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The Influence of Carbon Emission Disclosure, Corporate Social Responsibility, and Corporate Governance on Firm Value with Financial Flexibility as a Moderating Variable in the SRI-KEHATI Index

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A B S T R A C T

This study aims to analyze the effect of carbon emission disclosure, corporate social responsibility, and corporate governance on company value in the SRI-KEHATI Index during the period 2019-2023. In addition, this study also examines financial flexibility as a moderating variable in the relationship between carbon emission coverage, corporate social responsibility, and corporate governance. The research sample was determined using purposive sampling, resulting in 19 companies. The analytical method used in this study is Moderate Regression Analysis (MRA). The results show that carbon emission disclosure has a negative and insignificant effect on company value, corporate social responsibility has a positive and insignificant effect on company value, and corporate governance has a positive and insignificant effect on company value. In addition, financial flexibility moderates the effect of carbon emission disclosure on company value positively and significantly. Other results show that financial flexibility moderates the effect of carbon-emitting disclosure on company value positively and significantly, and moderates the effect of corporate governance on company value positively but not significantly. These findings provide an important contribution to the literature on the factors determining firm value, particularly for companies included in the SRI-KEHATI Index. They also provide a basis for management in developing strategies for freezing and unfreezing financial statements to enhance firm value.

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Introduction

Companies today are striving to report social and environmental issues through sustainability reporting in order to enhance stakeholder trust. Each company has its own approach to disclosing sustainability issues, whether in the annual report or in a standalone sustainability report (Isnurhadi et al., 2020). Companies play an important role in achieving sustainable development goals. The publication of sustainability reports that include environmental performance and corporate sustainability strategies serves as a form of support and contribution by companies in addressing climate change and achieving sustainable development goals (Inayah et al., 2022).

The KEHATI Foundation has issued a green index called the Sustainable and Responsible Investment (SRI)-KEHATI Stock Index, launched on June 8, 2009, referring to the United Nations' Principles for Responsible Investment (PRI) and published in collaboration with the Indonesia Stock Exchange (IDX). The index is based on standards for selecting companies that apply the principles of Sustainable Responsible Investment (SRI), as well as environmental, social, and governance (ESG) principles. Through the SRI-KEHATI Index, KEHATI seeks to create mutualism between the conservation world and the business sector. Currently, the SRI-KEHATI Index consists of 25 shares of public companies listed on the Indonesia Stock Exchange, with its composition reviewed and updated in May and November each year. The movement of the stock prices of companies included in the SRI-KEHATI Index can

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be seen in Figure 1 below:

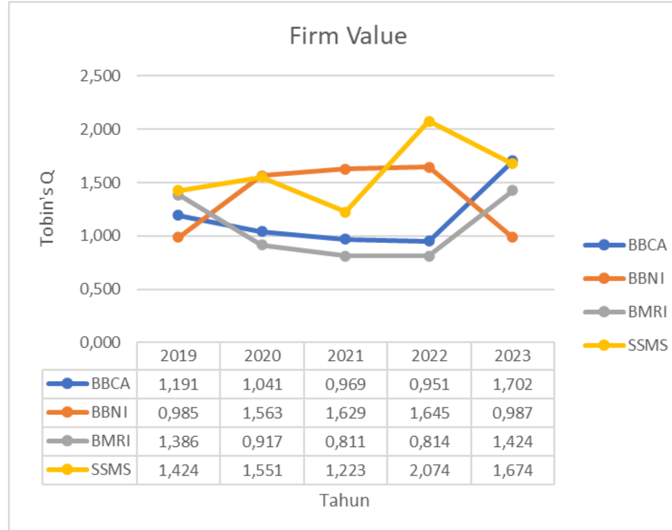
Source: (Kehati.or.id)

Figure 1. Comparison of Stock Index Performance

Based on Figure 1, it is shown that the SRI-KEHATI stock index held the highest position with a value of 49.76%, followed by the Composite Stock Price Index (IHSG) at 41.40%, and LQ45 at 13.69% in February 2023. These results indicate that investors prefer the SRI-KEHATI Index because they are willing to invest and pay higher prices. The positive trend in the SRI-KEHATI Index shows that business activities and stock prices are growing faster compared to other indices. In addition, the companies included in the index have better corporate performance and financial conditions.

