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## SUSTAINABILITY ACTION EVIDENCE FROM INDONESIA: HOW CAN CARBON TRADING AND ESG DISCLOSURE AFFECT FIRM VALUE?

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### ABSTRACT

**Purpose:** This study aims to empirically examine the effect of carbon trading and environmental, social, and governance (ESG) disclosure on firm value.

**Methodology/approach:** This study uses quantitative approach and secondary data from manufacturing companies listed on the IDX for the period 2022-2023. Data was collected from annual reports and sustainability reports. Data was analyzed multiple regression analysis techniques.

**Findings:** The results indicate Carbon Trading has a negative impact on firm value, while Environmental, Social, and Governance (ESG) disclosure has a positive impact on firm value.

**Practical implications:** Companies should strengthen and pay more attention to carbon trading to meet the needs of stakeholders and maintain ESG disclosure for long-term investor sustainability. Investors should also give greater consideration to financial and non-financial information when assessing companies for decision-making purposes.

**Originality/value:** This study builds upon previous research examining the impact of Carbon Trading in China. It also introduces the variable of Environmental, Social, and Governance (ESG) disclosure on firm value. This study was conducted on manufacturing companies that were previously in the energy sector and tested the implementation of Carbon Trading in Indonesia with regulations that were established in 2022 and enacted in 2023.

**Keywords:** Carbon Trading; ESG Disclosure; Firm Value



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**ABSTRAK**

**Tujuan Penelitian:** Penelitian ini bertujuan untuk menguji secara empiris pengaruh Perdagangan Karbon dan Pengungkapan Lingkungan, Sosial, dan Tata Kelola (ESG) terhadap nilai perusahaan.

**Metode/pendekatan:** Penelitian ini menggunakan pendekatan kuantitatif dan data sekunder di perusahaan sektor manufaktur yang terdaftar di BEI periode 2022-2023. Data dikumpulkan dari laporan tahunan dan laporan keberlanjutan. Data dianalisis menggunakan teknik analisis regresi berganda.

**Hasil:** Hasil penelitian menunjukkan Perdagangan Karbon berpengaruh negatif terhadap nilai perusahaan dan pengungkapan Lingkungan, Sosial, dan Tata Kelola (ESG) berpengaruh positif terhadap nilai perusahaan.

**Implikasi praktik:** Perusahaan lebih memperkuat dan memperhatikan Perdagangan Karbon untuk pemenuhan kebutuhan pihak yang berkepentingan dan mempertahankan Pengungkapan ESG guna kelanjutan Investor jangka panjang. Investor juga harus lebih mempertimbangkan informasi keuangan dan non keuangan dalam menilai perusahaan untuk pengambilan keputusan.

**Orisinalitas/kebaharuan:** Penelitian ini merupakan pengembangan dari penelitian sebelumnya yang menguji pengaruh Perdagangan Karbon di Tiongkok dan China. Penelitian ini juga menambahkan variabel Pengungkapan Environmental, Social, and Governance (ESG) terhadap nilai perusahaan. Penelitian ini dilakukan di perusahaan manufaktur yang sebelumnya rata-rata di sektor energi dan menguji akan pelaksanaan Perdagangan Karbon di Indonesia dengan peraturan yang telah ditetapkan tahun 2022 dan diresmikan tahun 2023.

**Kata kunci:** Nilai Perusahaan; Perdagangan Karbon; Pengungkapan ESG

**INTRODUCTION**

Corporate values are very important, but it is not easy to implement and instill them. Excellent corporate values are one of the factors that potential investors consider when deciding to invest. Corporate values are the result of capital market activities that give investors a perception of the company and are often associated with share prices that can enrich shareholders (Damayanthi, 2019). Maximizing firm value can help finance the company and illustrate performance that can provide information to investors, thereby influencing investment decisions (Kurniansyah et al., 2021).

