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Voluntary disclosure and firm value: Evidence from Indonesia

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Abstract: Climate change carries risks that need to be mitigated by all parties, including companies because it affects company value. Many studies find that voluntary disclosure positively affects firm value in developing countries. This study aims to examine the effect of voluntary disclosure (CSR and carbon disclosure on firm value) in the developing country of Indonesia. Researchers suspect that voluntary disclosure practice in developing countries is still low, so that investors respond negatively. To test the hypothesis using regression with a total of 72 observations from the energy sector companies. The results of the study show that voluntary disclosure has a negative effect on firm value. The level of voluntary disclosure in Indonesia is still low, just complying with government regulations, and it is still considered a cost that affects the firm's value. The implication of this research is to encourage the government to immediately make regulations and concrete steps to mitigate the impact of climate change.

Subjects: Environmental Management; Accounting; Cost Accounting; Financial Accounting

Keywords: climate change; voluntary disclosure; CSR; carbon disclosure; firm value

1. Introduction

In responding to the issue of climate change, Indonesia has shown its seriousness in controlling climate change by participating in ratifying the Paris Agreement, which was passed. This shows that Indonesia has contributed to control greenhouse gas (GHG) emissions. Through nationally determined contributions (NDC), Indonesia hopes to reduce *carbon emissions* by 2030 (Republic of Indonesia, 2021). CSR and carbon disclosure drive climate change. The motivation for this research is the issue of the importance of managing and reporting on adaptation and mitigation of climate change, especially voluntary disclosure. Excessive

financial reports are required to convey company performance information. Stakeholders need information that is more than just financial reports, for example, the impact of *climate change* brings risks and how the company mitigates these risks should be included in the financial reports. Therefore, voluntary disclosure becomes an important point in decision-making by stakeholders. Voluntary disclosure is carried out by companies to improve the quality of company reporting, create a positive response for the community and instill peace in investors.

Voluntary disclosure in the context of the energy company sector must be able to show concern for environmental issues because this industrial sector has significant problems or inherent risks related to natural resources, so the level of sustainability becomes an important issue. Voluntary

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disclosure in the energy sector should reveal how the company innovates using renewable energy as a primary concern for the company's sustainability and the environment.

One of the voluntary disclosures is CSR which has become a new metric in financial performance. However, do these activities provide more benefits for shareholders, or are they too focused on other stakeholders, thereby reducing the company's value? Furthermore, this is still being debated until now. Neoclassical economists argue that CSR has a negative impact on financial performance because according to them, such social costs can be avoided (Chen et al., 2015; Mallin et al., 2014).

According to stakeholder theory, stakeholders are divided into 3, namely regulatory, primary and secondary stakeholders (Clarkson, 1995). Large companies from developed countries are more likely to disclose nonfinancial information because they benefit from lower information costs and are under high public scrutiny. (Chapple et al., 2013; Schaltegger et al., 2016). In Indonesia, the company's primary goal is to serve regulatory stakeholders, in this case, the government, this also applies to carbon disclosure.

How carbon disclosure impacts financial markets has been investigated by (Chapple et al., 2013; Jung et al., 2018; Matsumura et al., 2014). Research (Chapple et al., 2013) shows that the market regards carbon performance as a critical aspect of company valuation, providing evidence on how financial markets price proposed ETS (valuing the most carbon-intensive companies between 7 and 10% lower in terms of market capitalization relative to other companies). Research (Matsumura et al., 2014) on the impact of carbon disclosure on company value shows that company value decreases with additional carbon emissions. Further research (Matsumura et al., 2014) found that financial markets penalize companies for their carbon footprint. However, the penalties are more remarkable for large companies that do not disclose carbon. The same study (Chapple et al., 2013) states that carbon allowance is not related to stock valuation, but lack of allocation has a negative impact on valuation.

However, different findings made in developed countries for voluntary disclosures such as CSR, environmental disclosure, and carbon disclosure have received a positive response from the market (Assidi, 2020; Ning et al., 2021; Velte et al., 2020). Is the same thing happening in developing countries? Especially Indonesia. The government's commitment to reduce greenhouse gases certainly impacts the business in Indonesia. Companies face the pressure to participate in reducing greenhouse gases. This pressure causes companies to make voluntary reports such as CSR and carbon disclosure. However, does this voluntary disclosure get a positive reaction from developing markets? Especially Indonesia. Research (Siregar & Deswanto, 2018) found that voluntary disclosure has no impact on company value in Indonesia.

