (2019), numerous large companies in the world, such as the large manufacturing groups of Formosa, BP, and Volkswagen, have gone bankrupt due to fraud in environmental information disclosure. This serves as a warning for companies to raise environmental awareness and disclose environmental information to relevant parties. Due to the importance of the practice and disclosure of environmental accounting information, recent research on the practical needs of environmental accounting has attracted wide attention from researchers all over the world.

This study argues that a good company's environmental performance can determine the satisfaction of all stakeholders, increase the good name and value of the company and reduce the cost of capital of a company. According to Lin and Dong (2018), companies that have a history of good corporate performance conditions have a smaller probability of experiencing bankruptcy when the company is in difficult financial conditions and the company may also recover more quickly from financial difficulties due to the existing pressure. According to Cai, Cui, and Jo (2015), firms with better environmental performance may be exposed to lower risk, and it's proven that firm value has positive relationship with environmental performance. Poddi

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

and Vergalli (2016) concluded that corporate social or environmental responsibility had a positive relationship with corporate financial performance.

Following Oikonomou, Brooks, and Pavelin (2014), environmental performance may be used as decision making in the company's business processes and can strengthen the relationship between the company and company stakeholders. El Ghoul et al. (2011) argue that investment can have an effect on improving relationships related to employee performance, company operational policies, and product planning can provide significant results in reducing the company's cost of equity. Xu, Liu, and Huang (2015) investment can improve the performance of environmental responsibility to investors in reducing the cost of equity in the company, and the impact of the cost of capital on the performance of environmental responsibility has a more significant impact. Several other researchers argue that the cost of equity capital can be lower by a stronger environmental responsibility performance [6], cost of debt capital [9], and credit distribution [7]. As stated by El Ghoul et al. (2011), companies that had better performance in environmental responsibility are known to have cheaper equity financing and reduce the company's cost of equity.

In February 2020 PT How Are You Indonesia (PT HAYI) polluted the environment in the Citarum watershed. With the penalty of making compensation payments amounting to Rp. 12.013 billion, as well as a lawsuit filed by the Ministry of Environment and Forestry reaching Rp. 12.198 billion [10]. In May 2006, PT Lapindo Brantas Inc polluted the Porong River due to a leak and released mud and hot water which caused the closure of approximately 10 factories and 90 hectares of rice fields and residential areas [11].

In addition, there is also pollution of the Ciujung River due to paper waste originating from the PT Indah Kiat Pulp & Paper factory [12]. PT National Sago Prima, a sago industrial company, polluted toxic and hazardous waste (B3) which was subject to a criminal sentence of 18 (eighteen) months in prison, and a fine of Rp. 1,000,000,000 each in Article 103 of Undang-Undang Number 32 of 2009 concerning the Environment related to B3 waste, accompanied by Article 109 of the Environmental Law concerning environmental permits, even in Meranti Regency, Riau Province, forest fires for concession lands reached 3,000 hectares[13].

Environmental pollution in the form of damaging industrial manufacturing is one of the problems discussed throughout the world, especially in Indonesia. This certainly requires more attention from many parties, especially the Government and the Minister of Environment and Forestry considering that the environment is in the interest of human life. Seeing the phenomenon of this social problem, the government initiated Undang Undang Number 40 of 2007, which contains rules regarding awareness for limited liability companies in the field of business related to natural resources that are required to be able to carry out social responsibilities such as paying attention to environmental conditions and cleanliness, while Undang Undang Number 32 the Year 2009, which contains the environment is the most important part for all living things as a place to carry out activities and survive. This also triggers the formation of environmental accounting (Environmental Accounting or EA).

In the implementation, the level of disclosure of accounting information carried out not fulfilled the demand for environmental financial accounting information as expected by stakeholders. Therefore, this research was conducted to raise awareness of the importance of EFAP. This article not only extends the research on the relationship between EFAP performance and the cost of debt capital but also considers the impact of EFAP performance on the cost of equity.

2. Literature Review

Cost of Equity Capital is a tool to measure the discount rate in the investment of certain shares of each company for stakeholders according to the estimated future cash flows in determining stock prices [16]. The cost of equity capital has ways of increasing such as through retained earnings and the sale of stock. In theory, these two costs can be used to determine the lowest return amount that should be given by the company due to the cost of equity investment projects influence the company's stock price. If the company invests in various projects whose share income is lower than the required income, the stock market price will fall for a long time.

Cheng et al. (2014) higher CSR performance can result in better financial access also argues that better financial access can be associated with CSR, namely reduced stakeholder involvement, agency costs, and reduced transparency of reporting informational asymmetry. The results indicate that CSR performance has a negative and significant correlation with capital constraints. Following Revert (2012) the higher CSR can

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

reduce the estimated risk, transaction costs, and information asymmetry of the capital market in Spain. The results of the study indicate that the quality of CSR score disclosure has a significant negative relationship to the cost of equity.