Investor decisions are crucial to the sustainability of a company if it has superior value. Maintaining the stability of a firm's value also depends on environmental factors. However, there are currently many cases of poor environmental conditions that can cause a firm's value to decline. One of the issues contributing to the decline in corporate value in terms of sustainability is global warming and climate change, which continue to threaten the future of the world. Stakeholders have urged the government to establish regulations on greenhouse gas (GHG) emissions. Indonesia ratified the Kyoto Protocol through Law No. 17 of 2004 as part of its efforts to promote sustainable development and participate in global GHG emission reduction efforts, aiming for a reduction of 26% by 2020, equivalent to approximately 0.67 Gt. (P. Indonesia, 2014). According to (P. P. R. Indonesia, 2011) Indonesia's efforts to reduce carbon emissions are institutionalized through Presidential Regulation No. 61 of 2011, which outlines the National Action Plan for Greenhouse Gas (GHG) Emission Reduction, and Presidential Regulation No. 71 of 2011, which regulates the implementation of the national GHG inventory. Notably, Article 4 of Presidential Regulation No. 61 of 2011 highlights the role of business entities in supporting national emission reduction targets. Global warming is caused by an increase in GHG emissions in the layer of air close to the Earth's surface (atmosphere). GHGs consist of several elements, namely carbon dioxide (CO<sub>2</sub>), nitrogen oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and other elements. Several studies have also shown evidence that GRK contributes to global warming, exacerbating climate change and increasing carbon emissions (Yuan et al., 2025). The escalating impacts of climate change pose significant risks to the stability and growth of the global economy. According to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), the frequency of extreme weather events—such as heavy rainfall, heat waves, floods, and droughts—has risen since the 1950s. Furthermore, the report projects that the intensity and frequency of extreme rainfall will continue to increase worldwide, certain regions will face more frequent and severe droughts, and the occurrence of category 4 and 5 tropical storms is expected to rise (Sharma & Ravindranath, 2019). The problem of declining corporate value is widespread across various sectors, with one of the most significant impacts being felt in the manufacturing sector (Naegel et al., 2019). According to the main report from the Ministry of Industry (Kemenperdin) in 2020, growth in the manufacturing sector recorded a decline of 6.91% due to the pressures of the COVID-19 pandemic. However, in 2022, investment in the manufacturing sector rebounded, increasing by 54% to reach Rp365.2 trillion, in line with Indonesia's economic conditions (Databoks, 2022). This is supported by new regulations in Indonesia on the Implementation of Carbon Trading in 2023, which reached 84 billion, with a total carbon transaction of 7.1 million tons of CO<sub>2</sub> (ESDM, 2024). POJK Number 14 of 2023 concerning Carbon Exchanges is an effort by the Government to create regulations for carbon trading through carbon exchanges. Previously, the Government issued two regulations related to carbon trading, namely Presidential Regulation Number 98 of 2021 and Regulation of the Minister of Environment and Forestry Number 21 of 2022 (Ariyanti et al., 2024). Under these circumstances, carbon trading and Environmental, Social and Governance (ESG) disclosure are crucial because they optimize the allocation of carbon emission resources through market forces, provide economic incentives for emission reduction, help reduce emission costs, control total greenhouse gas emissions, and achieve expected targets while promoting corporate transformation and improvement. The implementation of carbon emissions trading mechanisms by the government internalizes companies' emissions behavior, which was previously cost-free, into operational costs, enabling companies to focus on emissions behavior and control while reducing associated costs (Kim & Kim, 2024). Carbon trading policies are one of the policy tools used to achieve

carbon peak goals, which are conducive to green transformation and corporate development (Li et al., 2018). These policies are considered a crucial link in supporting green economic and social transformation, reducing low-carbon emissions, and playing a significant role in driving the completion of carbon emission reduction tasks.

The stakeholder theory argues that there is a relationship between company management and its stakeholders. This relationship means that company management is responsible for implementing and managing activities that create value and reduce potential losses for stakeholders (Deegan, 2014). In this theory, there is stakeholder support, which is essential for the survival of the company. Therefore, it is necessary for the company to disseminate information as a management tool to manage the information needs of various parties (stakeholders) (Gray et al., 1995). Through transparency in carbon trading and environmental, social, and governance (ESG) disclosure in annual reports, companies provide information and meet the needs of stakeholders that the company has good potential in the future, as this can be used by investors to evaluate the company's sustainability performance more comprehensively, thereby attracting OR interest to invest (Zhao et al., 2017; Triyani et al., 2020).

The successful implementation of an integrated carbon trading system relies heavily on the performance of China's existing carbon trading market. Drawing on efficient market theory and the fair game model, this study examines the carbon emission markets in four representative Chinese cities. The findings indicate that: (1) the current carbon trading market in China operates at only a weak efficiency level with limited impact, while neither semi-strong nor strong efficiency has yet been attained; (2) as the market scale expands and trading volume increases, the market is expected to transition from inefficiency toward weak efficiency, suggesting early signs of a gradual recovery in market efficiency (Zhao et al., 2017). Other research reveals the impact of market-based initiatives, carbon trading pilot programs, on the cost of financing green bonds in China. The results show that the cost of financing green bonds is significantly lower, which is more pronounced in regions with better renewable energy development and higher commercialization rates (Yuan et al., 2025).

