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THE EFFECT OF CARBON EMISSION DISCLOSURE ANDCORPORATE SOCIAL RESPONSIBILITY DISCLOSURE ON FIRM VALUE(Study on Mining Companies Listed on the Indonesia Stock Exchange 2016-2019)

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ABSTRACT : This studyaims to obtainempiricalevidence of the effect of Carbon Emission Disclosure and Corporate Social Responsibility Disclosure on firm value. The theoryused in thisresearchis the theory of stakeholders and the theory of legitimacy. The population in thisstudyamounted to 47 miningcompanieslisted on the Indonesia Stock Exchange in 2016-2019. The sample in thisstudyweremininingcompanieslisted on the Indonesia Stock Exchange in 2016-2019, which have been selectedusing a non-probability sampling methodwithpurposive sampling technique. The results in thisstudyconcludedthat Carbon Emission Disclosure has no effect on firm value and Corporate Social Responsibility Disclosure has a negativeeffect on firm value.

Keywords:*Firm values, Carbon Emission Disclosure, Corporate Social Responsibility Disclosure*

I. INTRODUCTION

At this time global warming is not a strange thing. This phenomenon, which is commonly called global warming, causes several natural events, including erratic weather changes, temperature changes, decreased air quality and other disasters. The cause of global warming can be caused by the increasing use of electricity in the world, the production of which is generated by mining companies. According to Cholida (2020) global warming is a phenomenon of increasing temperature in all parts of the world every year due to the greenhouse effect that comes from increased emissions of gases such as carbon dioxide (CO2), hydrofluorocarbons (HCFSs), perflorocarbons (PFCs), sulfurhesafloride (SF6), nitrogen oxides (N2O), and methane (CH4). These gases continue to accumulate in the atmosphere so that they have the biggest share in climate change. The cause is forest burning, land clearing, and burning of fossil fuels (coal, gas and petroleum).

The mining sector is a sector that is closely related to nature and also in its activities mining companies are very vulnerable to producing carbon emissions resulting from burning coal, oil and gas. Activities carried out by mining companies often have a negative impact on the surrounding environment, therefore mining companies are the object of this research.

Poor company image and performance can cause the value of the company's shares to be sluggish, as experienced by PT Bayan Resources Tbk. CNBC Indonesia (2019) revealed that the share price of mining issuer PT Bayan Resources Tbk. (BYAN) throughout the year until July 2019 or year to date minus as much as 13.71 percent at the level of IDR 17,150 / share, with a record of net selling by foreign investors on the cash market and negotiations of IDR 479 billion. The Indonesian Stock Exchange's trade data recorded that in the last 3 trading months, BYAN's shares were also minus 9.26 percent, while during the last week it only edged up 0.29 percent and Bayan's shares were traded quietly for only Rp 1.72 million with a volume of 100,000 shares. . The quiet transaction of Bayan's shares occurred amidst the company's declining performance in the first quarter of 2019. In addition, the company is also exposed to legal cases in neighboring Singapore, namely with Binderless Coal Briquetting Company Pte Limited (BCBC) and White Energy Company Limited. In the disclosure of information on the IDX, it was stated that this case originated from allegations of violation of coal suppliers, this legal case continues until 2020. The following is the historical data of PT Bayan Resources Tbk for 2018-2019:

Bayan Resources 12.650 +0,00 (+0,00%)

Data Historis BYAN

Rentang Waktu:
Bulanan

Unduh Data 10/05/2018 - 09/24/2020

Tanggal	Terakhir	Pembukaan	Tertinggi	Terendah	Vol.	Perubahan%
Nov '18	19.900	19.500	20.000	19.500	39,90K	1,53%
Des '18	19.875	19.950	19.975	18.800	2,20M	-0,13%
Jan '19	19.000	19.875	19.875	16.800	154,60K	-4,40%
Feb '19	18.975	19.000	19.500	18.000	115,40K	-0,13%
Mar '19	18.900	18.800	19.150	17.800	1,12M	-0,40%
Apr '19	19.000	19.000	19.300	19.000	159,90K	0,53%
Mei '19	18.900	19.000	19.000	18.075	8,80K	-0,53%
Jun '19	19.500	17.975	20.000	16.000	118,30K	3,17%
Jul '19	16.900	19.375	19.375	15.875	1,01M	-13,33%

Figure 1.1 Historical Data of PT Bayan Resources Tbk, 2018-2019
Source: *Investing.com (2020)*

The perspective of shareholders or investors does influence the company, but the community and the environment around the company also have an equally important role. Therefore, the company must be able to balance each interest in order to still pay attention to social and societal norms. It is undeniable that the company's activities can also pose a risk to climate change and temperature caused by burning waste or its products, for example mining companies that are closely related to nature. Rusmana&Purnaman (2020) stated that one of the contributors to carbon emissions is the operational activities of the company. The following is a table of national GHG emissions in 2014-2018.