As stated by [19] cost of equity is completely related to the expected stock return conditions, the book to market value, and the return of excess stock into different proportions according to its social responsibility performance. While Dutta & Nezlobin (2017) suggest that corporate governance effectiveness and disclosure standards strictness can reduce the firm's cost of equity capital by reducing agency problems and information asymmetry. Other than that, Yeh et al. (2020) conclude that the Cost of Equity has a perfect correlation with the expected return on stock condition. Therefore, if CSR influences risk responses a company that responsible in social should be advantage from a lower Cost of Equity Capital. The results show that CSR has a negative and not significant effect on the cost of equity [7]. Other studies have found that corporate governance effectiveness and disclosure standards strictness can reduce the company's Cost of Equity Capital by reducing agency and information asymmetry problems.

Debt originating from creditors by agreed bond issuance is an understanding of the cost of debt capital or Cost of Debt Capital. The cost of debt is the interest the company pays when making a loan. Meanwhile, the cost of bonds payable is the amount of return that is adjusted to the Required of Return determined by investors as a form of discount to achieve the bond target. The company can take advantage of twelve sources of costs, especially in forest financing to provide a high value for the return of the cost of equity.

Yeh et al. (2020) argue that when firms gain more capital by way of debt financing (rather than equity financing), further information asymmetry can increase the cost of capital. In addition, companies that have higher social performance can attract lenders in the leverage allowance. The results showed that CSR does not have a significant (negative) effect on the cost of debt capital. Goss & Roberts (2011) stated that when firms gain more capital by way of debt capital, information asymmetry may increase more along with the Cost of Capital.

Huang et al. (2017) also state that social responsibility could be more sensitive to loan funder in the existence of loans. Connelly et al. (2011) revealed that the company prioritizes increasing capital through debt financing. The results showed that CSR performance is negatively related to capital constraints. Other than that, LaRosa et al. (2018) show that corporate social performance on interest rates has a negative relationship and corporate social performance on debt ratings (debt rate) has a positive relationship. In this way, the company's social performance plays a positive role in reducing the Cost of Debt Capital. The outcome demonstrates that social performance has a positive and significant effect on capital debt.

2.1. Research Hypothesis

Based on the background and previous research, the research model is described as follows.

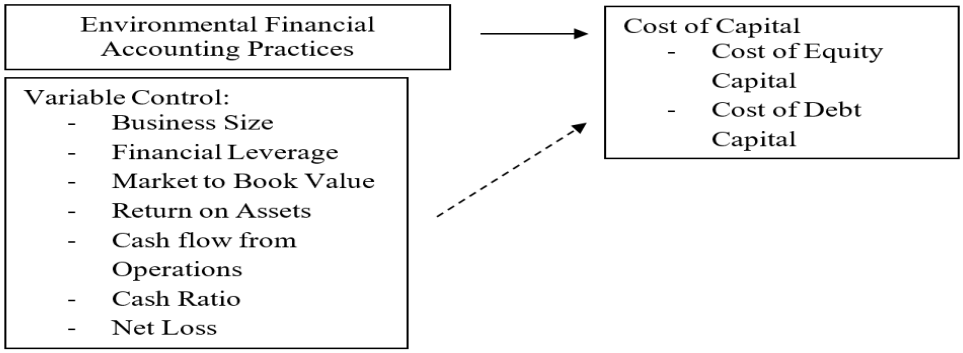

Fig 1. Research Model The Effect of Cost of Equity Capital, and Cost of Debt Capital on Environmental Financial Accounting Practices. Source:[2].

From the model above, it is known that the better performance of Environmental Financial Accounting Practices could lessen the Cost of Capital effectively. Companies can apply Environmental Financial Accounting Practices as a mechanism for reducing the Cost of Capital by committing to sustainable growth along with social responsibility. But under other conditions, the one that decides in case to help companies that implement sustainable development to reduce their Cost of Capital by discovering the attainment of the company's Financial Accounting Practices is creditors. As for the results of other studies, it is known that Environmental Financial Accounting Practices in companies with lower debt ratios do not have much effect

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

in reducing the Cost of Capital. The conclusion is that Environmental Financial Accounting Practices not only help companies comply with the law, but also improve the company's image along with lessen companies transaction costs to obtain external resources. From the research model in Fig 1, the research hypothesis is formulated as follows:

H1: Environmental Financial Accounting Practices have a significant positive influence on the Cost of Equity Capital

H2: Environmental Financial Accounting Practices have a significant negative influence on the Cost of Debt Capital.

H3: Performance Higher Environmental Financial Accounting Practices have an insignificant effect on the Cost of Equity Capital and the Cost of Debt Capital with a lower debt ratio.

3. Research Methods

The study uses a quantitative approach by using statistical methods as the testing procedure based on numerical data collected and analyzed. The purpose of this statistical method is to find out and understand the problems in an organization that is used as basic research. The data collected for this research is through secondary data in the form of company financial reports along with sustainability reports from 2016 – 2019 which have met the requirements for samples obtained from the idx.co.id website.

a. Have 1 set of complete Annual Financial Statements for 5 years.
b. Companies should publish Environmental Accounting Information or Sustainability Reports in their annual reports.
c. Using non-financial sector companies.