Companies listed in the SRI-KEHATI Index play a highly vital role in Indonesia's economy. As one of the sectors with a significant contribution to national economic growth, such as banking, property, and real estate, they function as key drivers in infrastructure development. Activities in this sector include land development, the construction of housing, commercial buildings, and industrial properties, all of which contribute to increased economic activity. In addition, this sector serves as an indicator of economic health, where property demand often reflects overall economic conditions. A strong property sector typically indicates high consumer and investor confidence in the economy, while a decline in this sector may signal economic weaknesst.

One of the main objectives of a company is to maximize its firm value. To achieve this, one of the measurement tools used is Tobin's Q. The Tobin's Q ratio is a financial metric commonly used by investors to evaluate a company's stock price relative to its book value. In this study, firm value is measured using Tobin's Q. Tobin's Q is frequently used to assess firm value because it is considered to provide the best information, as it includes all elements of the company's debt and equity, not only common stock but the company's entire assets. The following presents the phenomenon of firm value projected using Tobin's Q for companies included in the SRI-KEHATI Index listed on the Indonesia Stock Exchange during the 2019–2023 period:



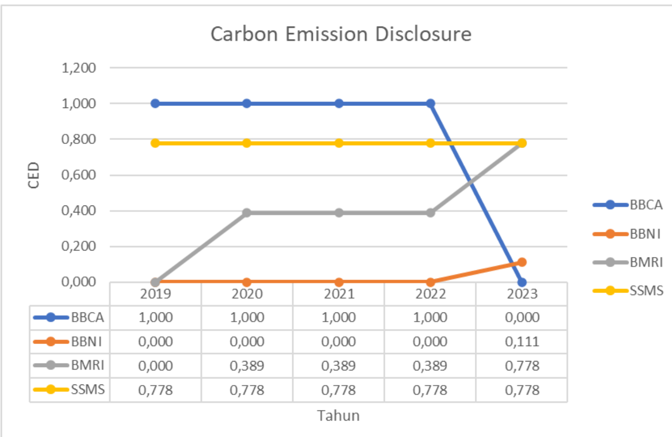
. *Source: Data processed (2025)*

Figure 2. Tobin's Q Value of SRI KEHATI Index Companies

Based on Figure 2, the Tobin's Q values—which serve as a proxy for firm value—of four companies in the SRI-KEHATI Index, namely PT Bank Central Asia Tbk (BBCA), PT Bank Negara Indonesia Tbk (BBNI), PT Bank Mandiri Tbk (BMRI), and PT Sawit Sumbermas Sarana Tbk (SSMS), experienced declines at certain points during the 2019–2023 period. A decrease in Tobin's Q indicates that the company's market value is lower than the replacement value of its assets, suggesting that the company may be undervalued. Several factors may contribute to this decline, such as reduced profitability, deteriorating company performance, or ineffective management communication. This contrasts with the ideal theory, which expects firm value to increase along with rising market value or asset value. However, one company experienced a particularly significant decline in Tobin's Q: PT Bank Negara Indonesia Tbk (BBNI). In 2022, BBNI recorded a Tobin's Q value of 1.645, but in 2023, due to a 40 percent drop in profit, its Tobin's Q fell to 0.987.

The establishment of a company has clear objectives. A company's long-term goal is to optimize firm value by increasing the wealth of its shareholders (Isnurhadi et al., 2020). In general, companies will disclose information about the three main aspects of their operations, such as corporate performance, which can enhance firm value. Firm value reflects investors' perceptions of how well or poorly management is running the company. A high firm value indicates that the market not only trusts the company's current performance but also its prospects (Wardhani and Kawedar, 2019).