Table 1 National GHG Emissions for 2014-2018

Tahun	Energi (Gg CO_2e)	IPPU (Gg CO_2e)	Pertanian (Gg CO_2e)	FOLU (Gg CO_2e)	Peat Fire (Gg CO_2e)	Limbah (Gg CO_2e)	Total (Gg CO_2e)
2014	531.142	47.489	112.801	215.318	499.389	102.834	1.508.973
2015	536.306	49.297	117.160	742.843	822.736	106.061	2.374.403
2016	538.025	55.307	122.185	417.385	90.267	112.352	1.335.521
2017	562.244	55.395	127.503	476.005	12.512	120.191	1.353.850
2018	595.665	59.262	131.642	602.188	121.322	127.077	1.637.156

Source: *Ministry of Environment and Forestry (2019)*

According to the Ministry of Environment and Forestry (2019), the trend of energy sector emissions increases from year to year in line with the increasing demand for and use of energy. Throughout the 2014 - 2018 period, it can be seen that energy use in the energy industry (including the use of fuel in power and heat generation, oil refineries, and coal processing) is the largest contributor to emissions in the energy sector, followed by the use of fuel for transportation, and energy in manufacturing.

Bae Choi et al. (2013) argue that there is a very strong call from the environment, business and politics to respond to the threats posed by climate change. The company's disclosure of carbon emissions can be assessed by readers of the annual report as a sign of the company's seriousness in dealing with global warming due to GHG. Indonesia is committed to reducing carbon emissions, Mujiani et al. (2018) states that Indonesia has ratified the Kyoto Protocol through Law No. 17 of 2004 in the context of implementing sustainable development and participating in efforts to reduce global GHG emissions. This commitment was also carried out by issuing Presidential Decree No. 61 of 2011 which states that business actors also take part in efforts to reduce GHG emissions, and Presidential Decree No. 71 of 2011 which states regarding the recording of the National GHG inventory.

Information and disclosure of a company's financial statements is important for a company because the quality of information from the financial statements can be a measure of how open the company is to information and disclosures made by the company. However, disclosure of carbon emissions is still voluntary, therefore not many companies in Indonesia disclose carbon emissions. This is in contrast to the legitimacy theory which focuses on the environment and society, which requires companies to pay attention to social and community norms. Legitimacy can be said as the recognition that companies get from the community (Ischazilatul&Badingatus, 2019). Prafitri& Zulaikha (2016) stated that society has a great influence on company activities. One of them is the request of the community and other stakeholders for the company to pay attention to environmental issues. The company responds to the request by providing credible information on environmental performance. So the legitimacy theory can help companies adjust to the expectations of the community and can also maintain the company's legitimacy.

The company's relationship with the community and the surrounding environment greatly affects the sustainability of the company. So that the legitimacy of the company is not threatened, the company must also pay attention to the surrounding community and environment by carrying out social responsibility or corporate social responsibility (CSR) which is equivalent to the impact the company has on the surrounding environment. Disclosure and implementation of CSR activities can build public perceptions of the company where this can affect the company's image and also the value of the company. Wulandari&Wiksuana (2017) stated that implementing CSR means that the company will incur a number of costs. Costs in the end will become expenses that reduce revenue so that the level of company profit will decrease. However, by implementing CSR, the company's image will get better so that consumer loyalty will be even higher.