Environmental, Social, and Governance (ESG) disclosure is the latest form of voluntary information reporting, which began with standalone CSR reporting, sustainability reporting, and was later followed by integrated reporting (Faisal et al., 2018). Several researchers have shown that Environmental, Social, and Governance (ESG) disclosure has a positive impact on firm value. These results indicate that better quality Environmental, Social, and Governance (ESG) disclosure can increase firm value through improved transparency and accountability to support the investment process in attracting stakeholders and obtaining a more comprehensive picture of the company's sustainability performance. (Triyani et al., 2020). According to (Sumarno et al., 2023) The results of the study indicate that Environmental, Social, and Governance (ESG) ratings have no effect on firm value. This means that the disclosure of Environmental, Social, and Governance (ESG) performance is still not strong enough to have a direct impact on firm value.

Based on the above, this research is worth conducting. The difference between this study and previous studies is that this study is an extension of previous studies that separately examined the impact of Environmental, Social, and Governance (ESG) factors on *firm* value (Aboud & Diab, 2018; Sumarno et al., 2023; Triyani et al., 2020). Previous studies tested independent variables against dependent variables, whereas this study combines all variables from previous studies consisting of Environmental, Social, and Governance (ESG)

disclosure and adds a new variable, namely carbon trading with *firm* value. Carbon Trading and ESG Disclosure are considered social responses, indicating that companies will provide more information if they are able to achieve high profitability or profits. This carbon trading efficiency gives investors confidence that the company is in a safe and strong position and operates efficiently in accordance with stakeholder theory, but the results of the study still show weak or slightly influential efficiency, while semi-strong and strong efficiency have not yet been achieved ([Zhao et al., 2017](#)).

This study aims to empirically test and address the research gap resulting from inconsistent findings in previous studies regarding Carbon Trading and Environmental, Social, and Governance (ESG) Disclosure and their impact on firm value. The combination of this research on Carbon Trading and ESG on firm value is a novelty that does not yet exist in Indonesia. Previous research on Carbon Trading has mostly been conducted abroad, such as in China, particularly in the Energy Sector. Meanwhile, this study was conducted in Indonesia in the manufacturing sector. This study examines the new regulations established in Indonesia in 2022, namely POJK Number 14 of 2023, which was enacted and implemented in 2023 regarding Carbon Trading and GRK, which are adapted to weather phenomena and the natural environment in Indonesia. Therefore, it is hoped that this new research in Indonesia can address environmental issues and improve the company's image in the future.

The adoption of well-designed environmental regulations can stimulate firms to pursue innovative activities that, in turn, enhance productivity ([Porter, 1991](#)). Standardizing carbon emissions within companies helps minimize unnecessary costs related to environmental penalties, thereby contributing to stronger financial performance. Evidence from Chinese listed firms analyzed using the PSM-DID method indicates that carbon emission trading policies effectively reduce emissions while lowering financial outflows related to environmental fines and other corporate expenses ([Zhou & Li, 2019](#)). These savings can compensate for regulatory compliance costs and ultimately improve financial outcomes, which positively influence firm value. Consistent with stakeholder theory, the disclosure of sustainability reports can further strengthen investor confidence and encourage investment in the company. According to ([Yuan et al., 2025](#)) The Carbon Trading Program, in relation to the cost of financing green bonds in China, shows that the cost of financing green bonds is significantly lower, which is more pronounced in regions with better renewable energy development and higher commercialization rates. The results show that the carbon trading market in China has only achieved weak efficiency, with inefficiency becoming slightly more efficient in carbon trading ([Zhao et al., 2017](#)). For companies in regions with high carbon prices, carbon trading policies have a more significant impact on financial performance that supports the company's image. However, carbon trading policies have a stronger positive effect if the financial performance of companies with high pollution levels, but a more significant dampening effect on the market performance of companies with low pollution levels. This study provides empirical evidence that enables policymakers to better understand the effectiveness of carbon trading programs, as carbon trading in China is still significantly inefficient and requires relatively high bond financing costs in line with pollution levels in China ([Yan & Shi, 2024](#)). Based on the previous explanation, the first hypothesis can be formulated as follows:

