JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

CARBON EMISSION DISCLOSURE: A STUDY OF MANUFACTURING COMPANIES IN INDONESIA 2018 – 2022

[1] Hery Haryanto, [2] Diva Maharani
1,2 *Batam International University*
Baloi-Sei Ladi, Jl. Gajah Mada, Tiban Indah, District. Sekupang, Batam City, Riau Islands 29426
*Correspondence Email: *2141319.diva@uib.edu*

Abstract– *Investigating the factors that affect the degree of disclosure of carbon emissions is the aim of this study—leverage, company size, profitability, age, corporate social responsibility, and financial constraints. Multiple linear regression is the analysis model used in this investigation. A popular statistical technique for assessing the relationship between independent and dependent variables is multiple linear regression. The study's data, which was gathered from www.idx.co.id and the official websites of associated businesses, spans the years 2018–2022. Because the manufacturing sector is one of the biggest on the Indonesia Stock Exchange, it is the primary subject of this study. The Stata method was used to examine the data. The relationship between corporate social responsibility and corporate emission disclosure is positive; the more corporate social responsibility there is, the more corporate emission disclosure there is. The idea of mediation is applied in research with financial restrictions. The Sobel test is used to assess the relationship in the study model. The idea of mediation is applied in research with financial restrictions. The Sobel test is used to determine the relationship in the study model.*

Keywords: *Corporate Emission Disclosure, Corporate Social Responsibility, Financing Constraint*

INTRODUCTION

Global climate change is currently the focus of research worldwide. The increase in existing industries is one of the causes of climate change and the climate is currently undergoing significant changes, and industrial waste processing is also one of the causes of climate change. We have seen global industrial growth slow down. However, although rapid economic growth can have negative impacts, such as increasing carbon emissions and decreasing environmental quality due to rapid industrial growth long-term carbon absorption cannot be avoided. Disclosure of carbon emissions is inseparable from the issue of transparency felt by companies towards society depending on their size (Saraswati et al., 2021) and according to (Firmansyah et al., (2021). It has been demonstrated that large corporations and those that practice excellent corporate governance enhance the transparency of information they voluntarily disclose to the public, including information on the carbon emissions that the company produces. Businesses exhibit concern for carbon emissions while working to satisfy stakeholder demands properly.

According to Borghei-Ghomi & Leung (2013) New environmental policies have emerged as a result of climate change issues caused by global warming. Therefore, businesses should increase their attention to carbon emission disclosure. This is indicated by the fact that more member countries of the United Nations have ratified the Kyoto Protocol. Indonesia ratified the first phase of the Kyoto Protocol on June 28, 2004, and then ratified the Kyoto Protocol through Law No. 1 on September 30, 2014. Thus, companies are expected to pay more attention to carbon emission disclosure (Pirdayanti & Wirama, 2019). The human environment can suffer from climate change caused by carbon emissions, which can also cause global warming. Therefore, the global community has made efforts to reduce carbon emissions through various means, including the creation of an international amendment in Brazil in 1992 which was later included in the UN framework convention disclosure of carbon emissions is an action that companies can take to reduce the increase in gas emissions (Kawedar, 2020).

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

Disclosure is the process of not hiding information that is reported as one of the company's achievements and is considered positive by stakeholders to maintain the company's reputation. Carbon emissions refer to the release of carbon-containing gases from the combustion of carbon compounds in the atmosphere. In disclosing carbon emissions, companies provide information not only about the amount of carbon emissions produced but also about their plans to reduce these emissions. Through carbon emission disclosure, the public and investors can gain an understanding of how much emissions are produced and the efforts made by the company to reduce them. The level of carbon emission disclosure tends to increase along with the level of Social Responsibility carried out by the company. Companies in Indonesia have not yet responded well to carbon emission disclosures, this is because it is still voluntary (Pirdayanti & Wirama, 2019). company. Companies can take social responsibility initiatives, also known as “social responsibility”, as one way to enhance the basic theory of social responsibility, which states that companies should cooperate with the communities and environments in which they operate, as part of their responsibility to their stakeholders (H. Haryanto & Noviany, 2023). Corporate social responsibility disclosure includes carbon emission disclosure. Higher levels of carbon emission disclosure will be influenced by higher levels of corporate social responsibility disclosure. A study conducted by (Andrian & Kevin, 2021), (Kleemann & Murphy-Bokern, 2014), and (Sari & Susanto, 2021) shows a positive influence between carbon emission disclosure and the level of corporate social responsibility disclosure. However, research conducted by (Kholmi et al., 2020) states that Corporate Social Responsibility does not influence carbon emission disclosure.