Activities carried out by the company can often have a negative impact on the environment, such as the disposal of mining waste that does not follow a certified method and violates laws and regulations, for example violations committed by PT IndomincoMandiri. Koran Tempo (2018) revealed that PT IndomincoMandiri was proven to have violated Articles 103 and 104 in conjunction with Article 116 of Law Number 32 of 2009 concerning Environmental Protection and Management. Based on the findings of Civil Servant Investigators of the Ministry of Environment and Forestry, PT IndomincoMandiri did not build a dust storage area around the plant which caused the dust to seep into the ground and pollute the land in SantanIlir Subdistrict. The results of the company's court decision found PT IndomincoMandiri guilty and imposed a corporate crime which required PT IndomincoMandiri to pay a fine of 2 billion rupiah and also the Court required the company to manage 4,000 tons of waste and cooperate with licensed processors. Judging from this case, it can be concluded how important the awareness of each company is in protecting the environment and managing its waste by applying the concept of CSR, this is supported by the Limited Liability Company Law No. 40 of 2007 article 74 which states that companies that carry out their business activities in the field of or related to natural resources are obliged to carry out social and environmental responsibility.

Research on Carbon Emission Disclosure (CED), Corporate Social Responsibility Disclosure (CSRD) and firm values has been conducted by several previous researchers. Zuhrufiyah&Anggraeni (2019) state that CED is proven to have an effect on firm value. CED disclosure can be a consideration for investors to assess the performance of a company. CED is proven to have an impact on a company's assessment in countries in the ASEAN region. Companies disclose CED to attract investors, so the extent of disclosure has an effect on firm value. Likewise with Anggraeni's research (2015) which states that GHG emission disclosure and environmental performance have a positive effect on firm value. This means that the market responds to information disclosed by companies regarding their efforts in managing the company's GHG emissions. These results also indicate that the environmental performance obtained by the company gets a response to the market because companies with a gold PROPER rating have a relative influence on firm value when compared to companies with a red PROPER rating. However, research conducted by Matsumura et al. (2014) which states that CED has a negative effect on firm value, so that if there is an increase in CED, firm value decreases, as well as research by Lee et al. (2015) which states that investors tend to perceive carbon disclosure as bad news and are concerned about the potential costs faced by companies to overcome global warming, and also by Iskandar & Fran (2016) stated that disclosure of carbon emissions has a negative effect on firm value.

Darmastika&Ratnadi (2019) state that disclosure of corporate social responsibility has a positive effect on firm value, which means that the higher the level of CSR disclosure causes an increase in firm value. MutyaArmika&Suryanawa (2018) stated that disclosure of corporate social responsibility has a significant positive effect on firm value. However, research conducted by Tenriwaru&Nasaruddin (2020) reveals that CSR disclosure has a negative effect on firm value as well as research by Sabatini &Sudana (2019) which states that disclosure of Corporate Social Responsibility has a significant negative effect on firm value.

II. CONCEPTUAL MODEL AND HYPOTHESIS

In dealing with climate change, companies are expected to disclose the activities of companies that play a role in climate change, one of which is CED (Hilmi et al., 2020). The existence of carbon emissions makes companies demanded to be more open in disclosing information held by these companies because the more companies disclose or provide information about their companies, the safer the company's legitimacy position will be.

According to Hanifah&Wahyono (2018), the theory of legitimacy encourages companies to take responsibility for the environment so that they appear legitimate in society. Disclosure of carbon emission information in financial reports is one of the ways companies build, maintain, and legitimize their contribution from an economic and political perspective. Apart from getting a good perception in the eyes of the public, the company must also be able to manage the interests of all parties in a balanced manner. This is in line with the concept of stakeholder theory. According to Fatmawati&Asyik (2019) stakeholder theory is a theory that considers the interests of each stakeholder group so that it can create new strategies for a company to create and increase firm value. The purpose of stakeholder theory is to create added value for stakeholders because it supports the company's survival (Hanifah&Wahyono, 2018). Therefore, financial and non-financial information owned by the company must be disclosed in order to add value to the company in the eyes of stakeholders but also so that stakeholders have confidence in the company and the company can get support from stakeholders.

These statements are in accordance with the results of research by Zuhrufiyah&Anggraeni (2019) which states that Carbon Emission Disclosure (CED) is proven to have an effect on firm value. CED disclosure can be a consideration for investors to assess the performance of a company. CED is proven to have an impact on a company's assessment in countries in the ASEAN region. Companies disclose CED to attract investors, so the extent of disclosure has an effect on firm value. Research conducted by Anggraeni (2015) states that disclosure of GHG emissions and environmental performance has a positive effect on firm value. This means that the market responds to information disclosed by companies regarding their efforts in managing the company's GHG emissions. These results also indicate that the environmental performance obtained by the company gets a response to the market because companies with a gold PROPER rating have a relative influence on firm value when compared to companies with a red PROPER rating. Likewise with the results of research by Rusmana&Purnaman (2020) which states that the variable disclosure of carbon emissions and environmental performance has a positive and significant effect on firm value. The results of the above research are in accordance with the research of Gabrielle &Toly (2019) and Hardiyansah&Agustini (2020) which state that Carbon Emission Disclosure has a positive effect on firm value.