3.1 Variable Operational Definition

a. Dependent Variable

This study uses the dependent variable, namely the Cost of Capital that used the cost of equity capital and the cost of debt capital for the measurement. The cost of equity capital is a tool to measure the rate for investors to discount the aimed dividends in the future. Debt is obtained from creditor institutions or by issuing bonds called the cost of debt capital. This study uses a capital asset pricing model (CAPM) as the calculation of the cost of equity capital which can be calculated using the formula:

$$COE_t = R_{it} - R_t^f = \alpha + \beta(R_t^m - R_t^f)$$

Information :
COE: Cost of Equity Capital
R it: Return of individual shares in a year
Rft: Risk Free Rate per year
Rmt n: Market Return in Year
Rit –Rf: excess return on individual shares
Rmt—Rf: market factor, : systematic risk.

b. Independent Variable

Environmental Financial Accounting Practices (EFAP) is used as the independent variable in this study. Environmental Financial Accounting Practices are identifying, measuring, and allocating all costs related to the environment and combining costs as a basis for making business decisions and analyzing the results of their decisions to company stakeholders. EFAP is calculated using a weighted approach which is relying on the information quality presented by the company to gauge the score of each item. Formerly average category separately afterward calculate the level of EFAP. Which is calculated by the following formula:

$$X = \frac{\sum_{I=1}^{34} YI}{34}$$

Tendency : YI is the score of the item I information published by company X.

c. Control Variable

Company size (Size) is a tool to determine the scale in classifying the value of large or small companies. The size of the company also has a significant influence with on Cost of Capital. Which can be calculated by:

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

Firm Size = Natural logarithm of total assets.

Leverage is a measurement to determine the level of dependence of the company on debt activities to support its business operations. In addition, Leverage is also defined as a comparative measurement tool to determine the company's capacity to use debt activities. Leverage can be measured using the formula, namely:

$$Leverage = \frac{\text{Total Debt}}{\text{Total assets}}$$

Market to Book Ratio is a tool to find out the comparison between the value for the company's stock book and the market value in the capital market. Market to Book Ratio has a significant effect on the cost of capital which reflects the company's performance or the equity value of a company. This can be measured using the formula, namely:

$$Market\ to\ Book\ Ratio = \frac{\text{Total Long-Term Debt}}{\text{Total assets}}$$

Return on Assets a means of measuring the level of profitability of the company as an effort to be able to benefit from the total resources and assets contained in the company. This can be measured using the formula, namely:

ROA = (Net profit after tax: Average total assets) x 100%

Operating Cash Flow itself is obtained through transactions of the company's main activities. Which can determine whether the company can pay off its debts from existing operating cash flows. Which can be searched using the following formula:

$$\text{Cash Flow from Operations} = \frac{\text{Operating Cash Flow}}{\text{Total assets}}$$

*Cash Ratio*used by the company to assess its ability to pay off its short-term debt and is also used to measure the liquidity of a company. Which can be searched using the following formula:

$$Cash\ Ratio = \frac{\text{Cash and cash equivalents}}{\text{Current liabilities}}$$

Net Loss a dummy variable that is used to measure the net loss of a company. Which is measured by 1 if the company has a net loss and 0 if the company has no net loss.

3.2 Data Analysis Model

The method of analysis in the form of regression is used in this study. Regression is a method that can determine the relationship to cause and effect relationships between research variables with a linear nature which is defined as changes in certain variables which are then followed by changes to other variables consistently. The research is also supported by several other methods, such as descriptive statistical tests and outlier tests using the Statistical Package for the Social Sciences (SPSS) version 25/26 and Eviews 10 as support for the Chow test and Hausman test. Meanwhile, the final stage is analyzing by testing the hypothesis using the F test, t-test, and the Goodness of Fit Model test.

a. Descriptive statistics

Descriptive statistics is an approach that describes or explains the information and data obtained such as the average value, standard deviation, minimum and maximum values.

b. Outlier Test

Outlier test or outlier data is an extreme value that appears due to the unique characteristics contained in the data that look very different from the observations. In determining the outlier test, namely by identifying the use of the z score. The research sample limit is -3 to 3. If the value of the research sample exceeds the limit, it is considered a deviant data result so it is not needed.

c. Panel Regression

In research using the regression approach, it is known that it is divided into several parts, namely:

1) *Pooled Least Square* (PLS) is a time or object that does not affect the regression error of the same value.
2) *Fixed Effect Model* (FEM) is an object and time has the same effect on the regression error.
3) *Random Effect Model* (REM) is a variable regression error so that there is a difference between time and object.

d. Best Model Selection

1) Chow test
   The next test for the PLS and FEM tests is the Chow test. The application of the FEM method if the probability value is below 0.05. If the value displayed is 0.05, then PLS will be applied in the study. The result is FEM then the Hausman test is performed.
2) Hausman test
   The Hausman test is a continuation of the Chow test. The purpose of this test is to choose between FEM or REM. The probability value is less than 0.05, using FEM as the applied model. Values that exceed 0.05 then use REM.
3) Lagrange Multiplier Test
   The Lagrange Multiplier Test is an analysis that is used to determining which of the pooled least squares and common effects models is the best suitable method in panel data regression. Where if the probability is < 0.05 then the model used is REM, if the probability is > 0.05 then the correct model is PLS.

e. Hypothesis testing

Hypothesis Testing is a branch of Inferential Statistics that is used to test the authenticity of statistical statements and the decision of whether to accept or state the statement. The following are some parts of the hypothesis testing method including:

1) F Uji test
   The F test is a measurement known to the regression model to affect the dependent variable. The regression model is feasible if the significance is < 0.05 [26].
2) T-test
   The t-test is a measurement that serves to obtain the magnitude of each independent variable that affects the dependent variable. According to Ghozali (2016), the dependent effect if the value <0.05 and the results are not significant if the value 0.05.
3) Test Goodness of Fit Model
   Measurement to find out the independent variable can describe the dependent variable. The value leading to number 1 is indicated as an independent variable to produce information related to variations in the dependent variable [26].