By research (Fauzi et al., 2010) conducted in Indonesia suggests that it is necessary to test voluntary restraints on financial performance from the market side. This effort is needed to better understand the context of developing countries. Research (Hu et al., 2018) in developing countries such as China found that the relationship between CSR and financial performance is an indirect relationship and has a positive effect. However, even though it is called a developing country, China has a strong influence from the state on company business operations, where state monitoring and dependence on the state make companies issue their CSR reports (Marquis & Qian, 2014). Other voluntary disclosures, such as carbon disclosure in China, also show that the level of compliance of Chinese companies regarding green corporate is very high, in the sense that the low-carbon policy launched by the Chinese government is effective (Kuo et al., 2015).

This study aims to examine the effect of voluntary disclosure (CSR and carbon disclosure on firm value) in the developing country of Indonesia. Based on suggestions from (Borghei, 2021) in his literature study, this study states whether financial markets use carbon disclosure in valuation. The number of observations is 72 from companies in the energy sector in Indonesia.

The sample consisted of 12 companies namely Adaro Energy, AKR Corporindo, Astrindo Nusantara Infrastruktur, Baramulti Sukses Sarana, Darma Henwa, Elnusa, Golden Energy Mines, Harum Energy, Indo tambang Raya Megah, Mitrabara Adiperdana, Samindo Resources, Pelita Samudra Shipping, Bukit Asam, Petrosea, Rukun Raharja, Radiant Utama Interinsco, TBS Energi Utama.

The results show that voluntary disclosure through CSR, as measured by the total costs incurred for CSR activities, has a significant negative effect on firm value, and voluntary disclosure through carbon disclosure has a negative effect on firm value. The results of this study can be a consideration for the government in efforts to reduce greenhouse gas as planned. From the data obtained, the average value of CSR disclosure and carbon disclosure in Indonesia is still low. The government can make regulations for voluntary disclosure, especially carbon disclosure as an implementation of climate change impact mitigation.

2. Theoretical and hypothesis development

Stakeholders include all actors relevant to the company's strategy and its direct achievements. When controlling critical resources, stakeholders are in a situation to pressure companies to provide information. The pressure from these stakeholders is felt and treated differently by decision-makers depending on the internal characteristics of the company (Delmas & Toffel, 2004). According to Mitchell 1997, profit-driven organizations attend only to the environmental claims of prominent stakeholders.

According to (Buysse and Verbeke, 2003), there are three groups of regulatory stakeholders, primary and secondary. Regulatory stakeholders are not only governments but also global elites. This group can stop the operation of an organization if it does not comply with the existing regulations. Meanwhile, primary stakeholders are stakeholders in the corporate market environment, such as shareholders, banks, etc. Secondary stakeholders are NGOs, Media, Competitors, and others.

The social effect hypothesis and the shift in focus hypothesis are the primary discourses on the relationship between CSR and company value. On the other hand, the hypothesis of the focus shift (Chen & Lee, 2017). Asserts that social responsibility for community welfare, employee relations, and environmental protection requires a change in strategy that does not maximize shareholder value. More outstanding resource commitment drives costs and negatively impacts financial performance. Additionally, according to Bragdon and Marlin (1972), the higher cost of engaging in CSR disadvantages businesses in a cutthroat market, resulting in poor financial performance. Preston and O'Bannon also thought that managers support CSR to divert attention away from their shortcomings or failures.

In developing country markets, nonfinancial disclosure does not provide additional information to outside investors, and the disclosure cost can undermine value (Chauhan & Kumar, 2018). In Indonesia, the dominant investors are institutional investors. Research (Amir & Serafeim, 2018) reports that only 37% of institutional investors consider nonfinancial or voluntary disclosure in their valuation models. This means that institutional investors show disinterest in voluntary disclosure.