With the company making disclosures, the company will get a good perception in the eyes of the community and its stakeholders. If the company gets a positive response, the company's value will also increase. Therefore, with companies disclosing carbon emissions (Carbon Emission Disclosure) will have a positive effect on firm value. So, the higher the level of disclosure of carbon emissions by the company, the higher the value of the company.

H1: Carbon Emission Disclosure has a positive effect on firm value.

Climate change that occurs due to carbon footprints can cause drastic changes in environmental conditions, especially the environment located around the company's area, which produces carbon emissions. Changes in environmental conditions can be in the form of increasing aridity of the environment due to obstructed rainfall due to the release of carbon emissions in the area. Stacia &Juniarti (2015) state that the impact on the environment will affect public awareness of the importance of carrying out social responsibility or what is known as CSR, a concept that is growing rapidly in the industrial world.

CSR disclosure aims to make the public aware of the activities carried out by the company related to its social responsibility in the hope that it can build a good corporate image in the eyes of stakeholders and the surrounding community, with a good corporate image it will be able to increase public trust in the company where this can affect company legitimacy. This is in line with the legitimacy theory proposed by Gray et al. (1995) stated that legitimacy is a company activity management system that focuses on taking sides with the community, government, individuals and local community groups. Thus, as a system that prioritizes community alignment, the company's operational activities must be in line with community expectations. This is also in line with the stakeholder theory put forward by Wati et al. (2019) that companies must carry out social disclosure as a form of responsibility to stakeholders. According to Fatmawati&Asyik (2019) CSR is one of the strategies that can fulfill stakeholder wishes, the better the implementation of CSR disclosure in the company, it will make stakeholders provide support to the company with the aim of increasing firm value.

In research on CSR disclosure conducted by Darmastika&Ratnadi (2019), it is stated that CSR disclosure has a positive effect on firm value. This means that the higher the level of CSR disclosure causes an increase in firm value, as well as research conducted by Ratnadewi&Ulupui (2016) which states that CSR disclosure has a positive and significant effect on firm value. This means that if the level of CSR disclosure is higher, it can result in higher corporate value. Conversely, the lower the level of CSR disclosure, the lower the firm value. The results of the above research are also in accordance with the research of Bella &Suaryana (2017) and Fatmawati&Asyik (2019) which states that CSRD has a positive effect on firm value.

With companies making disclosures about social responsibility, the company will get legitimacy from the community and also stakeholders, besides that CSR disclosure can build a better corporate image because it is considered to care about the community and the surrounding environment where this can increase firm value. Therefore, CSRD can be said to have a positive effect on firm value. So, the more companies carry out social responsibility, the higher the firm value..

H2: Corporate social responsibility disclosure has a positive effect on firm value.