4. Results And Discussion

4.1 Descriptive Statistical

The descriptive statistical analysis describes and explains the information and data obtained such as the average value, standard deviation, minimum and maximum values. The research data used are secondary. The list of research sample selections can be seen in Table 1.

Table 1
Summary of Sample Selection Process and Research Data

Information	Sum
Sample companies	56 companies
Research Year	4 years
The amount of data that became the research sample	224 data
Number of data outliers	(21 records)
Amount of data used for research	203 data

Based on Table 1, it is known that there are 56 companies listed on the Indonesia Stock Exchange that are used as research objects with a range from 2016 - 2019. In addition, the research observation data is known to be 224 data, in which there are 21 outlier data so that the total data is 203. The following is a table of descriptive statistical test results for each research variable in Table 2.

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

Table 2
Descriptive Statistical Test Results

Information	N	Minimum	Maximum	Mean	Std. Deviation
Environment Financial Accounting Practices	198	0.0000	0.8240	0.2451	0.1951
Cost of Equity	198	-13.8630	7.9800	-1.1884	5.8465
Cost of Debt	198	-0.0520	0.0820	0.0176	0.0207
Leverage	198	0.0010	0.6570	0.2197	0.1505
Market to Book Ratio	198	-7.4360	18.8210	1.6370	2.1848
Return on Assets	198	-28.5660	38.1630	4.1108	7.5528
Cash Flow Operations	198	-0.2310	0.8060	0.1069	0.1850
Cash Ratio	198	-0.4450	3.4140	0.6398	0.7040
Firm Size	198	883,288,615,000	351,958,000,000,000	45,431,328,746,705.1	67,903,345,671,833.7

NETLOSS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no net loss occurs	167	84.3	84.3	84.3
	net loss occurs	31	15.7	15.7	100
	Total	198.00	100.00	100.00	

Table 2 identifies EFAP (Environmental Accounting Performance Practices) as measured by the environmental accounting disclosure score in a company known to have an average value of 0.24505 which identifies the average environmental accounting disclosure score as 24.50% of the total environmental accounting disclosure score. This EFAP reflects the environmental quality of a company, how much responsibility the company has to the environment. The practice of environmental accounting performance has a high value, so the commitment to environmental responsibility and sustainability has less value in the impact of the cost of capital. The minimum EFAP value is 0 where the company does not disclose its Environmental Financial Accounting Practices at all. The largest value is 0.82 of the total EFAP, which is PT Aneka Tambang Tbk (ANTAM).

As for the size of the company that has been measured using total assets, it is known that the mean assets obtained by the company reach the range between 45,431,328,746,705.1 with a standard deviation of 67,903,345,671,833.7.

The results of the descriptive statistical test for the Leverage Ratio are known that the financing of 56 companies in Indonesia has a percentage of 21% debt during their business operations financed by third parties with the achievement of a standard deviation value of 68% higher than the average, which means that the company sample data has a large variation. high.

The Market to Book ratio variable constitutes the difference between the market value of equity and the book value. According to the table above, it may be concluded that in Indonesia the average value of the Market to Book ratio is 163.69%. With a minimum value of -7,436 and a maximum value of 18,821. And the standard deviation value of 133.46% higher than the average value means that the company has a high variation.

Return on Assets (ROA) is known as efficiency where the company manages all its assets to generate revenue. ROA also describes the benefits that the company can get through its assets. The low level of company ROA depends on the company's decision to allocate its assets. Inefficient use of assets will result in low ROA, and vice versa a positive or large ROA value describes the management or management of assets carried out by the company efficiently so that the company's assets can generate higher profits. According to the results of the table, the average ROA of the company is 411.08% with a minimum value of -28,566 and a maximum value of 38,163. With a standard deviation of 183.73% higher than the average value, it means that the company data has a high variation.

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

Cash flow from operating is used to determine whether the company's cash flows can pay off existing debt. The conclusion is that the average operating cash flow is 10.69% with a minimum value of -0.231, with a maximum value of 0.806. The standard deviation of 173.02% higher than the average value means that Operating Cash Flow has a high variation.

The Cash Ratio is used to test the company's liquidity. Based on the test results above, it is known that the minimum value is -0.445 and the maximum value is 3.414. With an average value of 0.63977 and a standard deviation of 110.04% higher than the average, it means that the sample companies have a high variation.

Cost of Equity a minimum value of -13,863 and a maximum of 7.98 with an average of -1.18838 which means the average rate of return on funds invested in the company is -118.83%. The standard deviation value is -491.97% of the average value, which means that the sample company has a low variation.

From the results of the descriptive test, the Cost of Debt (COD) variable has a minimum value of -0.052 and a maximum value of 0.082 with an average value of 0.01755. The smaller the value of the Cost of Debt of a company, the lower the Cost of Debt charged to the company. Judging from the average COD of 117.76% higher than the average, it means that the sample company has a high variation.