Financing Constraint is when a company's external financing sources result in very high capital costs due to high debt levels and high interest rates. This affects the company's profits so that the dividends distributed by the company become lower. According to researchers (Rehman et al., 2024) that financial constraints can increase corporate carbon emissions because carbon emissions are more pronounced in companies that do not report environmental expenditures and companies that have high leverage. M. Y. D. Haryanto et al., (2021) studies show that CSR disclosure increases firm value in firms that are not financially constrained. However, when tested in firms that are financially constrained, liquidity is more sensitive to investment decisions of non-financial firms than financially constrained firms (Prasetyantoko, 2007). Corporate social responsibility does not affect the value of the company where investors often ignore the implementation of corporate social responsibility because of their focus on financial profits (H. Haryanto & Valencia, 2021). Corporate social responsibility only has a partial effect on the relationship between financial ratios/financing and the company (Yuwono et al., 2024). Effective implementation of social responsibility can attract investors if the rate of return on assets can be used as a calculation to predict the level of return, this does not guarantee that the implementation of social responsibility will have an impact on the company's financial performance to provide profit or benefit (Marheni & Kristina, 2023). Employees influence financial performance because of the broad ambition of the social responsibility program implemented in the organization and shown to employees as a concern for the environment that makes employees committed to the organization that implements it. Social responsibility for sustainability and maintaining stable financial performance or increasing profitability (Dewi Khornida Marheni, Kelvin Kwek, 2024).

Additionally, climate change challenges have driven companies to adopt more robust strategies that integrate environmental policies into their corporate frameworks. As the pressure to mitigate environmental impact grows, businesses are increasingly recognizing the need to balance financial constraints with sustainability initiatives. The integration of green technologies, energy-efficient systems, and low-carbon processes into business operations is essential to meet both environmental goals and market demands. This requires careful planning and resource allocation, especially in a context where financial limitations can restrict the ability to make such investments.

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

Companies must navigate these competing priorities to maintain a competitive edge while addressing their environmental responsibilities. By prioritizing investments in green technologies and demonstrating accountability through carbon disclosure, companies can not only align with global environmental goals but also secure long-term economic resilience and stakeholder trust. Carbon emission disclosure, as part of a broader CSR strategy, plays a critical role in communicating a company's environmental commitment to its stakeholders. As more businesses recognize the financial and reputational benefits of reducing their carbon footprint, such disclosures are becoming a key factor in attracting investors, customers, and partners who value sustainability. This accountability strengthens corporate transparency and positions companies as leaders in the transition to a low-carbon economy.

The interplay of financial constraints, CSR, and carbon emission management underscores the complexity of achieving sustainable development in a rapidly evolving industrial landscape. Financial constraints may limit immediate investments in green technologies, but they do not necessarily diminish a company's long-term commitment to sustainability. Companies that can balance these constraints with robust CSR initiatives are more likely to foster innovation, build stronger stakeholder relationships, and create value through sustainable practices. Moreover, companies that effectively address financial constraints while adhering to CSR commitments can gain a strategic advantage, as stakeholders increasingly prioritize ethical and environmentally conscious practices in their decision-making processes. This combination of financial prudence and environmental responsibility will be crucial for companies seeking to thrive in an increasingly competitive and eco-conscious global marketplace.