Ideally, CSR is not only used to improve the company's image, but also as a mean of main competitive strategy. As a mean of primary competitive strategy, CSR can be a tool for sustainable business. According to (Xie et al., 2017), CSR practices in developing countries are influenced by institutional environmental factors which have different characteristics from developing countries, such as differences in cultural dimensions, politics, corruption, education, and employment systems.

Several regulations issued by the government related to CSR include Law No. 40 of 2007 concerning limited liability companies, regulation 47 of 2012 concerning the Social and Environmental Responsibility of Limited Liability Companies, and Law No. 25 of 2007 concerning Investment. Companies in Indonesia emphasize CSR practices to comply with regulations or serve regulatory stakeholders (Fauzi et al., 2010). Because of this, investors (primary stakeholders) see this as waste or something that can be avoided. They will pressure companies to report CSR to a minimum, aka spending as little as possible to comply with existing regulations. Besides that, research (Kacperczyk, 2009) show external stakeholders have comparatively less responsibility for, and influence on the firm's business and resource management. Consequently, the direct financial advantages. Compared to internal stakeholders, the level of involvement with these stakeholders is significantly smaller. As a result, CSR focused on customers, communities, and societies would be detrimental to a company's immediate operational performance (Yoon & Chung, 2018). So the authors suspect that CSR will be responded to negatively by the market; in other words, it will reduce the firm value.

According to (Kuo et al., 2015) opinion, CSR involvement can negatively affect changes in firm value.

H1: CSR has a negative effect on firm value

Several studies have shown that carbon emissions will drive the redistribution of firm value by demonstrating a negative relationship between carbon emissions, disclosure, and firm value (Chapple et al., 2013; Matsumura et al., 2014). When a company discloses carbon, the market reacts negatively because shareholders feel the company incurs disclosure costs. For the Indonesian market, many investors are not yet aware of the impact of climate change. Investors mostly pay attention to the company's financial situation and pay less attention to the company's environmental performance (New et al., 2018; Siregar & Deswanto, 2018).

H2: Carbon disclosure has a negative effect on firm value

3. Research methods

3.1. Samples and data

The research data is taken from the energy sector companies, which are listed on the Indonesia Stock Exchange. The sampling method uses purposive sampling with the following criteria: 1. Energy sector companies registered on the IDX from 2018–2021 and have never been delisted or issued an SR. 2, companies that disclose actual CSR costs in their annual financial reports. The number of observations is 72, with the number of companies being 18. Table 1 shows the data used.

Table 1. Sample selection

Sample selection criteria	Number of companies
Number of industrial sector companies in 2018–2021 issuing SR	39
Number of companies whose financial statements are incomplete (do not share total CSR costs)	21
The number of companies observed	18
Number of years of observation	4
Total observation	72

(Source: Author calculation)

Table 2. Descriptive statistics

y	NP	CSR1	CSR2	CD	ROA
Means	1.107766	0.057731	0.487745	0.280864	0.164731
Median	1.019221	0.023779	0.441176	0.222222	0.116515
Maximum	2.492828	0.860872	0.970588	0.888889	0.617790
Minimum	0.117047	0.000237	0.117647	0.000000	0.020690
Std. Dev.	0.489344	0.118933	0.227649	0.199087	0.139795
Skewness	0.640522	4.852663	0.461938	0.971454	1.836579
Kurtosis	3.281148	30.90306	2.058565	3.263594	5.971869
Jarque-Bera	5.160354	2618.323	5.219535	11.53313	66.97227
Probability	0.075761	0.000000	0.073552	0.003130	0.000000
Sum	79.75918	4.156613	35.11765	20.22222	11.86060
Sum Sq. Dev.	17.00149	1.004294	3.679498	2.814129	1.387534
Observations	72	72	72	72	72

(source: Data processed by eviews 12)

3.2. Variable measurement

The dependent variable of this research is company value as measured by Tobin's Q. The independent variables consist of 2, namely CSR and carbon disclosure. The CSR variable is measured by the costs incurred by the company for CSR activities, and to test robustness, the researchers also measure CSR with indicators issued by GRI. Carbon disclosure is measured using the *carbon disclosure index* (CDI). This measurement is very commonly used in several empirical studies related to *carbon disclosure* (Bae Choi et al., 2013; Choi & Luo, 2021)

The control variable in this study is profitability proxied by ROA. Profitability in this study is controlled because, according to the theory of information costs, companies with high profits are willing to spend more money and other resources to voluntarily publish and disseminate non-financial information. Besides that, ROA has proven to have a significant positive effect on firm value.