Dummy Net Loss variable with a value of "1" if the company has a net loss (negative) and "0" if the company has no net loss (positive). From the entire sample of companies from 2016-2019, it is known that the value "0" or has no net loss has a percentage of 84.3% more than the value "1" or has a net loss. This means that from the sample studied, it is known that more samples received positive than negative returns.

4.2 Outlier Test Results

The test aims to remove distorted data so that the results are not accurate and normal. The outlier test showed the results of 26 outlier data from 224 data before being tested. 26 data were omitted and were not included in further measurements. The remaining data is the final data for the next test of 198 data.

4.3 Panel Regression Test Results

Panel Regression Test is carried out to determining the right model among 3 methods, namely Pooled Least Squares (PLS), Fixed Effect Model (FEM), and Random Effect Model (REM).

Chow Test Results

This test is made to choose which PLS and FEM models are the best. If the probability is below or less than 0.05, we recommend using FEM. However, if the probability value is above 0.05 then PLS should be used. The test results from this study are shown in table 3 below:

Table 3
Chow Test Results – COE and COD

COE			
Effects Test	Statistics	df	Prob.
Cross-section F	8.150711	-53,136	0
Cross-section Chi-square	283.030078	53	0
COD			
Effects Test	Statistics	df	Prob.
Cross-section F	5.81199	-53,136	0
Cross-section Chi-square	234.283416	53	0

According to the test results above, it is concluded that the probability value resulting from this test is 0.0000, which means that FEM is a panel regression model that is suitable for further testing.

4.4 Hausman Test Results

This test is done to determine between FEM and REM. Which model is more appropriate to use. The FEM model this selected if the probability value is < 0.05. While the REM probability value> 0.05. The results of the research test are shown in Table 4 below:

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

Table 4
Hausman Test Results – COE and COD

COE			
Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	14.778776	8	0.0636
COD			
Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	5.702286	8	0.6805

Following the table above, it is explained that the probability results are known that the dependent COE is 0.0636 and COD 0.6805 which is known that the appropriate model is the Random Effect Model (REM).

4.5 Lagrange Multiplier Test

This test serves to prove between REM and PLS. Which model is more suitable to use. The REM model this selected if the probability value is < 0.05. While PLS probability value > 0.05. The results of the research test are shown in Table 5 below:

Table 5
Results of Lagrange Multiplier – COE and COD

Dependent Variable	Breusch Pagan (Both)	Conclusion
Cost of Equity	(0.0000)	Random Effect Model
Cost of Debt	(0.0000)	Random Effect Model

Based on the table above, it is explained that the probability results are known that the dependent COE and COD are 0.000, it is known that the appropriate and appropriate Random Effect Model (REM) model is used.

4.6 F-Test Results

A frequency test is a form of measurement in descriptive statistics that shows the size of the distribution value of research data that have the same category and is expressed in absolute size or percentage proportion (%). The test output is shown below:

Table 6
F Test Results – COE and COD

Dependent Variable	F-Statistics	Prob (F-Statistics)	Conclusion
Cost of Equity	4.220646	0.000112	Significant
Cost of Debt	2.5989670	0.010206	Significant

Based on the table above, the test results for the COE and COD variables produce Prob (F-statistics) of 0.000112 and 0.010206 (less than 0.05) so that the conclusion is the control and independent variables have a simultaneous and significant effect on COE and COD.

4.7 T-test results

The t-test stage is intended to obtain information on the amount of each independent variable affecting the dependent variable. According to Ghozali (2016), if the resulting value is <0.05, the dependent variable has a significant effect and insignificant results are obtained if it has a value of 0.05. The output is shown in Table 7 below:

Table 7
T-Test Results – Random Effect Model

Dependent Variable: Cost of Equity					
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**Conclusion**
Environment Financial Accounting Practices	0.695234	1.8757	0.370653	0.7113	not significant
Firm Size	-5.1943	1.033575	-5.02557	0	significant negative
Leverage	0.002717	3.340035	0.000814	0.9994	not significant
Market to Book Ratio	0.343251	0.185661	1.848806	0.066	not significant

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

Dependent Variable: Cost of Equity					
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**Conclusion**
Return on Assets	-0.10213	0.069032	-1.47945	0.1407	not significantly negative
Cash Flow Operations	2.027282	2.922205	0.693751	0.4887	not significant
Cash Ratio	-0.06399	0.572791	-0.11172	0.9112	not significantly negative
Net Loss	-0.56798	1.011427	-0.56156	0.5751	not significantly negative
C	67.64886	13.5771	4.982572	0	
Dependent Variable: Cost of Debt					
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**	**Conclusion**
Environment Financial Accounting Practices	-0.00424	0.007822	-0.54149	0.5888	not significantly negative
Firm Size	-0.01249	0.004043	-3.0885	0.0023	significant negative
Leverage	0.029663	0.013415	2.211227	0.0282	significant
Market to Book Ratio	-0.00087	0.000768	-1.13649	0.2572	not significantly negative
Return on Assets	-0.00047	0.000285	-1.65828	0.0989	not significantly negative
Cash Flow Operations	0.00641	0.011737	0.546131	0.5856	not significant
Cash Ratio	-0.00018	0.002347	-0.07554	0.9399	not significantly negative
Net Loss	-0.012	0.0043	-2.79072	0.0058	significant negative
C	0.18281	0.053116	3.441694	0.0007	