LITERATURE REVIEW

Legitimacy Theory

The theoretical basis of carbon emission disclosure in this study is the legitimacy theory. Legitimacy theory highlights the interaction between business and society through regulations imposed by the government. When there is a mismatch in values between the company and society, which is called a legitimacy gap, the company is considered to have failed to meet the expectations of society (Ika & Anita Wahyu, 2020). Therefore, for companies that want to overcome the legitimacy gap, challenging efforts or processes are needed (Larasati *et al.,* 2020). Disclosure of information by companies plays an important role in strengthening the relationship between companies and society. Companies feel it is important to obtain social validation so that their activities are in line with prevailing norms. This implies that there is an agreement between the business world and society that authorizes companies to use economic resources. Alignment occurs when a business organization becomes part of the social system of society, connecting social values in its activities with societal norms. Government measures aim to encourage industry to respond to environmental pressures by reducing greenhouse gas emissions to a certain level. Efforts by economic actors to reduce greenhouse gas emissions are reflected in the disclosure of carbon emissions.

Furthermore, carbon emission disclosure is not just about meeting regulatory requirements but also about building long-term trust with stakeholders. Companies that engage in transparent reporting practices signal their commitment to environmental sustainability, which can lead to competitive advantages such as improved investor confidence, enhanced brand reputation, and increased customer loyalty. This transparency also helps firms align their operations with global sustainability goals, such as the United Nations' Sustainable Development Goals (SDGs). As societal awareness of environmental issues grows, businesses are under greater pressure to justify

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

their environmental impacts, making carbon emission disclosure an essential element of their corporate strategy to achieve legitimacy and maintain their social license to operate.

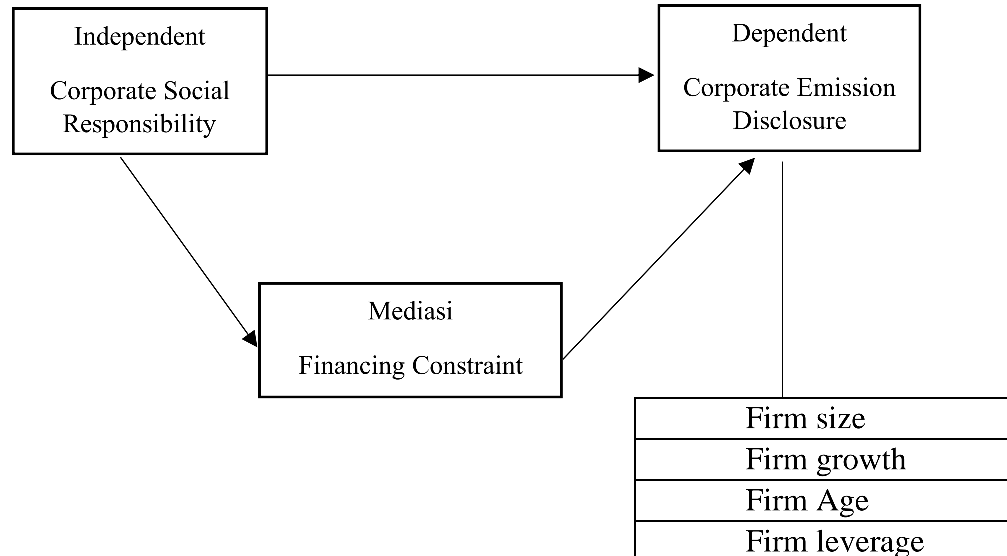

Figure 1: Framework of Thought

The Influence of Corporate Social Responsibility on Corporate Emission Disclosure

Social Responsibility also affects Carbon Emissions. Social Responsibility is an activity related to the environment and society carried out by companies as a form of their accountability to stakeholders. Disclosure of Carbon Emissions is one form of Corporate Social Responsibility. The higher the level of Social Responsibility by a company, the higher the level of carbon emission disclosure. This research is supported by (Andrian & Kevin, 2021), (Kleemann & Murphy-Bokern, 2014) and (Sari & Susanto, 2021) said that CSR has a positive effect on CED. As companies increasingly embrace CSR initiatives, they are not only enhancing their transparency but also contributing to global sustainability efforts. By disclosing carbon emissions, companies can demonstrate their commitment to reducing their environmental impact and help stakeholders make more informed decisions, further promoting eco-friendly practices across industries. Moreover, this approach encourages companies to integrate sustainable practices into their operational strategies, such as adopting renewable energy, improving waste management systems, and reducing their carbon footprints. These efforts not only build trust with stakeholders but also position companies as leaders in environmental stewardship, contributing to a more sustainable and resilient global economy. As awareness of environmental issues continues to grow, businesses that prioritize CSR and carbon emission disclosure are more likely to gain a competitive advantage and ensure their long-term viability.