**H1: Carbon Trading has a Negative Effect on Firm Value**

Analysis of a company's Environmental, Social, and Governance (ESG) disclosure can be a source of information, providing more complete and transparent information about how

the company operates and its impact on society and the environment for various stakeholders, such as investors, regulators, customers, and the general public (Aboud & Diab, 2018). In line with stakeholder theory, which states that sustainability reports are strategic resources that can increase investor confidence in a company to invest in it. Environmental, Social, and Governance (ESG) disclosure is a form of dialogue from the concept of non-financial information disclosure, which states that companies have fulfilled the rights of stakeholders to obtain information about the sustainability aspects of company operations. Research conducted by Aboud & Diab (2018), Li et al. (2018), and Triyani et al. (2020) states that Environmental, Social, and Governance (ESG) disclosure has a positive effect on firm value. These results indicate that the better the quality of Environmental, Social, and Governance (ESG) disclosure, the more it can increase firm value through improved transparency and accountability to meet the needs of supporting the investment process in attracting stakeholder interest and obtaining a more comprehensive picture of the company's sustainability performance. Based on the previous explanation, the second hypothesis can be formulated as follows:

**H2: Environmental, Social, and Governance (ESG) disclosure has a positive effect on Firm Value**

**METHOD**

This study uses a quantitative research approach, and the population in this study is manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2022-2023 period, using secondary data in the form of annual reports and sustainability reports obtained from the Indonesia Stock Exchange website [www.idx.co.id](http://www.idx.co.id). The basis for selecting manufacturing companies, according to the Minister of Energy and Mineral Resources (ESDM), is that the manufacturing sector is one of the most important sectors in the global economy and remains an attractive sector for investors to invest their capital in Indonesia (Prihadyanti & Laksani, 2015). In addition, companies in the manufacturing sector also conduct most of their business activities related to resource utilization, such as environmental impacts that have a significant impact on firm value. Therefore, research on how these companies disclose Carbon Trading and Environmental, Social, and Governance (ESG) disclosures is highly relevant. The Manufacturing Sector is also continuously innovating to meet environmental and social demands, so this research demonstrates how innovation and knowledge in the Manufacturing Sector can influence firm value. The research sample was selected using purposive sampling with the following measurements:

Variables	Measurement	Reference
Firm Value	$Firm\ Value = \frac{Share\ Price}{Book\ value\ per\ share}$	(Indrawati et al., 2023)
Carbon Trading	If a company participates in carbon trading, it is given a value of 1, but if it does not participate, it is given a value of 0..	(Yan & Shi, 2024)
ESG Disclosure	$ESG = \frac{Number\ of\ Indicators\ Disclosed}{Total\ Number\ of\ Indicators}$	(Foundation, 2020)

**Table 1.**  
Variable  
Measurement

In this study, data analysts used multiple regression analysis techniques. The stages of data analysis included descriptive analysis, classical assumption testing, regression analysis, and hypothesis testing. The following is the regression model equation used:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \dots + \beta_nX_n + e$$

Thus, the regression equation in this study is:

$$PBV = \alpha + \beta_1CT + \beta_2ESG + e$$

Where:

Y = Dependent variable

$\alpha$  = Constant

$\beta_1$  = Regression coefficient of X1 (CT)

$\beta_2$  = Regression coefficient of X2 (ESG)

e = Residual / Error

Environmental, social, and governance disclosures are measured using an analysis that refers to the Global Carbon Foundation standards with 33 criteria. Each item has a score of 1, so the calculation involves dividing the total score of the item by the total of 33 items as follows:

ESG Components	ESG Factors
Environmental	<ul style="list-style-type: none"> <li>• ENV1-GHG Emissions</li> <li>• ENV2-GHG Intensity</li> <li>• ENV3-Energy Usage</li> <li>• ENV4-Energy Intensity</li> <li>• ENV5-Energy Mix</li> <li>• ENV6-Water Usage</li> <li>• ENV7-Environmental Operations</li> <li>• ENV8-Climate Oversight/Board</li> <li>• ENV9-Climate Oversight/Management</li> <li>• ENV10-Climate Risk Mitigation</li> <li>• ENV11-Forestry CSR</li> </ul>
Social	<ul style="list-style-type: none"> <li>• SOC1-CEO Pay Ratio</li> <li>• SOC2-Gender Pay Ratio</li> <li>• SOC3-Employee Turnover</li> <li>• SOC4-Gender Diversity</li> <li>• SOC5-Temporary Worker Ratio</li> <li>• SOC6-Non Discrimination</li> <li>• SOC7-Injury Rate</li> <li>• SOC8-Global Health and Safety</li> <li>• SOC9-Child and Forced Labor</li> <li>• SOC10-Human Rights</li> <li>• SOC11-Social CSR</li> </ul>
Governance	<ul style="list-style-type: none"> <li>• GOV1-Board Diversity</li> <li>• GOV2-Board Independence</li> <li>• GOV3-Incentivized Pay</li> <li>• GOV4-Collective Bargaining</li> <li>• GOV5-Supplier Code of Conduct</li> </ul>