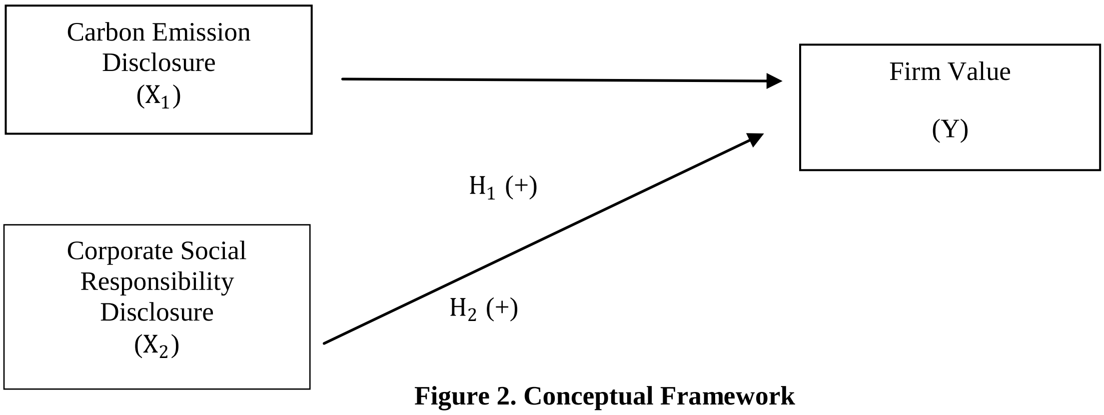

Figure 2. Conceptual Framework

III. RESEARCH METHODS

The approach taken in this research is an associative quantitative approach. This research was conducted at mining companies listed on the Indonesia Stock Exchange (IDX). The object of research in this study is the value of the company which is described by carbon emissions disclosure and corporate social responsibility disclosure. The type of data used in this research is quantitative data. The data source used in this research is secondary data. The sample in this study were mining sector companies listed on the IDX in 2016-2019, which have been selected using a non-probability sampling method with purposive sampling technique. The criteria used as research samples are as follows. (1) Companies that publish annual reports in 2016-2019. (2) Companies that present complete data on the variables used in this study. The method of collecting data from this research is through the method of documentation. The data analysis technique is multiple linear regression analysis.

Firm value is calculated using Tobin's Q. The following is the calculation formula for Tobin's Q (Ratnadewi&Ulupui, 2016):

$$Tobin's\ Q = \frac{MVE + DEBT}{TA}$$

Information:
MVE = Closing price x number of shares outstanding
DEBT = Total Liabilities
TA = Total Assets

The calculations used for this CED use a checklist developed by Bae Choi et al. (2013). The following is the calculation formula

$$Carbon\ Emission\ Disclosure = \frac{Total\ items\ are\ disclosed}{18}$$

This study measures social responsibility using the CSRI (Corporate Social Responsibility Index) proxy based on the Global Reporting Initiatives Generation (GRI). The following is the calculation formula(Fatmawati& Asyik, 2019).

$$CSRIj = \frac{\sum Xij}{\sum nj}$$

Information:
CSRIj = Corporate social responsibility company index j
$\sum Xij$ = The number of items disclosed by the company j
nj = Number of items for firm j, nj≤ 91

IV. RESULTS AND DISCUSSION

This research was conducted on mining sector companies listed on the IDX during the 2016-2019 period by accessing the website www.idx.co.id. Based on the data contained on the site, the number of registered mining sector companies is 47 companies. The sampling method used in this study is a non-probability sampling method with purposive sampling technique, namely the technique of taking data sources using criteria based on certain considerations (Sugiyono, 2018). The sample selection process based on predetermined criteria is presented in Table 2.

Table 2. Sample Selection

No	Population	Total
1	Mining sector companies listed on the IDX for the 2016-2019 period	47
No	Kriteria	Total
2	Mining sector companies that did not report annual reports consistently during the 2016-2019 period	(14)
3	Companies that do not provide a complete presentation of the variables used in the study	(25)
	The number of selected companies was sampled	8
	The number of sample companies during the four years of the study	32
	Total sample in the four years of the study	**32**

Table 2 shows that there are 47 mining sector companies listed on the IDX for the 2016-2019 period. There are 14 companies that do not disclose annual reports consistently in the 2016 - 2019 period and there are 25 companies that do not provide a complete presentation of the variables used in this study. The sample selection process based on predetermined criteria is presented in Table 4.1.

Table 3. Multiple Linear Regression Analysis Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,946	0,332		5,854	0,000
	CED (X_1)	0,732	0,778	0,160	0,941	0,355
	CSRD (X_2)	-4,037	1,339	-0,512	-3,016	0,005

Based on the results of multiple linear regression analysis as presented in Table 3, the regression equation is as follows.

$$Y = 1{,}946 + 0.732\ X1 + (-4{,}037)\ X2 + e$$

The Effect of Carbon Emission Disclosure on Firm value

The hypothesis that says carbon emissions' disclosure has a positive effect on firm value is rejected. The test results show that CED has no effect on firm value. This may occur because when making decisions in investing, investors or stakeholders do not make CED a consideration in making investment decisions but rather pay more attention to the company's economic fundamentals, fundamental analysis is a method of stock analysis by analyzing data or information related to company performance. Generally, financial reports are the main source in this analysis including the use of financial ratios (Jalari et al., 2019), therefore reporting or not reporting companies related to CED does not affect firm value.