Moreover, companies with robust CSR programs often attract investors who are increasingly focused on sustainability and long-term value creation rather than short-term profits. This shift in investor priorities underscores the growing importance of environmental, social, and governance (ESG) factors in business performance. By being transparent about their carbon emissions and actively working to reduce them, companies signal to the market that they are proactive in managing risks associated with climate change. This can enhance their appeal to socially responsible investors, who are more likely to support firms committed to reducing environmental harm and making a positive impact on society. Additionally, companies that prioritize carbon emission disclosure are better prepared for future regulatory changes, as governments around the world are implementing stricter environmental policies and emissions

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

reduction targets. By staying ahead of these regulatory trends, companies not only reduce the risk of non-compliance but also position themselves as pioneers in the transition to a low-carbon economy. As the demand for corporate sustainability increases, companies that fail to prioritize carbon emission disclosure risk falling behind in the competitive landscape. The growing public awareness of environmental issues, coupled with the rising expectations of consumers, investors, and regulators, is putting significant pressure on businesses to take responsibility for their environmental footprint. Failure to disclose and reduce carbon emissions can lead to reputational damage, loss of market share, and difficulty accessing capital. On the other hand, companies that demonstrate leadership in carbon disclosure are likely to build stronger relationships with stakeholders, foster innovation, and create long-term value. In this way, carbon emission disclosure is not just an environmental or regulatory obligation; it is a strategic tool that companies can leverage to enhance their brand, strengthen their financial position, and contribute to a more sustainable and prosperous future. Based on the analysis and results of previous studies, the following hypothesis was obtained:

H1: The influence of Corporate Social Responsibility is significant on Corporate Emission Disclosure.

The Influence of Financing Constraints on Corporate Emission Disclosure

Financial constraints are a condition in which a company's finances deteriorate before bankruptcy or liquidation occurs. Companies facing financial constraints usually have limited internal funds (Rachmawati & Fitriana, 2021). Therefore, if funding is high, companies will sacrifice environmental benefits and allocate capital to short-cycle production projects. Financial constraints can hinder companies' ability to invest in technological innovation to reduce carbon emissions. Thus, carbon emissions can increase, hindering the green transformation of companies' production methods. To create a low-carbon economy, businesses must have the financial resources to implement green policies. Companies with limited external capital and insufficient internal funds are unable to bear high financial costs and prefer to limit their financial costs due to sustainability costs. So the lack of ability to implement green technology. As a result, financial constraints can affect the company's carbon emissions. Research results (Rehman et al., 2024) shows that there is a positive impact between financial constraints and corporate carbon emissions. Suggesting that alleviating financial constraints is critical for enabling companies to adopt sustainable practices and reduce their carbon footprint.

Addressing financial constraints not only helps companies mitigate their carbon emissions but also enables them to align with international climate agreements and policies, such as the Paris Agreement. Companies with better financial capacity are more likely to invest in renewable energy, improve energy efficiency, and adopt cleaner production technologies, all of which are essential for reducing greenhouse gas emissions. These investments can also enhance a company's competitiveness by creating opportunities for cost savings, improving operational efficiency, and fostering innovation. Moreover, overcoming financial constraints allows firms to respond effectively to stakeholder demands for greater environmental accountability, strengthening their reputation and market position. Additionally, governments and financial institutions play a crucial role in helping companies address financial constraints by offering incentives, subsidies, or green financing options. Policies aimed at reducing financial burdens, such as tax breaks for environmentally friendly investments, can motivate companies to adopt sustainable practices. Public-private partnerships can also facilitate access to resources and technology, enabling companies to transition to low-carbon operations. Ultimately, creating a supportive financial ecosystem is essential for encouraging companies to prioritize sustainability, contributing to the

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

broader goal of achieving a sustainable and low-carbon economy. Based on the analysis and results of previous studies, the following hypothesis was obtained:

H2: Financing Constraint Significant to Corporate Emission Disclosure.