**Table 2.**  
ESG  
Components  
& Indicators

ESG Components	ESG Factors
	<ul style="list-style-type: none"> <li>• GOV6-Ethics&amp;Anti Corruption Compliance</li> <li>• GOV7-Data Privacy</li> <li>• GOV8-ESG Reporting</li> <li>• GOV9-Disclosure Practices</li> <li>• GOV10-External Assurance</li> <li>• GOV11-Tax Transparency</li> </ul>

Source: [\(Jeanice, J., & Kim, 2023\)](#)

**RESULTS AND DISCUSSION**

The research samples were selected using purposive sampling with several criteria, as shown in the following table:

**Table 3.**  
Samples' Criteria Suitability

No.	Description	Not Suitable	Suitable
1.	Manufacturing Sector Companies Listed on the IDX in 2022-2023	0	257
2.	Manufacturing sector companies whose annual reports and sustainability reports are accessible for 2022-2023	(126)	131
3.	Manufacturing sector companies that present data related to research variables for 2022-2023	(11)	120
	Number of Observations (Number of sample x 2 Years) 120 x 2		240

Source: *Data Processed*

**Descriptive Statistics**

**Table 4.**  
Descriptive Statistical Test

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Carbon Trading	240	0.00	1.00	0.2750	0.44745
ESG Disclosure	240	0.52	1.00	0.8421	0.10002
Firm Value	240	0.13	44.86	1.8863	4.17485
Valid N (listwise)	240				

Source: *SPSS Output*

Based on Table 4, the descriptive analysis shows that the company variable has a minimum value of 0.13, a maximum value of 44.86, an average value of 1.8863, and a standard deviation of 1.34401. The standard deviation value is greater than the mean value, indicating that the firm value data variable has relatively high data dispersion. The Carbon Trading variable has a minimum value of 0.00, a maximum value of 1.00, an average value of 0.2750, and a standard deviation of 0.44745. The standard deviation value is greater than the average value, indicating that the Carbon Trading data variable has a relatively large data deviation. Meanwhile, the Environmental, Social, and Governance (ESG) variable has a minimum value of 0.52, a maximum value of 1.00, an average value of 0.8421, and a standard deviation of 0.10002. The standard deviation value is smaller than the mean value, indicating that the Environmental, Social, and Governance (ESG) data variable has a relatively small data deviation.

**Classical Assumption Test**

Variable	Normality Test	Multicollinearity Test		Heteroscedasticity Test	Autocorrelation Test
	Kolmogorov-Smirnov	Tolerance	VIF	Scatterplot	DW
Carbon Trading	0.200	0.994	1.006	The distribution of points is scattered above, below, or around the number 0, and is not patterned.	1.174
ESG Disclosure		0.994	1.006		

**Table 5.** Classical Assumption Test

Source: SPSS Output

Table 5 shows that the test for normal distribution has a p-value > 0.05, namely 0.200. This indicates that the data is normally distributed. The multicollinearity test has a VIF < 10, namely 1.006, proving that the data in this study does not experience multicollinearity. The heteroscedasticity test shows that the distribution of points is scattered above, below, or around the number 0, and is not patterned. Therefore, the data in this study does not experience heteroscedasticity. The autocorrelation test has a Durbin-Watson value of 1.174. This value falls within the range of -2 to 2. This proves that the data in this study does not contain autocorrelation.