The resulting regression equation is as follows:

Cost of Equity = 67.64886+0.695234EFAP-5.194301SIZE+0.002717LEV+0.343251MTB-0.10213ROA+2.027282CFO-0.063991CR-0.56798LOSS+e

Cost of Debt = 0.18281-0.004236EFAP-0.012488SIZE+0.029663LEV-0.000873MTB-0.000472ROA+0.00641CFO-0.000177CR-0.012LOSS+e

Based on the table above, the output of the Fixed Effect Model Test is known that the independent and control variables affect the dependent variable with no significant influence, namely COE and COD. Only Size, Leverage, and Net Loss are control variables that have a significant effect.

The goodness of Fit Model Test output shows the magnitude of the dependent variable can be affected by the independent variable. Table 7 shows that the results are 0.115661 for the COE-related variable and 0.060974 for the COD-related variable. So it can be concluded that the dependent variable COE obtained results of 11.56%, and another 88.44% was explained by other variables and the dependent variable COD was 6.09%, and the other 93.91% was explained by other variables that could potentially affect the Financial Accounting Practice Environment.

Table 8

Test Results of EFAP R Square Regression Model

Dependent Variable	***Adjusted R Square***
Cost of Equity	0.115661
Cost of Debt	0.060974

a. The Effect of Environmental Financial Accounting Practices on the Cost of Equity Capital

The output of the t-test identifies that Environmental Accounting Performance Practices have a positive insignificant effect on the Cost of Equity Capital. The practice of high accounting performance cannot be known how much influence it has on lowering the cost of equity capital. Companies with better environmental responsibility performance experience problems related to lower capital. Tighter disclosure standards also play a role to lessen the company's Cost of Equity Capital by lessening the

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

agency problems and information asymmetry. In addition, transparency over CSR performance is also important to decrease capital constraints. Research with similar results was conducted by Ahmed et al. (2019). These outcomes have disagreed with research from Antonio et al. (2018), Matthiesen & Salzmann (2017), Yeh et al. (2020), and Poddi & Vergalli (2016) who found that Environmental Accounting Performance Practices and CSR significantly influence the Cost of Equity Capital.

b. The Effect of Environmental Financial Accounting Practices on the Cost of Debt Capital

The output of the t-test shows that the existence of Environmental Financial Accounting Practices hurts the Cost of Debt Capital and has no significant effect. It is impossible to know how much of a higher Environmental Financial Accounting Practice will affect decreasing the Cost of Debt Capital. Under other conditions, creditors are the ones who decide either to help companies that implement EFAP to reduce their Cost of Capital by discovering accomplishment of the company's Environmental Financial Accounting Practices. In addition, EFAP in companies with lower debt ratios also does not have much effect in reducing the Cost of Capital.

LaRosa et al. (2018) explain that corporate social performance has a negative relationship with interest rates. Research with similar results was conducted by Federica et al. (2017), Hamrouni et al. (2019). These results disagree with the outcome of Oikonomou et al. (2014), and Huang et al. (2017) who found that Environmental Accounting Performance Practices had a significant positive effect on the Cost of Debt Capital.

c. The effect of a higher Environmental Financial Accounting Practice Performance on the Cost of Equity Capital and the Cost of Debt Capital with a lower debt ratio.

The results of the t-test are known that Environmental Accounting Practices have no significant effect on both the Cost of Equity and Debt Capital. This means that higher Environmental Financial Practices Performance affects the Cost of Debt Capital and the Cost of Equity Capital insignificantly with a lower Debt ratio. Goss & Roberts (2011) stated that when firms gain more capital over debt financing, it may increase information asymmetry along with the Cost of Capital.

Hamrouni et al. (2019) research carried out found that the overall CSR disclosure score, which is a combination of ESG disclosure scores, hurts reducing the cost of debt. Matthiesen & Salzmann (2017) in line with the implementation of corporate social responsibility strategies depends on cultural norms, so companies need to be sensitive to local needs and adjust their corporate social responsibility methods.

d. Control Variable Test Results

The t-test table is known to have a significant and negative effect between firm size and the cost of equity & debt capital variable. The reason is the ease of obtaining loans from financial institutions in Indonesia due to a large amount of company capital, which is mostly obtained from external financing. The same test results were also found by Poddi & Vergalli (2016), El Ghoul et al. (2011), Federica et al. (2017), and Lin & Dong (2018). However, in contrast to Xu et al. (2015), Ahmed et al. (2019), and Antonio et al. (2018) which states that firm size affects the cost of equity and cost of debt variables significantly positively.

Results The t-test found that leverage had no significant effect on the cost of equity. The same result was also stated by Ahmed et al. (2019). Leverage affects the cost of debt positively and significantly. This is due to the ease of obtaining loan funds from financial institutions in Indonesia, which causes the company's financing to come from external sources. The same result was also stated by Xu et al. (2015), and Federica et al. (2017). However, there are opposite results that suggest that leverage hurts the cost of equity and cost of debt, namely La Rosa et al. (2018), and El Ghoul et al. (2011) which imply that the higher leverage of the company, then the higher cost of capital of the company.