The Influence of Corporate Social Responsibility on Financing Constraints

CSR also affects the Company's Financial Constraints. Companies with poor financial constraints are impacted by managing the company's image by disclosing non-financial information, such as responsibility reports. So, it is likely that the cost of equity capital will increase as poor financial performance decreases. Disclosure of non-financial information such as social responsibility "protects" the impact of financial opacity, the cost of equity capital will decrease along with financial constraints. On the other hand, the role of disclosure of social responsibility information may not be clearly visible when financial transparency is high. This study was conducted by Islah (2021) said that CSR has a positive effect on Financial Constraints. Which stated that CSR has a positive effect on CED. Moreover, this suggests that by addressing financial constraints through CSR initiatives, companies can improve both their financial stability and their environmental transparency, ultimately strengthening their reputation and access to capital markets.

H3: Corporate Social Responsibility is Significant to Financing Constraint.

The Influence of Corporate Social Responsibility on Corporate Emission Disclosure with Financing Constraint as an Intervening Variable

CSR can affect corporate emission disclosure with financial constraints as a mediator. In this case, CSR can affect corporate emission transparency through responsible resource management, while financial constraints can limit the ability of companies to adopt more environmentally friendly technologies and practices (Rachmawati & Fitriana, 2021). CSR is expected to provide an indirect influence on CED mediated by FC. In other words, CSR affects FC and affects CED. This shows that CSR can’t affect CED but through an intermediary level (intervening variable), namely FC can affect CED. This finding emphasizes the importance of addressing financial constraints to enhance the effectiveness of CSR initiatives, enabling companies to achieve better transparency and environmental accountability in emission disclosures. The indirect relationship between CSR and carbon emission disclosure through financial constraints highlights a crucial pathway for organizations seeking to improve their environmental performance. Companies with strong CSR practices are more likely to invest in sustainability measures, but financial constraints may hinder these efforts, making it challenging to implement green technologies or disclose emissions accurately. Therefore, addressing financial limitations becomes key to unlocking the full potential of CSR in fostering greater environmental responsibility.

Additionally, reducing financial constraints can empower companies to be more transparent in their emission disclosures, improving public trust and positioning them favorably in the eyes of stakeholders, investors, and regulators who are increasingly demanding responsible corporate practices. Furthermore, as companies enhance their CSR efforts and address financial constraints, they are likely to improve their competitive positioning by aligning with global sustainability goals and the growing demand for corporate environmental responsibility. In industries where sustainability is becoming a key differentiator, overcoming financial constraints allows companies to demonstrate leadership in environmental management, making them more attractive to socially conscious investors and consumers. By investing in sustainability despite financial challenges, companies not only contribute to mitigating climate change but also

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

strengthen their long-term viability in a market that increasingly values environmental stewardship. This dynamic illustrates how CSR, when coupled with efforts to alleviate financial constraints, can drive more impactful and transparent corporate emission disclosures. Based on the analysis and results of previous studies, the following hypothesis was obtained:
H4: The Effect of CSR on CED with FC as an intervening variable.

METHODOLOGY

This study contributes to the growing body of research on CSR and its impact on corporate environmental performance, particularly in emerging markets like Indonesia. The manufacturing industry, being one of the most resource-intensive sectors, plays a significant role in carbon emissions. By focusing on the Indonesian context, this study highlights the specific challenges and opportunities faced by manufacturing companies in aligning their business practices with sustainability goals. The research also sheds light on how financial constraints influence the adoption of green practices, such as carbon emission disclosure, and whether CSR can serve as a driver of environmental accountability, even in the face of limited financial resources. Another important aspect of this study is the use of multiple linear regression models to explore the relationships between CSR, financial constraints, and carbon emission disclosures. The data used for this study comes from the period 2018–2022 and is collected from www.idx.co.id and the official websites of relevant companies. Since the manufacturing industry is one of the largest sectors in the Indonesia Stock Exchange, this study focuses on it. This statistical approach allows for a comprehensive analysis of the various factors that could influence carbon emissions, providing a clearer understanding of the underlying dynamics.