**Multiple Regression Analysis**

Model	Coeff.	t	Sig.	Sig. F	Adjusted R <sup>2</sup>
Carbon Trading	-2.054	-42.510	0.000	0.000	0.883
ESG Disclosure	5.220	5.643	0.000		

**Table 6.** Multiple Regression Analysis

a. Dependent Variable: Firm Value

Source: SPSS Output

Table 6 shows that the T-test on the Carbon Trading variable Sig 0.000 < 0.05 has a significant effect with an unstandardized B value of -2.054, which is negative, so it can be concluded that carbon trading has a significant negative effect on firm value. Meanwhile, the Sig value for the ESG variable is 0.014 < 0.05, and the unstandardized B value is 5.22, indicating a positive direction. Therefore, it is concluded that ESG has a positive effect on firm value. Based on the statistical values in Table 6, the F-test with a significance level of 0.000 indicates that the significance level is less than 0.05 (0.000 < 0.05), so it can be concluded that the independent variables (CT and ESG) simultaneously influence the dependent variable (firm value). Based on the SPSS output in Table 6, it is also shown that the calculation results yield a coefficient of determination (R<sup>2</sup>) of 0.883 or 88.3%, meaning that in this study, the CT and ESG variables can explain the firm value variable. The remaining 0.117 or 11.7% is explained by other variables outside the scope of this study.

The results of testing hypothesis 1 show that Carbon Trading (CT) has a negative effect on firm value. These research results support stakeholder theory, which states that the success of an organization depends on the company's ability to achieve economic and non-economic goals, one of which is sustainability reporting, which can increase investor confidence in the company to invest in it. These research results are in line with previous research conducted by [Yuan et al. \(2025\)](#), [Zhao et al. \(2017\)](#), [Yan & Shi \(2024\)](#) that a slight increase in carbon trading has a significant impact on firm value. This will balance the costs associated with environmental regulations and ultimately lead to improved financial performance, which will impact firm value, thereby attracting investors to invest in the company. This study examines manufacturing companies in 2022-2023 that are actively involved in environmental management, particularly carbon trading, even though the impact is minimal. However, there has been an increase following the implementation of carbon trading regulations in 2023 (POJK Number 14 of 2023) There has been positive movement in terms of corporate image. Companies in Indonesia have already designed carbon trading movements because they have an impact on corporate image, especially in terms of superior environmental management. However, based on the results of this study, carbon trading has a negative impact on firm value. Therefore, the regulations established by the Indonesian government, namely POJK No. 14 of 2023 regarding Carbon Trading, have not yet been fully implemented. There are still weaknesses where the basis for the capital contributed as a carbon exchange operator is exactly the same as the stock exchange rules stipulated in Article 3 of POJK 3/ 2021. This indicates that the Indonesian carbon trading market in manufacturing companies has achieved weak efficiency or has a negative impact, meaning that the Indonesian carbon trading market is still somewhat inefficient as the market is not yet mature or is still developing. It is hoped that the market will become highly efficient once it reaches a certain level of maturity and scale. This indicates that the weak form of efficiency in Indonesia's carbon trading market is being implemented gradually, and the carbon trading market in Indonesia is showing signs of recovering market efficiency.

This study highlights several key policy implications that can strengthen the role of carbon trading in enhancing corporate image. First, it is essential to raise corporate awareness of carbon trading and carbon asset management, while fostering stronger communication with firms to deepen their understanding of carbon trading regulations. Second, there is a need to advance carbon trading disclosure systems by promoting carbon accounting standards, improving transparency, and standardizing market information, ensuring that corporate data remains reliable and comparable—thus supporting investment decisions and enabling social oversight. Third, the establishment of a transitional carbon trading framework is required, with market mechanisms designed to align with the specific goals and functions of each stage of carbon market development. Fourth, building a multi-tiered carbon financial market system would help stabilize carbon-related financial prices and increase corporate participation. Lastly, to enhance the liquidity of carbon emission rights, local governments in Indonesia should regard carbon quotas as productive resources rather than merely as performance evaluation indicators. Such an approach can also act as an incentive for investor participation while strengthening corporate reputation.

### **The Effect of ESG Disclosure on Firm Value**

The results of testing hypothesis 2 show that Environmental, Social, and Governance (ESG) has a positive effect on firm value. These research results support stakeholder theory, which states that the success of an organization depends on the company's ability to achieve economic and non-economic goals, one of which is sustainability reporting, which can increase investor confidence in the company to invest in it. These research results are in line

with previous research conducted by [Aboud & Diab \(2018\)](#), [Li et al. \(2018\)](#), and [Triyani et al. \(2020\)](#). That the better the quality of Environmental, Social, and Governance (ESG) disclosure, the more it can increase firm value through improved transparency and accountability to meet the needs of supporting the investment process in attracting stakeholder interest and gaining a more comprehensive picture of the company's sustainability performance. This study found that manufacturing companies in 2022-2023 with higher ESG index rankings had higher firm values, as measured by PBV. These findings align with ESG category 33 ([Jeanice, J., & Kim, 2023](#)). It is explained that corporate behavior that is responsible toward the environment and society, as well as effective ESG practices, can improve employee morale and therefore productivity, enhance management team capabilities, attract new customers and foster loyalty, reduce regulatory burdens, and increase customer satisfaction. Considering the above, ESG disclosure can serve as a tool to minimize potential conflicts with stakeholders (not just shareholders) and to enhance stakeholders' perception of the alignment of the company's actions.