The mean of the firm value dependent variable is 1.107, indicates that the level of firm value in Indonesia measured by Tobin Q has an average of 11.07%. This means that the value of companies in Indonesia is very high. The *mean of the* CSR variable, measured by the total cost of CSR, is 0.057, indicates that it is only 5.7%, which shows that the average cost of CSR in Indonesia is still low. The mean of the CSR variable as measured by the GRI is 0.488, which indicates that 48.8% of the average CSR value is still low. The control variable, namely ROA, with a mean of 0.165, indicates that the average 16.5% profitability in energy sector companies is still low can be seen in Table 2.

To test the model in this study using two tests, namely the Chow Test and the Hausman Test. Primary Criteria for Decision Making, If the p-value is > 0.05, then the *Common Effect Model is selected*. If the p-value is <0.05, then the *Fixed Effect Model is selected. The Chow test results can be seen in* Table 3, *which shows that* the Prob. Cross-section Chi Square <0.05, it can be concluded that the selected model *is the Fixed Effect Model*

The Hausman test results in Table 4 show that the probability value is 0.1192 > 0.05. This means that the model selected in this test is *Random Effects Model*. It means that the model chosen in this equation is the *Random Effect Model*.

The autocorrelation test was carried out using the Durbin Watson test with the criteria for a DW value between −2 and +2, namely 1.200 080, it means that there are no signs of autocorrelation.

Table 3. Chow test			
Effect Test	**Statistics**	**df**	**Prob.**
Cross-section F	10.065902	(17.50)	0.0000
	107.04125		
Chi-square cross-sections	3	17	0.0000

Source: Processed Data Eviews 12

Table 4. Hausman test Test cross-section random effects			
	Chi-Sq.		
Test Summery	**Statistics Chi-Sq.**	**df**	**Prob**
Random cross-sections	7.335814	4	0.1192

(source: Data processed by eviews 12)

Table 5. Autocorrelation Test	
Model	**Durbin Watson**
1	1.200080

(source: Data processed by eviews 12)

Table 6. Random effect model estimation results				
Variables	**coefficient**	**std. Error**	**t-Statistics**	**Prob.**
C	0.952177	0.137766	6.911541	0.0000
CSR1	−1.128277	0.282501	−3.993883	0.0002
CSR2	0.027467	0.180081	0.152524	0.8792
CD	−0.141619	0.222002	−0.637917	0.5257
ROA	1.500051	0.282185	5.315838	0.0000

(source: Data processed by eviews 12)

$$\mathbf{Y = 0,095 - 1,128CSR1 + 0,027CSR2 - - 0,141CD}$$

From the explanation above, the first hypothesis is accepted. The CSR1 variable coefficient value is −1.128277, meaning that there is a negative influence between CSR 1 on firm value with a probability value of 0.0002, which is significant at the 0.05% level. The CSR2 robustness test has a coefficient value of 0.027467, meaning that it has a positive effect on firm value, but the probability value is not significant. The carbon disclosure variable coefficient value is −0.141619, meaning it has a negative effect, and the probability value is greater than 0.05, so the second hypothesis is rejected.

4. Discussion

Voluntary disclosure allows investors to evaluate current and future profitability which ultimately increases the accuracy of the assessment of return on investment (Chauhan & Kumar, 2018). With voluntary disclosure, investors do not need to seek for additional information to collect and analyze voluntary disclosure reports which increases costs due to the absence of inter-company standards.

From the statistical test, the first hypothesis states that CSR has a negative effect on firm value. This hypothesis is supported where Indonesian companies are more focused on carrying out CSR aimed at regulatory stakeholders and secondary stakeholders, namely the media, NGOs, and the

public, so that the primary stakeholder responds negatively, namely investors. When investors see the nominal figure issued by the company for CSR activities, they respond negatively. In line with research (Fauzi et al., 2010), the results of this study indicate that CSR does not make a positive contribution to business performance. Furthermore (Fauzi et al., 2010) states that companies in Indonesia adopt CSR as a cost compared to stakeholder relations. Companies object to implementing Indonesian Law No. 40 of 2007. This follows the opinion (Friedman, 1965), which states that CSR activities negatively impact the company's financial performance because it may be a pure company expenditure in areas unrelated to operations that reduce the efficient use of company resources.