Operational Variable

Table 1. Definition of Operational Variable

No	Variable	Definition and Sizes	Researcher
1.	**Corporate Emission Disclosure**	Information on emissions is presented in Table 2. Each disclosure element is scored, with a maximum score of 18 and a minimum score of 0, each element having a value of 1. Thus, if a company discloses all information in its report, it will receive a score of 18.	(Bae Choi et al., 2013)
2.	**Corporate Social Responsibility**	In this study, the CSR measurement instrument was used in seven categories: environment, energy, employee health and safety, other employees, products, community involvement, and general. After that, the seventy-eight items were adjusted for each industry, so that the expected disclosure items for each industry are different.	(Sembiring, 2009)
3.	**Financial constraint**	Conditions where the cost of capital of external sources of funds of the company is very high due to high debt and interest that must be paid. If the company distributes dividends, the company is considered to have no financial constraints or is financially unlimited (FC). If the company does not distribute dividends, the	(Damanudin & Rinofah, 2020)

"

		company is considered financially limited (FC) and is given a score of 1.	
4.	**Firm size**	Company size is a control variable that is given the symbol size. Measured from the total natural assets of the company. The use of log assets is because the sample companies in this study have varying amounts of assets due to different company sizes. Size: Ln total assets	(Barusman et al., 2020)
5.	**Firm growth**	The change in total assets of a company is called company growth. The formula is as follows: Total assets – Total assets -1 : Total assets t-1.	(Dewi, 2019)
6.	**Firm Age**	Company age is the age since the company was founded until the company runs its operational activities. The formula is as follows: Company Age = Research Year – Company Founding Year	(Adquisiciones et al., 2019)
6.	**Firm Leverage**	A company's leverage is calculated using the ratio of total debt to equity. Known as Debt to Equity (DER). DER = Total Debt : Total Own Capital	(Ika & Anita Wahyu, 2020)

Table 2. Carbon Emission Disclosure Checklist

Climate Change: risks and opportunities	CC1 - Evaluate or describe climate change risks from regulatory, physical and general factors, and actions taken or planned to manage risks.
	CC2- Evaluate or explain the impacts of climate change on finances, business and opportunities.
GHG Emission	GHG1- Details of techniques used to calculate greenhouse gas emissions (such as ISO standards or greenhouse gas protocols).
	GHG2- Is there an external audit of greenhouse gas emissions? If so, by whom and using what criteria?
	GHG3- Total GHG Emissions – CO2.
	GHG4- Scope 1 and 2 disclosures, or direct greenhouse gas emissions.
	GHG5- Greenhouse gas emissions disclosures depending on source, such as coal and electricity.
	GHG6- Measurement of greenhouse gas emissions is based on facility or segment level.
	GHG7- Analysis of greenhouse gas emissions differences compared to previous years.
Energy Consumption	EC1- Total energy consumed
	EC2- Calculate the amount of energy generated from renewable sources.
	EC1- Disclosures by category, location, or segment
GHG Reduction and Cost	RC1- Details of the plan or approach used to reduce greenhouse gas emissions.
	RC-2- Establish greenhouse gas emission reduction goals, and target years.
	RC3- Emission reductions, and associated savings or costs.
	RC4- Calculating future emission costs as part of capital investment planning.

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

Carbon Emission Accountability	AEC1- Identification of the board committee, or other executive body, that has overall responsibility for climate change actions.
	AEC2- Details of the procedures used by the executive committee to assess the company's progress on climate change.

Source: (Bae Choi et al., 2013)

RESULT AND DISCUSSION

The hypothesis testing in this study is based on six regression models that explore the relationships between key variables: Corporate Social Responsibility (CSR), Corporate Emission Disclosure (CED), Financing Constraints (FC) as a mediating variable, and several control variables such as Growth, Size, Age, and Leverage. These variables are crucial in understanding how CSR influences corporate transparency regarding carbon emissions and how financial constraints might affect this process. Table 6 presents the results of hypothesis testing, specifically focusing on CSR's relationship with CED, CSR's relationship with FC, and FC's relationship with CED. To interpret these results, significance levels are marked using asterisks: one star (*) for 10% significance, two stars (**) for 5% significance, and three stars (***) for 1% significance.