This study identifies several factors that are predicted to influence firm value. One of the main factors is carbon emission disclosure. This disclosure is considered important because it can improve the quality of a company's financial reporting, facilitate stakeholder understanding, and provide a basis for decision-making. Carbon emission disclosure is one way for companies to demonstrate their commitment and accountability in protecting the environment. Carbon emissions are one of the main contributors to global warming; therefore, disclosing information related to carbon emissions can provide stakeholders with a better understanding of the company's efforts to minimize its environmental impact (World Meteorological Organization, 2022). The following presents the phenomenon of Carbon Emission Disclosure in companies included in the SRI-KEHATI Index listed on the Indonesia Stock Exchange during the 2019–2023 period:



Source: Data processed (2025)

Figure 3. CED Value of SRI KEHATI Index Companies

Based on Figure 3, the Carbon Emission Disclosure values of the four companies in the SRI-KEHATI Index—PT Bank Central Asia Tbk (BBCA), PT Bank Negara Indonesia Tbk (BBNI), PT Bank Mandiri Tbk (BMRI), and PT Sawit Sumbermas Sarana Tbk (SSMS)—show that the company experiencing a decline in carbon emission disclosure during the 2022–2023 period is PT Bank Central Asia Tbk (BBCA). Overall, the decline observed during the 2019–2023 period indicates a reduction in carbon emission disclosure, which is associated with efforts to reduce air pollution, protect human health and ecosystems, and contribute to climate change mitigation and global carbon-neutrality targets. However, it is important to note that carbon emission disclosure itself remains essential for transparency, maintaining corporate legitimacy, and building investor trust.

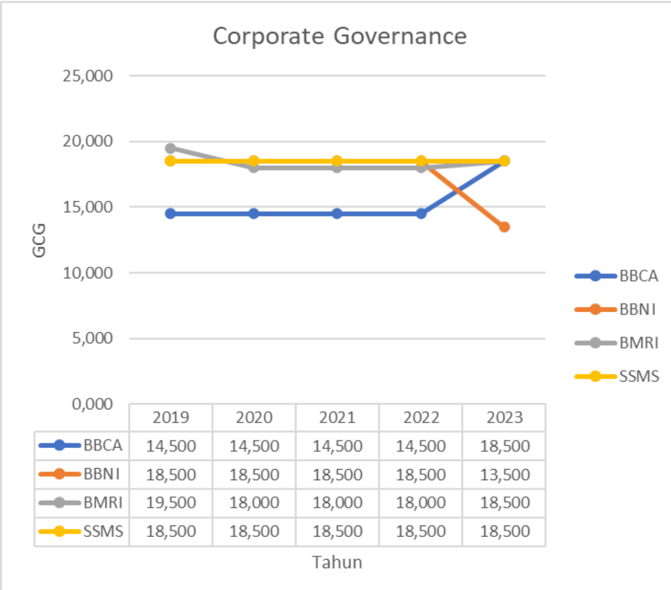
The second factor predicted to influence firm value in this study is corporate social responsibility (CSR). CSR is an important non-financial factor for companies in enhancing their value. Corporate social responsibility is often considered the core of business ethics, meaning that a company has obligations not only economically and legally to its shareholders but also to its stakeholders (Pradika, 2022). The following presents the phenomenon of Corporate Social Responsibility in companies included in the SRI-KEHATI Index listed on the Indonesia Stock Exchange during the 2019–2023 period:

Source: Data processed (2025)

Figure 4. CSR Values in SRI KEHATI Index Companies

Based on Figure 4, the CSR values of the four companies in the SRI-KEHATI Index—PT Bank Central Asia Tbk (BBCA), PT Bank Negara Indonesia Tbk (BBNI), PT Bank Mandiri Tbk (BMRI), and PT Sawit Sumbermas Sarana Tbk (SSMS)—show that the company experiencing a decline in CSR disclosure during the 2019–2020 period is PT Bank Mandiri Tbk (BMRI). This indicates that the company's Corporate Social Responsibility (CSR) disclosure was relatively weak, reflecting a potential decrease in the company's attention to social and environmental impacts. This decline can negatively affect the company's public image and investor perception. CSR disclosure aims to provide information and accountability to stakeholders, so a reduction in disclosure can lead to higher reputational, legal, and sustainability risks.