The results of the t-test show that the market-to-book ratio variable has no significant effect on the cost of equity capital. And the market-to-book ratio variable has a negative and insignificant effect on the cost of debt capital. This result determines the capital gain/loss that will be obtained from the investment chosen by the investor. The results of this study disagree with the results of the study Xu et al. (2015), Matthiesen & Salzmann (2017), Antonio et al. (2018), Poddi & Vergalli (2016), and El Ghoul et al. (2011).

The results of the t-test show that the return on assets has no significant negative effect on the cost of equity and cost of debt. So from these results, it can be seen that the company's ability to manage its

Accredited "Rank 4"(Sinta 4), DIKTI, No. 36/E/KPT/2019, December 13th 2019.

assets is still lacking so that it affects capital decision making. The results of this study contradict the results proposed by Cai et al. (2015), Hamrouni et al. (2019)

The results of the t-test found that cash flow from operations affected the cost of equity and the cost of debt positively but not significantly. From the results of the study, it can be concluded that this assessment can provide added value for users of financial statement information but has no significant effect on capital.

The results of the t-test show that the cash ratio has no significant negative effect on the cost of equity capital and the cost of debt capital. These results determine whether the company's cash can meet the company's short-term obligations and does not affect capital.

The results of the t-test indicate that the net loss affects the cost of equity capital in a negative, insignificant and significant negative on the cost of capital debt. These results indicate that the company's profit and loss do not have much effect on capital. These results contradict the results of the study Yeh et al. (2020).

5. Conclusion

According to the results of the research discussion, it can be concluded that each research variable, namely the Environmental Financial Accounting Practicum Variable, has an insignificant and negative effect on the Cost of Equity Capital. The Environmental Financial Accounting Practicum variable has an insignificant and negative effect on the Cost of Debt Capital. The high performance of Environmental Financial Accounting Practices and affects a more effective Cost of Capital because a higher environmental responsibility performance can lessen the cost of debt capital along with reducing the cost of equity financing.

6. References

[1] K. Stechemesser and E. Guenther, "Carbon accounting: A systematic literature review," *J. Clean. Prod.*, vol. 36, pp. 17–38, 2012, doi: 10.1016/j.jclepro.2012.02.021.

[2] N. Huu Anh, N. La Soa, and H. H. Hanh, "Environmental accounting practices and cost of capital of enterprises in Vietnam," *Cogent Econ. Financ.*, vol. 8, no. 1, 2020, doi: 10.1080/23322039.2020.1790964.

[3] K. C. Lin and X. Dong, "Corporate social responsibility engagement of financially distressed firms and their bankruptcy likelihood," *Adv. Account.*, vol. 43, no. April, pp. 32–45, 2018, doi: 10.1016/j.adiac.2018.08.001.

[4] L. Cai, J. Cui, and H. Jo, "Corporate Environmental Responsibility and Firm Risk," no. March, 2015, doi: 10.1007/s10551-015-2630-4.

[5] N. C. L. Poddi and S. Vergalli, "Corporate Social Responsibility and Firms' Performance: a Strategic Graphical Analysis," *J. Int. Bus. Econ.*, vol. 4, no. 1, pp. 1–12, 2016, doi: 10.15640/jibe.v4n1a1.

[6] I. Oikonomou, C. Brooks, and S. Pavelin, "The effects of corporate social performance on the cost of corporate debt and credit ratings," *Financ. Rev.*, vol. 49, no. 1, pp. 49–75, 2014, doi: 10.1111/fire.12025.

[7] S. El Ghoul, O. Guedhami, C. C. Y. Kwok, and D. R. Mishra, "Does corporate social responsibility affect the cost of capital?," *J. Bank. Financ.*, vol. 35, no. 9, pp. 2388–2406, 2011, doi: 10.1016/j.jbankfin.2011.02.007.

[8] S. Xu, D. Liu, and J. Huang, "Corporate social responsibility, the cost of equity capital and ownership structure: An analysis of Chinese listed firms," *Aust. J. Manag.*, vol. 40, no. 2, pp. 245–276, 2015, doi: 10.1177/0312896213517894.

[9] A. Jha and J. Cox, "Corporate social responsibility and social capital," *J. Bank. Financ.*, vol. 60, pp. 252–270, 2015, doi: 10.1016/j.jbankfin.2015.08.003.

[10] S. Deny, "Terbukti Cemari DAS Citarum, Perusahaan Ini Kena Denda Rp 12 Miliar," *www.liputan6.com*, 2020.

[11] U. Faruq, "Menilik Kronologis Tragedi 13 Tahun Lumpur Lapindo," *www.cnnindonesia.com*, 2019.

[12] Mardians, "Sungai Ciujung Tercemar Limbah PT. Indah Kiat Pulp & Paper (IKPP)," *www.kompasiana.com*, 2013.

[13] T. S. & D. A. Boestami, "Ganti Rugi Rp1 Triliun, National Sago Prima Ajukan Banding," *www.cnnindonesia.com*, 2016.