Environmental, Social, Governance (ESG) disclosure positively influences firm value, as explained by stakeholder theory. Responsible social and environmental practices, together with ESG initiatives, strengthen stakeholder trust and make ESG a credible investment choice. Consequently, ESG disclosure not only directly enhances firm value but also improves corporate reputation, fostering sustainable growth.

## CONCLUSION

This study aims to examine the effect of carbon trading and environmental, social, and governance (ESG) disclosure on firm value. The study was conducted using data analysis techniques, specifically Multiple Regression Analysis via the SPSS system, on manufacturing companies listed on the Indonesia Stock Exchange, with a total of 240 observations from 120 companies during the 2022-2023 period. The results indicate that Carbon Trading (CT) has a negative impact on corporate value. The study indicates that carbon trading still has a negative impact on the value of manufacturing companies in Indonesia, despite the implementation of regulations such as POJK No. 14 of 2023. The carbon market is considered inefficient and still developing. However, carbon trading still has the potential to strengthen a company's image in environmental management. Further policies are needed to improve understanding, transparency, and efficiency in the carbon market to positively drive firm value.

Meanwhile, Environmental, Social, and Governance (ESG) disclosure has a positive effect on firm value. This finding supports stakeholder theory, which emphasizes the importance of balancing a company's economic and non-economic objectives. Companies with higher ESG ratings tend to have higher values because good ESG practices enhance transparency, accountability, employee morale, customer satisfaction, and investor confidence. ESG also plays a crucial role in building a company's reputation and minimizing conflicts with various stakeholders, thereby directly contributing to the company's growth and sustainability. Furthermore, there are limitations in this study, one of which is the limited number of companies that publish sustainability reports, resulting in a limited sample size used in this study. Additionally, future research is encouraged to extend the observation period and expand the scope of the study, thereby broadening the research coverage.

## REFERENCES

- Aboud, A., & Diab, A. (2018). The impact of social, environmental and corporate governance disclosures on firm value: Evidence from Egypt. *Journal of Accounting in Emerging Economies*, 8(4), 442–458. <https://doi.org/10.1108/JAEE-08-2017-0079>
- Ariyanti, S., Abadi, S., & Taufiqurrahman, T. (2024). Implementasi Perdagangan Karbon Di Indonesia Pasca Terbitnya Pojk Nomor 14 Tahun 2023 Tentang Bursa Karbon. *Law and Humanity*, 2(1), 18–39. <https://doi.org/10.37504/lh.v2i1.606>
- Damayanthi, I. G. A. E. (2019). Fenomena Faktor yang Mempengaruhi Nilai Perusahaan. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 208. <https://doi.org/10.24843/jiab.2019.v14.i02.p06>
- Databoks. (2022). Pada, Investasi Manufaktur Melejit 54%. <https://databoks.katadata.co.id/manufacturer/statistik/d1fdf06b27e6d48/investasi-manufaktur-melejit-54-pada-september-2022>
- Deegan, C. M. (2014). *Financial accounting theory*/Craig Deegan.
- ESDM, K. (2024). Transaksi Perdagangan Karbon Tahun 2023 Capai Rp84 miliar. <https://www.esdm.go.id/id/media-center/arsip-berita/transaksi-perdagangan-karbon-tahun-2023-capai-rp84-miliar>
- Faisal, F., Prastiwi, A., & Yuyetta, E. N. A. (2018). Board Characteristics, Environmental Social Governance Disclosure And Corporate Performance: Evidence From Indonesia Public Listed Companies. *The 2018 Fifth International Conference on Governance Dan Accountability*. 1–12.
- Foundation, B. (2020). BGK Foundation ESG Indeks. BGK Foundation. <https://bgkesgindex.com/id>
- Gray, R., R. Kouhy, dan S. L. (1995). Corporate Social & Environmental Reporting: A Review of the Literature & a Longitudinal Study of UK Disclosure. *Accounting, Auditing & Accountability Journal*, 08(2), 47–77. <https://doi.org/10.1108/09513579510146996>
- Indonesia, P. (2014). Peraturan Presiden Republik Indonesia Nomor 61 Tahun 2014 Tentang Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca. <https://jdih.kemenkeu.go.id/dok/pp-61-tahun-2014/files>
- Indonesia, P. P. R. (2011). Rencana Aksi Nasional Penurunan Emisi Gas Rumah Kaca. President Regulation. 61. <https://peraturan.go.id/files/ps61-2011.pdf>
- Indrawati, N., L, A. A., . R., & Mutia Basri, Y. (2023). The Effect of Intellectual Capital and Corporate Governance on Company Performance and its Impact on Firm Value. *KuE Social Sciences*, 2023, 217–232. <https://doi.org/10.18502/kss.v8i13.13759>
- Jeanice, J., & Kim, S. S. (2023). Pengaruh Penerapan Esg Terhadap Nilai Perusahaan Di Indonesia. *Owner: Riset Dan Jurnal Akuntansi*, 7(2), 1646–1653. <https://doi.org/10.33395/owner.v7i2.1338>
- Kim, S., & Kim, K. (2024). The compounding effect of mandatory GHG emissions disclosure and voluntary ESG disclosure on firm value in Korea. *Journal of Asian Business and Economic Studies*. <https://doi.org/10.1108/JABES-12-2023-0519>
- Kurniansyah, F., Saraswati, E., & Rahman, A. F. (2021). Corporate Governance, Profitability, Media Exposure, and Firm Value: the Mediation Role of Environmental Disclosure. *Jurnal Minds: Manajemen Ide Dan Inspirasi*, 8(1), 69–8. <https://doi.org/10.24252/minds.v8i1.20823>
- Li, Y., Gong, M., Zhang, X. Y., & Koh, L. (2018). The impact of environmental, social, and governance disclosure on firm value: The role of CEO power. *British Accounting Review*, 50(1), 60–75. <https://doi.org/10.1016/j.bar.2017.09.007>
- Naegele, Naegele, H., Zaklan, A H., Zaklan, A. (2019). Does the EU ETS cause carbon leakage in European manufacturing. *J. Environ. Econ. Manag.*, 93, 125–147. <http://hdl.handle.net/10419/171309>
- Porter, M. E. (1991). America's green strategy. *Sci. Am.*, 264, 142–153.