The third factor predicted to influence firm value in this study is corporate governance. According to the Indonesia Stock Exchange (IDX, 2023), corporate governance is a method designed to provide guidance to company management based on the principles of transparency, accountability, responsibility, independence, fairness, and equality. The implementation of corporate governance is a key element in enhancing firm value. Sometimes, information asymmetry among involved parties can lead to conflicts between shareholders and management (Amalia, 2021). The following presents the phenomenon of Corporate Governance in companies included in the SRI-KEHATI Index listed on the Indonesia Stock Exchange during the 2019–2023 period:

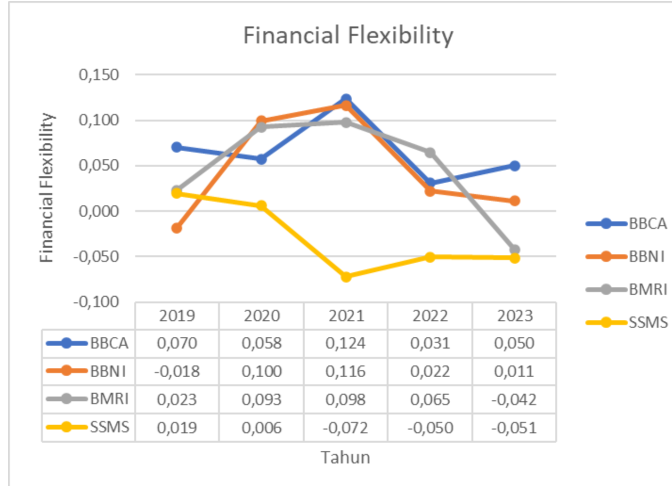


Source: Data processed (2025)

Figure 5. Corporate Governance Values in SRI KEHATI Index Companies

Based on Figure 1.5, the corporate governance values of the four companies in the SRI-KEHATI Index—PT Bank Central Asia Tbk (BBCA), PT Bank Negara Indonesia Tbk (BBNI), PT Bank Mandiri Tbk (BMRI), and PT Sawit Sumbermas Sarana Tbk (SSMS)—show that the company experiencing a fairly significant decline in corporate governance disclosure during the 2022–2023 period is PT Bank Negara Indonesia Tbk (BBNI). This indicates that the company's Corporate Governance (CG) disclosure was relatively weak, reflecting a reduction in the membership of commissioners and committees responsible for managing the company.

The moderating factor predicted to influence firm value in this study is financial flexibility. Financial flexibility refers to a company's ability to take advantage of unexpected opportunities or manage unforeseen events at a low cost. It represents a company's capacity to manage and allocate financial resources quickly and efficiently, whether preventively, reactively, or exploitatively, to achieve the goal of maximizing firm value (Byoun, 2008). Financial flexibility is an important concept in corporate finance, describing a company's ability to adjust its capital structure and cash management strategies in response to unexpected changes in cash flow or investment opportunities. The following presents the phenomenon of Financial Flexibility in companies included in the SRI-KEHATI Index listed on the Indonesia Stock Exchange during the 2019–2023 period:



Source: Data processed (2025)

Figure 6. Financial Flexibility Value in SRI KEHATI Index Companies

Based on Figure 6, the financial flexibility values of the four companies in the SRI-KEHATI Index—PT Bank Central Asia Tbk (BBCA), PT Bank Negara Indonesia Tbk (BBNI), PT Bank Mandiri Tbk (BMRI), and PT Sawit Sumbermas Sarana Tbk (SSMS)—show that the company experiencing a decline in financial flexibility during the 2021–2023 period is PT Bank Mandiri Tbk (BMRI). The company had a financial flexibility value of 0.098 in 2021, which fell to -0.042 by the end of 2023. This indicates a reduced ability of the company or individuals to respond effectively to unexpected changes and capitalize on opportunities, typically due to high debt burdens, limited cash flow, profitability issues, or unmet capital needs.

Based on the background outlined and a review of previous studies, this research was conducted under the title: "The Effect of Carbon Emission Disclosure, Corporate Social Responsibility, and Corporate Governance on Firm Value with Financial Flexibility as a Moderating Variable in the SRI-KEHATI Index:

Literature Review

Stakeholder Theory

Beckman et al. (2016) stated that stakeholder theory is a theory involving multiple constituents who have an impact on or are affected by the company. Developed by Edward Freeman in 1984, this theory emphasizes that companies should provide benefits to stakeholders (including the government, employees, shareholders, society, customers, suppliers, and other parties) by providing information related to the company's activities.