[14] *Undang-Undang Republik Indonesia Nomor 40 Tahun 2007 Tentang Perseroan Terbatas*. Indonesia: https://www.ojk.go.id/sustainable-finance/id/peraturan/undang-undang/Documents/5.%20UU-40-2007%20PERSEROAN%20TERBATAS.pdf, 2007.

[15] U. RI, "Perlindungan dan Pengelolaan Lingkungan Hidup," □□□□□□, vol. ث قثق, no. ث قثقثق, p. 879B/6101.01/gro.iod.xd//:ptth :elbaliavA .[enilnO] ,9002 ,ثق ذ ق ذ ق-0-12-849873-6.00001-7%0Ahttp://saber.ucv.ve/ojs/index.php/rev_venes/article/view/1112%0Ahttps://www.bps.go.id/dynamictable/2018/05/18/1337/persentase-panjang-jalan-tol-yang-beroperasi-menurut-operatornya-2014.html.

[16] M. Mangena, R. Pike, and J. Li, *Intellectual Capital Disclosure Practices and Effects on the Cost of Equity Capital : UK Evidence*, vol. 44, no. 0. 2010.
[17] B. Cheng, I. Ioannou, and G. Serafeim, "Corporate social responsibility and access to finance," *Strateg. Manag. J.*, vol. 35, no. 1, pp. 1–23, 2014, doi: 10.1002/smj.2131.
[18] C. Reverte, "The Impact of Better Corporate Social Responsibility Disclosure on the Cost of Equity Capital," *Corp. Soc. Responsib. Environ. Manag.*, vol. 19, no. 5, pp. 253–272, 2012, doi: 10.1002/csr.273.
[19] T. Mavlanova, R. Benbunan-Fich, and M. Koufaris, "Signaling theory and information asymmetry in online commerce," *Inf. Manag.*, vol. 49, no. 5, pp. 240–247, 2012, doi: 10.1016/j.im.2012.05.004.
[20] S. Dutta and A. Nezlobin, "Information disclosure, firm growth, and the cost of capital," *J. financ. econ.*, vol. 123, no. 2, pp. 415–431, 2017, doi: 10.1016/j.jfineco.2016.04.001.
[21] C. C. Yeh, F. Lin, T. S. Wang, and C. M. Wu, "Does corporate social responsibility affect cost of capital in China?," *Asia Pacific Manag. Rev.*, vol. 25, no. 1, pp. 1–12, 2020, doi: 10.1016/j.apmrv.2019.04.001.
[22] A. Goss and G. S. Roberts, "The impact of corporate social responsibility on the cost of bank loans," *J. Bank. Financ.*, vol. 35, no. 7, pp. 1794–1810, 2011, doi: 10.1016/j.jbankfin.2010.12.002.
[23] J. Huang, Z. Duan, and G. Zhu, "Does Corporate Social Responsibility Affect the Cost of Bank Loans? Evidence from China," *Emerg. Mark. Financ. Trade*, vol. 53, no. 7, pp. 1589–1602, 2017, doi: 10.1080/1540496X.2016.1179184.
[24] B. L. Connelly, S. T. Certo, R. D. Ireland, and C. R. Reutzel, "Signaling theory: A review and assessment," *J. Manage.*, vol. 37, no. 1, pp. 39–67, 2011, doi: 10.1177/0149206310388419.
[25] F. La Rosa, G. Liberatore, F. Mazzi, and S. Terzani, "The impact of corporate social performance on the cost of debt and access to debt financing for listed European non-financial firms," *Eur. Manag. J.*, vol. 36, no. 4, pp. 519–529, 2018, doi: 10.1016/j.emj.2017.09.007.
[26] I. Ghozali, "Aplikasi Analisis Multivariete IBM SPSS 23," *Badan Penerbit Univ. Diponegoro, Semarang*, 2016.
[27] D. A. H. Ahmed, Y. Eliwa, and D. M. Power, "The impact of corporate social and environmental practices on the cost of equity capital: UK evidence," *Int. J. Account. Inf. Manag.*, vol. 27, no. 3, pp. 425–441, 2019, doi: 10.1108/IJAIM-11-2017-0141.
[28] S. Antonio, P. Felice, and G. Anastasia, "Does sustainability foster the cost of equity reduction? The relationship between corporate social responsibility (CSR) and riskiness worldwide," *African J. Bus. Manag.*, vol. 12, no. 12, pp. 381–395, 2018, doi: 10.5897/ajbm2018.8562.
[29] M. L. Matthiesen and A. J. Salzmann, "Corporate social responsibility and firms' cost of equity: How does culture matter?," *Cross Cult. Strateg. Manag.*, vol. 24, no. 1, pp. 105–124, 2017, doi: 10.1108/CCSM-11-2015-0169.
[30] M. Federica, I. Barbara, and S. Magnanelli, "Corporate Social Responbility and Cost of Debt: The Relationship," *Soc. Responsib. J.*, vol. 13, no. 2, pp. 53–62, 2017.
[31] A. Hamrouni, A. Uyar, and R. Boussaada, "Are corporate social responsibility disclosures relevant for lenders? Empirical evidence from France," *Manag. Decis.*, vol. 58, no. 2, pp. 267–279, 2019, doi: 10.1108/MD-06-2019-0757.