The significance levels are important for assessing the robustness of the findings. Asterisks next to the regression coefficients indicate the degree of statistical significance, which helps to determine the likelihood that the observed relationships are not due to random variation but represent meaningful patterns in the data. The study uses these significance markers to clearly show which relationships are strong and reliable. For example, if CSR has a significant positive impact on CED with two stars (**), this suggests that there is a robust relationship between these two variables, indicating that as CSR increases, so does the company's level of carbon emission disclosure.

Tabel 6. Regression Results OLS

	CSR	**CSR**	**CSR**	**CSR**	**CSR**	**CSR**
CED	0.0049**	-0.0049**	-0.0047**	-0.0051**	-0.0051**	-0.0050**
	(2.37)	(-2.37)	(-2.28)	(-2.55)	(-2.55)	(-2.51)
FC		0.0110*	0.0104	0.0103	0.0106*	0.0110*
		(1.70)	(1.61)	(1.63)	(1.65)	(1.72)
GROWTH			0.0002***	0.0001***	0.0001***	0.0001***
			(6.27)	(4.91)	(4.64)	4.50)
SIZE				0.0046***	0.0049***	0.0049***
				(3.21)	(3.32)	(3.26)
AGE					-0.0001	-0.0001
					(-1.22)	(-1.18)
LEVERAGE						0.0008
						(1.31)
CONSTANT	0.7047***	0.6963***	0.6924***	0.6305***	0.6306***	0.6293***
	(21.50)	(21.50)	(21.68)	(16.31)	(16.29)	(16.28)
Adj. R-square	0.0110	0.0135	0.0205	0.0366	0.0366	0.0391
Obs.	525	525	525	525	525	525
***p<0.10**	**p<0.05	***p<0.01				

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

CSR to CED = 0,0049 ** two stars (**) indicate a percentage of significance of 5%

	FC	FC	FC	FC	FC	FC
CED	0.0062	0.0082	0.0086	0.0087	0.0088	0.0085
	(0.55)	(0.70)	(0.73)	(0.73)	(0.74)	(0.72)
CSR		0.3998*	0.3814	0.3868	0.3970	0.4140*
		(1.68)	(1.59)	(1.60)	(1.63)	(1.69)
GROWTH			0.0003*	0.0003*	0.0003*	0.0003*
			(1.82)	(1.80)	(1.76)	(1.74)
SIZE				-0.0014	-0.0032	-0.0030
				(-0.16)	(-0.35)	(-0.33)
AGE					0.0006	0.0006
					(1.31)	(1.29)
LEVERAGE						-0.0030
						(-0.69)
CONSTANT	0.7637***	0.4820*	0.4863*	0.5010*	0.4931*	0.4859*
	(4.20)	(1.82)	(1.83)	(1.84)	(1.81)	(1.78)
Adj. R-square	-0.0013	0.0012	0.0002	-0.0017	-0.0020	-0.0020
Obs.	525	525	525	525	525	525
*p<0.10	**p<0.05	***p<0.01				

FC to CED = 0,0062

	CSR	CSR	CSR	CSR	CSR	CSR
FC	0.0105*	0.0110*	0.0104	0.0103	0.0106*	0.0110*
	(1.65)	(1.70)	(1.61)	(1.63)	(1.65)	(1.72)
CED		-0.0049**	-0.0047**	-0.0051**	-0.0051**	-0.0050**
		(-2.37)	(-2.28)	(-2.55)	(-2.55)	(-2.51)
GROWTH			0.0002***	0.0001***	0.0001***	0.0001***
			(6.27)	(4.91)	(4.64)	(4.50)
SIZE				0.0046***	0.0049***	0.0049***
				(3.21)	(3.32)	(3.26)
AGE					-0.0001	-0.0001
					(-1.22)	(-1.18)
LEVERAGE						0.0008
						(1.31)
CONSTANT	0.6182***	0.6963***	0.6924***	0.6305***	0.6306***	0.6293***
	(107.54)	(21.50)	(21.68)	(16.31)	(16.29)	(16.28)
Adj. R-square	0.0021	0.0135	0.0205	0.0366	0.0366	0.0391
Obs.	525	525	525	525	525	525
*p<0.10	**p<0.05	***p<0.01				

CSR to FC = 0,0105* One star (*) indicates a percentage of significance between variables of 10%