Firm Value

In general, firm value is the amount someone would pay to acquire a company, as well as the market's confidence in the company's current performance and prospects. Therefore, firm value can be determined by comparing the company's performance results and by considering the maximization of shareholder wealth (Hardiyansah et al., 2021). Investors' perspectives on stock prices, which directly affect a company's success, provide value to the company and can enhance the quality of and trust from shareholders (Wijaya et al., 2018).

Carbon Emission Disclosure

Carbon emissions are the result of gases released when carbon-containing compounds, primarily carbon dioxide, are produced (Nainggolan & Rohman, 2015). Carbon emission disclosure represents a company's commitment to environmental sustainability and is usually included in the supplementary section of the company's sustainability report (Arifah & Haryono, 2021). This indicates that the higher a company's level of transparency in disclosing carbon emissions, the greater its responsibility toward the environment and the interests of its stakeholders.

Corporate Social Responsibility

Corporate social responsibility (CSR) is a form of corporate action aimed at improving community welfare and addressing social and environmental impacts resulting from company operations. In the long term, this can enhance the company's image in the eyes of the public and stakeholders (Dinda et al., 2021). CSR also serves as a long-term strategy to create business sustainability, as through CSR practices, companies can increase stakeholder trust, strengthen competitive advantages, and make a positive contribution to economic and environmental development (Carroll & Shabana, 2010).

Corporate Governance

According to the Cadbury Committee, good corporate governance is a system that directs and controls a business to achieve a balance between the authority needed for business continuity and responsibility to stakeholders (Kuncoro and Kurnia, 2019). Corporate governance, according to the Indonesian Institute for Corporate Governance, is the structure, system, and processes used by corporate organs to provide sustainable long-term value to the company (Kartana and Wulandari, 2018).

Financial Flexibility

In general, financial flexibility is a company's ability to manage and access funding sources quickly and efficiently in order to take advantage of investment opportunities or withstand unexpected financial pressures. According to Byoun (2008), financial flexibility is a company's ability to optimally adjust its capital structure by utilizing available cash and debt capacity, enabling the company to finance investment needs, navigate uncertain conditions, and minimize the costs of financial distress.

Conceptual Framework

This study uses three independent variables, one dependent variable, one moderating variable, and one control variable. In this study, the independent variables are carbon emission disclosure, corporate social responsibility, and corporate governance. The dependent variable is firm value, with financial flexibility serving as the moderating variable:

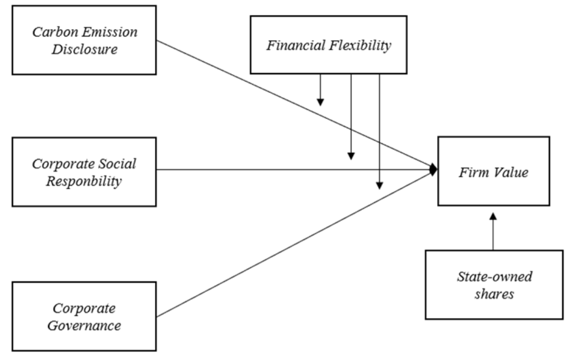


Figure 7. Conceptual Framework

Methodology

Type of research

The type of research used in this study is quantitative research. According to Sugiyono (2019), quantitative research is a study that presents data in the form of numbers and statistical analysis with the aim of testing predetermined hypotheses. The type of data used in this study is secondary data in the form of companies' annual financial reports. Secondary data refers to data obtained from existing sources.

Research Location and Time

This study uses data obtained from the annual financial reports of companies listed in the SRI-KEHATI Index for the 2019–2023 period, accessed via the internet through the official website of the Indonesia Stock Exchange (IDX) at www.idx.co.id, as well as the official websites of the respective companies. The research was conducted from December 2024 to November 2025.