<https://www.jstor.org/stable/e24936846>

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- Prihadyanti, D., & Laksani, C. S. (2015). R & D dan Inovasi di Perusahaan Sektor Manufaktur Indonesia. *Jurnal Manajemen Teknologi*, 14(2), 187–198. <https://doi.org/10.12695/jmt.2015.14.2.5>
- Sharma, J., & Ravindranath, N. H. (2019). Applying IPCC 2014 framework for hazard-specific vulnerability assessment under climate change. *Environmental Research Communications*, 1(5). <https://doi.org/10.1088/2515-7620/ab24ed>
- Sumarno, D. C., Andayani, W., & Prihatiningtyas, Y. W. (2023). The Effect of Environmental, Social and Governance (ESG) Assessment on Firm Value with Profitability as a Mediating Variable. *Asia Pacific Management and Business Application*, 12(1), 55–64. <https://doi.org/10.21776/ub.apmba.2023.012.01.4>
- Triyani, A., Setyahuni, S. W., & Kiryanto, K. (2020). The Effect Of Environmental, Social and Governance (ESG) Disclosure on Firm Performance: The Role of Ceo Tenure. *Jurnal Reviu Akuntansi Dan Keuangan*, 10(2), 261. <https://doi.org/10.22219/jrak.v10i2.11820>
- Yan, G., & Shi, Z. (2024). A Study on the Impact of Pilot Carbon Emission Trading Policies on Corporate Performance. *Sustainability (Switzerland)*, 16(5). <https://doi.org/10.3390/su16052214>
- Yuan, H., Liao, J., & Young, M. (2025). The impact of the carbon trading pilot program on the financing cost of green bonds. *Finance Research Letters*, 78(November 2024), 107203. <https://doi.org/10.1016/j.frl.2025.107203>
- Zhao, X. gang, Wu, L., & Li, A. (2017). Research on the efficiency of carbon trading market in China. *Renewable and Sustainable Energy Reviews*, 79(May), 1–8. <https://doi.org/10.1016/j.rser.2017.05.034>
- Zhou, K., & Li, Y. (2019). Carbon finance and carbon market in China: Progress and challenges. *Journal of Cleaner Production*, 214, 536–549. <https://doi.org/10.1016/j.jclepro.2018.12.298>