This is consistent with research conducted by Griffin et al. (2017) which states that there is no difference in firm value between companies that disclose the Carbon Disclosure Project (CDP) and companies that do not disclose, as well as research conducted by Stanny& Ely (2008) that there is no relationship between CED and decision making. in investing where the investment earned is one of the factors to be able to increase firm value, this shows that CED has no effect on firm value.

From the results of this study, it can be said that the results are not in accordance with the theory of stakeholders. According to Fatmawati&Asyik (2019) stakeholder theory is a theory that considers the interests of each stakeholder group so that it can create new strategies for a company to create and increase firm value. The purpose of stakeholder theory is to create added value for stakeholders because it supports the company's survival (Hanifah&Wahyono, 2018). According to the research results, CED has no effect on firm value, so CED does not provide benefits for stakeholders. This result is also inconsistent with the theory of legitimacy. According to the theory of legitimacy, there is a social contract between the company and the community that occurs in the company's operational place so that the company must operate in accordance with applicable norms and regulations (Mukhtaruddin et al., 2014), however environmental reporting such as CED has no influence in making investment decisions. , investors / stakeholders see the company's profit more, so that this can be a consideration for companies not to report CED, which is inversely proportional to the theory of legitimacy.

The Effect of Corporate Social Responsibility Disclosure on Firm value

The hypothesis that says corporate social responsibility disclosure has a positive effect on firm value is rejected. The test results show that CSRD has a negative effect on firm value. This may occur because investors / stakeholders use fundamental analysis, which is analysis that can help investors to assess a company by looking at an overview of the profits and intrinsic value of the company (Pratiwi&Nugraha, 2017). Investors pay more attention to profit, while CSR activities require a lot of costs that can reduce company profits which also have an impact on reducing firm value, so that the higher the level of CSRD, the company's value will decrease.

These results are supported by research conducted by Tenriwaru&Nasaruddin (2020) in their research which states that the disclosure of corporate social responsibility has a negative effect on firm value, which means that the more CSR disclosure, the lower the firm value. Likewise, research conducted by Sabatini &Sudana (2019) and Apriyani&Sutjahyani (2018) which states that corporate social responsibility disclosure has a negative effect on firm value.

The results of this study are not in accordance with the theory of stakeholders, according to Hilmi et al. (2020) stakeholder theory states that a company is not an entity that only operates to think about its own interests but must provide benefits for its stakeholders. The main objective of stakeholder theory is to assist company management in increasing firm value as a result of activities carried out and minimizing losses that may arise for stakeholders (Apriyani&Sutjahyani, 2018). The results show that the more companies do CSRD, the value of the company will decrease, which can be detrimental to the stakeholders, thus the support for the company from the stakeholders will decrease. The results of this study are also not in accordance with the theory of legitimacy, where according to Fatmawati&Asyik (2019) legitimacy is considered important for companies because legitimacy from the community is a strategic factor for company development and legitimacy will provide potential resources for the company's survival in the future. come. Suhardi et al. (2015) stated that the way companies can legitimize their activities is by making public disclosures. But from the research results, the more companies do CSRD, the firm value will decrease. The decline in firm value will also have an impact on the legitimacy of the company in the eyes of stakeholders and the public so that it can threaten the operational sustainability of the company.

V. CONCLUSION

Based on the research results obtained through statistical testing and discussion as described in the previous chapter, it can be concluded that Carbon emissions' disclosures have no effect on firm value. This means that if there is an increase or decrease in carbon emissions' disclosures, it will not have an effect on firm value. Corporate social responsibility disclosure has a negative effect on firm value. This means that the higher the level of disclosure of corporate social responsibility, the lower the company's value.

Based on the research results and conclusions, the suggestions that can be given are as follows. For further researchers. Because the R2 is very small, namely 18.6%, so there are 81.4% of other factors that can affect firm value, such as profitability, leverage and market value.For the company, Mining companies are suggested to be able to socialize about carbon emission disclosures and corporate social responsibility disclosures so that they can be considered in making decisions regarding future company reporting. Companies are also advised to pay attention to items that are rarely disclosed, for example in the RD / Reduction and Cost category at CED, as well as in the economic category on CSRD considering that the company's financial condition is an important factor in the eyes of investors.

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