Population and Sample

According to Sugiyono (2019), a population is a general area that includes objects/subjects with certain numbers and characteristics determined by the researcher to be studied and from which conclusions are drawn. The population in this study consists of companies listed in the SRI-KEHATI Index, totaling 44 companies.

According to Sugiyono (2019), a sample is a portion of the population that represents its characteristics. In this study, the sample was selected using purposive sampling, which involves choosing samples based on specific criteria. Based on these criteria, the researcher obtained 19 companies that met the research period of five years.

Data Analysis Method

This technique is used to determine whether the results of a study support or reject a hypothesis by analyzing the collected data. The data analysis technique used in this study is Panel Data Multiple Linear Regression with a Moderated Regression Analysis (MRA) model.

Results

Overview of Research Data

Descriptive statistical analysis is used to understand the characteristics of the data before conducting further analysis. These descriptive statistics include the mean, median, maximum value, minimum value, and standard deviation of each variable used in this study. The following table presents the results of the descriptive statistical analysis for the variables in this research.

Table 1. Descriptive Statistical Analysis Results

Statistik	Y	X1	X2	X3	M
Mean	1.874459	0.532164	0.721805	3.057744	0.217431
Median	1.098473	0.611111	0.714286	3.169231	0.135459
Maximum	16.26333	0.888889	1.000000	3.923077	0.984453
Minimum	0.273659	0.000000	0.285714	0.083333	-0.071992
Std. Dev.	2.550457	0.228139	0.152228	0.541631	0.240613
Observations	95	95	95	95	95

Source: Data processed (2025)

Interpretation of the table explanation as follows:

1. The firm value (Y) variable has a mean of 1.874459 with a standard deviation of 2.550457. A standard deviation greater than the mean indicates a high level of variation among the sampled companies. This suggests that firm value differs significantly across individual entities. Meanwhile, the maximum value of 16.2633 and the minimum value of 0.273658 indicate substantial differences in firm value among the research samples.
2. The carbon emission disclosure (X_1) variable has a mean of 0.532164 with a standard deviation of 0.228139. A standard deviation smaller than the mean shows that the variation in X_1 among the sampled companies is moderate, meaning there are differences in disclosure levels, but they are not extreme. The maximum value of 0.888889 and the minimum value of 0.000000 indicate that some companies have demonstrated relatively high disclosure levels, while others have not disclosed at all.
3. The corporate social responsibility (X_2) variable has a mean of 0.721805 with a standard deviation of 0.152228. A standard deviation smaller than the mean indicates that the CSR levels among sampled companies have a relatively low spread or limited variation. The maximum value of 1.00000 and the minimum value of 0.285714 indicate that some companies have fully disclosed all CSR indicators, while others have lower levels of social disclosure.
4. The corporate governance (X_3) variable has a mean of 3.057744 with a standard deviation of 0.541631. A standard deviation smaller than the mean suggests that the implementation levels of CG among sampled companies have a relatively low spread or moderate variation. Meanwhile, the maximum value of 3.923077 and the minimum value of 0.083333 indicate differences in the level of CG implementation among the sample companies.
5. The financial flexibility (M) variable has a mean of 0.217431 with a standard deviation of 0.240613. A standard deviation greater than the mean indicates a high spread or significant variation in financial flexibility among the sampled companies. The maximum value of 0.984453 and the minimum value of –0.071992 show differences in financial flexibility capabilities among the sample companies, ranging from high flexibility to relatively low flexibility.

Discussion

The Effect of Carbon Emission Disclosure on Firm Value

The regression analysis results show that carbon emission disclosure has a coefficient of −0.550760 with a p-value of 0.0000, indicating that carbon emission disclosure has a negative and significant effect on firm value. Therefore, the research hypothesis stating that carbon emission disclosure has a positive and significant effect on firm value is rejected. This finding suggests that an increase in the level of carbon emission disclosure by the company is negatively perceived by the market, resulting in a decrease in firm value.

Theoretically, the research hypothesis is formulated based on stakeholder theory and signaling theory. From the perspective of stakeholder theory, carbon emission disclosure is viewed as a form of corporate accountability to stakeholders in order to fulfill the social contract and gain legitimacy. Transparency regarding carbon emissions reflects the company's commitment to environmental responsibility and the management of sustainability risks, which is ideally expected to increase investor confidence and positively impact firm value. Meanwhile, according to signaling theory, carbon emission disclosure should serve as a positive signal to the market by providing information about operational efficiency and the company's potential long-term risks.