The results of this study are under research (Chen & Lee, 2017), the shift of attention hypothesis is established at the early stages of CSR investment. Because if a company does not stress when a corporation engages in CSR, its internal costs are turned into external costs passed to the general public, lowering its operational expenses.

Therefore, when a company makes its first CSR investment, it must raise operational costs and see a decline in company value. In other words, businesses must pay the opportunity cost of allocating money to CSR because they will not reap any significant rewards. Investors and the general public can still view this endeavor as a duty.

However, in the robustness test where CSR is measured by using the GRI measurement, CSR does not have a significant positive effect on firm value. When they see CSR disclosure through words, investors respond positively compared to when they see the nominal figures issued by companies for CSR activities. From the data, it can be seen that the value of CSR as measured by the GRI index is higher on average than CSR as measured by the total costs incurred for CSR activities; this may be the reason for the different results.

The second hypothesis states that carbon disclosure does not have a significant negative effect on firm value. However, the negative coefficient test aligns with the researchers' expectations. Companies conducting carbon disclosures are not aimed at cost efficiency; companies do this because of regulatory pressure and other stakeholders to gain social legitimacy (Schaltegger et al., 2016). Indonesian investors see that carbon disclosure only burdens companies. Company managers must refrain from unprofitable behavior, such as making voluntary disclosures that can reduce profits for shareholders. (Lee & Cho, 2021). When a company seeks to mitigate the impact of climate change, for example, efforts to develop or acquire technology to produce low-carbon products will impact cash outflows, ultimately impacting the cost of capital. Investors will consider this, so it affects the value of the company.

Research (Matsumura et al., 2014) found that disclosure of carbon emissions has a negative effect on company value, this is due to the addition of thousands of metric tons of carbon emissions, the average value of the company will decrease when compared to companies that do not disclose carbon emissions. This research is in line with (Lee & Cho, 2021); the financial market shows a negative response to carbon disclosure by companies in Korea, an indication that shareholders view carbon disclosure as negative news. (Lee & Cho, 2021) also shows that the consequences of carbon disclosure on economic performance are insignificant. Research (Jung et al., 2018) found a lower magnitude negative relationship between better carbon performance and firms in less competitive sectors.

This study included the profitability variable as measured by ROA as the control variable. The result is that profitability has a significant positive effect on firm value. Companies with high profitability can allocate their expenses to many aspects such as voluntary disclosure (Siregar & Deswanto, 2018). When companies are involved in voluntary activities, many actual costs are incurred, and only companies with high profitability can do so.

This research shows a contribution by showing Indonesia's travel data in the implementation of the SDGs and the national medium-term development plan (RPJMN) for the 2020–2024 period, which has also been agreed upon in the G20 is still long, so this research provides data facts on the importance of re-evaluating the implementation of the medium-term development plan. While in 2030, Indonesia is targeting the successful implementation of the SDGs, there must be earnest efforts from stakeholders as a form of commitment from the G20. If it still needs to be fulfilled, Indonesia must be ready to be eliminated from global business.

5. Conclusion

This study aims to examine the effect of CSR and carbon disclosure on firm value in Indonesia. The results show that in the context of developing countries, CSR and carbon disclosure are still considered as costs that have a negative impact on firm value. Indonesian companies are included in the medium and small categories which still consider reporting costs compared to benefits. These results provide an illustration of where voluntary disclosure in developing countries is still a burden for companies and needs to be paid more attention to by the market. It is necessary to test further the level of investor awareness of climate change in developing countries in making investment decisions.

The limitation of this research is only in the energy industry sector, although according to the OJK, the energy sector is the sector that contributes the most greenhouse. In addition, this study does not control several variables that affect firm value, such as good corporate governance. Future researchers need to consider these variables because good corporate governance practices in Indonesia are still low and impact firm value as shown in Table 5 and 6.

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