The Effect of Corporate Social Responsibility on Firm Value

The regression analysis results show that the corporate social responsibility (CSR) variable has a coefficient of 0.361623 with a p-value of 0.3340, indicating that CSR has a positive but not significant effect on firm value. This finding suggests that although an increase in CSR activities tends to be followed by an increase in firm value, the effect is not statistically supported within the context of this study. Therefore, the research hypothesis stating that corporate social responsibility has a positive and significant effect on firm value is rejected.

Theoretically, this hypothesis is based on stakeholder theory and signaling theory. From the perspective of stakeholder theory, CSR is seen as a form of corporate commitment to meeting the interests of stakeholders, including the community, government, regulators, and the environment. Effective CSR implementation is expected to enhance social legitimacy, strengthen corporate reputation, and support long-term sustainability, ultimately contributing to increased firm value. Meanwhile, according to signaling theory, CSR disclosure functions as a positive signal to the market regarding management quality, social responsibility, and the company's sustainability prospects, which is expected to increase investor confidence and be reflected in higher firm value.

The Effect of Corporate Governance on Firm Value

The regression analysis results show that the corporate governance variable has a coefficient of 0.054528 with a p-value of 0.5514, indicating that corporate governance has a positive but not significant effect on firm value. This finding suggests that although an improvement in corporate governance quality tends to be followed by an increase in firm value, the relationship is not statistically supported. Therefore, the research hypothesis stating that corporate governance has a positive and significant effect on firm value is rejected.

Furthermore, in the context of stakeholder theory, the effectiveness of corporate governance heavily depends on the quality of its implementation and internalization within the organizational structure. The findings of this study indicate that the Indonesian capital market during the observation period has not regarded corporate governance quality as a primary determinant of firm value, as investors tend to focus more on short-term financial indicators. The relatively limited variation in the level of corporate governance implementation across companies also reduces the role of this variable as a differentiating factor in market perception.

The Effect of Carbon Emission Disclosure on Firm Value with Financial Flexibility as a Moderating Variable

This research hypothesis states that financial flexibility moderates the effect of carbon emission disclosure on firm value, assuming that a higher level of financial flexibility will strengthen the positive impact of carbon emission disclosure on firm value. The hypothesis is based on the view that companies with flexible financial conditions have adequate resource capacity to support the implementation of sustainability strategies, making carbon emission disclosures perceived as more credible and valuable by the market.

However, the empirical results of this study show findings that differ from the hypothesized direction. The regression analysis results indicate that the interaction term between carbon emission disclosure and financial flexibility ($X_1 \times M$) has a coefficient of −2.071997 with a p-value of 0.0012, suggesting that the interaction has a negative and significant effect on firm value. Thus, although financial flexibility is statistically proven to moderate the relationship between carbon emission disclosure and firm value, the direction of the moderation effect is weakening rather than strengthening, as hypothesized. This discrepancy indicates that the research hypothesis is only partially supported, in terms of the presence of a moderating effect, but not in the expected direction of influence.

The Effect of Corporate Social Responsibility on Firm Value with Financial Flexibility as a Moderating Variable

The research hypothesis states that financial flexibility moderates the effect of corporate social responsibility (CSR) on firm value, assuming that a higher level of financial flexibility will strengthen the positive impact of CSR on firm value. This hypothesis is based on the view that companies with flexible financial conditions have more adequate resource capacity to support the implementation and sustainability of CSR programs, making CSR activities perceived as more credible and valuable by the market.

However, the empirical results of this study show findings that differ from the hypothesized expectations. The regression analysis results indicate that the interaction term between corporate social responsibility and financial flexibility ($X_2 \times M$) has a coefficient of 0.986061 with a p-value of 0.3663, suggesting that the interaction has a positive but not significant effect on firm value. Thus, although the direction of the interaction coefficient indicates that financial flexibility tends to strengthen the relationship between CSR and firm value, the moderating effect is not statistically strong enough. This indicates that the research hypothesis is not empirically supported, both in terms of effect strength and statistical significance.

The Effect of Corporate Governance on Firm Value with Financial Flexibility as a Moderating Variable

The research hypothesis states that financial flexibility moderates the effect of corporate governance (CG) on firm value, assuming that a higher level of financial flexibility will strengthen the positive relationship between good corporate governance practices and firm value. This assumption is based on the view that companies with flexible financial conditions have greater capacity to support the consistent and effective implementation of governance mechanisms, making corporate governance practices perceived as more credible by the market.

However, the empirical results of this study show findings that differ from the hypothesized expectations. The regression analysis results indicate that the interaction term between corporate governance and financial flexibility ($X_3 \times M$) has a coefficient of 0.720040 with a p-value of 0.1174, suggesting that the interaction has a positive but not significant effect on firm value. Thus, although the direction of the interaction coefficient indicates a tendency for financial flexibility to strengthen the relationship between corporate governance and firm value, the moderating effect is not statistically strong enough. This indicates that the research hypothesis is not empirically supported.

Conclusions

Based on the findings from the previous chapter, the conclusions of this study are as follows:

1. Carbon emission disclosure has a negative and significant effect on firm value. This is evidenced by the regression coefficient of −0.550760 with a negative relationship direction and a p-value of 0.0000, which is less than the 0.05 significance level. The finding indicates that an increase in

carbon emission disclosure is negatively responded to by the market, leading to a decrease in firm value.

2. Corporate social responsibility (CSR) has a positive but not significant effect on firm value. This is indicated by a regression coefficient of 0.361623 with a positive relationship direction and a p-value of 0.3340, which is greater than the 0.05 significance level. Thus, although CSR shows a positive relationship, its effect is not statistically strong enough to significantly increase firm value.
3. Corporate governance has a positive but not significant effect on firm value. This is shown by a regression coefficient of 0.054528 with a positive relationship direction and a p-value of 0.5514, which is above the 0.05 significance level. The result suggests that the implementation of corporate governance has not yet contributed significantly to increasing firm value.
4. Financial flexibility negatively and significantly moderates the effect of carbon emission disclosure on firm value. This is demonstrated by the interaction coefficient $X_1 \times M$ of −2.071997 with a p-value of 0.0012, which is below the 0.05 significance level. This finding indicates that financial flexibility weakens the relationship between carbon emission disclosure and firm value, meaning that for companies with high financial flexibility, the negative impact of carbon emission disclosure on firm value becomes stronger.
5. Financial flexibility positively but not significantly moderates the effect of corporate social responsibility on firm value. This is evidenced by the interaction coefficient $X_2 \times M$ of 0.986061 with a p-value of 0.3663, which is greater than the 0.05 significance level. Therefore, although the moderation effect is positive, financial flexibility does not significantly strengthen the influence of CSR on firm value.
6. Financial flexibility positively but not significantly moderates the effect of corporate governance on firm value. This is shown by the interaction coefficient $X_3 \times M$ of 0.720040 with a p-value of 0.1174, which is greater than the 0.05 significance level. This indicates that financial flexibility is not statistically strong enough to enhance the effect of corporate governance on firm value.

Referring to the research conclusions and considering the limitations encountered by the researcher, it is deemed necessary to provide several recommendations for similar future research, namely:

Future research is recommended to expand the sample scope in terms of the number of companies, observation periods, and industry sector variations to increase data heterogeneity and strengthen the generalizability of findings. Researchers can also incorporate additional independent, control, or moderating variables that are theoretically relevant to explaining firm value, such as profitability, audit quality, environmental performance, firm size, cost of capital, or corporate risk. Improvements in variable measurement methods, such as using more detailed disclosure indices, international standards, or third-party data like ESG ratings, can enhance validity and reliability. Additionally, adopting alternative methodological approaches, such as dynamic panel models, structural equation modeling, or mixed methods, can provide deeper insights into the mechanisms between variables. By advancing the sample, variables, and analytical methods, future research is expected to produce stronger, more consistent, and more interpretable findings.

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