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

Hypothesis Discussion

The Influence of Corporate Social Responsibility on Corporate Emission Disclosure

The positive relationship between the independent variable Corporate Social Responsibility and the dependent variable Corporate Emission Disclosure is seen from the results of the regression test. Table 6 shows a value of 0.0049 with two asterisks (**), indicating a 5% positive significant effect between CSR and CED. The results of the positive significant relationship remain the same even though the control variables are added. CSR can help businesses overcome and reduce all risks caused by carbon emissions. One form of Corporate Social Responsibility is carbon emission disclosure. The higher the level of corporate social responsibility, the higher the carbon emissions. Thus, H1 is accepted and the results are in line with the research that has been put forward by Andrian and Kevin (2021), (Kleemann & Murphy-Bokern, 2014) and (Sari & Susanto, 2021).

These findings underline the importance of CSR initiatives in promoting transparency and accountability in environmental performance, further demonstrating that robust CSR activities encourage companies to disclose emissions and adopt sustainable practices. Moreover, this positive relationship suggests that companies with strong CSR commitments are more likely to be proactive in addressing environmental issues, including reducing their carbon footprint. As stakeholders, including consumers, investors, and regulators, increasingly demand more transparency, businesses can enhance their reputation by being open about their carbon emissions. By prioritizing environmental responsibility, companies not only comply with regulatory requirements but also gain a competitive edge in a market that increasingly values sustainability. Additionally, this reinforces the notion that CSR is not only a moral or ethical obligation but also a strategic approach to managing risks and improving long-term corporate performance. The findings highlight the growing importance of integrating CSR into business strategies as a driver for both environmental sustainability and corporate success.

The Influence of Financing Constraints on Corporate Emission Disclosure

Table 6 shows the results of the regression test which shows no significant correlation between the variables; the value is 0.0062, with an empty asterisk. Therefore, the two variables do not have a significant impact. H2 is rejected because the research that has been put forward by Rehman et al., (2024) said that companies with limited external capital and insufficient internal funds are unable to bear high financial costs and prefer to limit their financial costs due to sustainability costs. So the a lack of ability to implement green technology. As a result, financial constraints can affect the company's carbon emissions. This is not in line with this study. The absence of a significant correlation in this case may suggest that other factors, such as management priorities or market conditions, play a more substantial role in influencing carbon emissions, rather than financial constraints alone. It is possible that companies, despite financial limitations, may prioritize environmental responsibility and seek alternative ways to implement green technologies, such as through partnerships or government incentives. In light of these findings, it becomes apparent that companies facing financial constraints may still pursue sustainability objectives through alternative, less capital-intensive methods. For example, they might adopt incremental changes in their operations that yield significant environmental benefits without requiring large capital expenditures. Such measures could include optimizing existing processes for greater energy efficiency, improving waste management, or utilizing renewable energy sources that are more affordable in the long run. These strategies allow companies to reduce their carbon emissions while working within the constraints of their financial capacity. This highlights the adaptability and creativity that companies can employ in addressing environmental challenges, even in times of financial stress. Additionally, regulatory pressure and consumer demand for sustainable practices

may act as powerful external drivers that push companies to reduce their carbon footprint, even when internal financial constraints may limit their ability to invest in green technologies.

The Influence of Corporate Social Responsibility on Financial Constraints

There is a significant positive correlation between the independent variable Corporate Social Responsibility and the dependent variable Financial Limitations. The results of the regression test show this. Table 6 shows a value of 0.0105, with one asterisk (*). So, there is a large benefit of 10% between CSR and FC. H3 is accepted and the results are in line with the researchers who have been put forward by (Islah, 2021) Disclosure of non-financial information such as social responsibility "protects" the impact of financial opacity, the cost of equity capital will decrease with financial constraints. On the other hand, when financial transparency is high, the role of CSR disclosure may not be as apparent. This finding indicates that CSR initiatives can serve as a strategic tool for companies to mitigate the negative impacts of financial limitations, offering a pathway to reduce the financial burden associated with sustainability efforts, particularly in challenging economic conditions. By focusing on CSR, companies can improve their financial stability by enhancing their reputation, increasing investor confidence, and possibly gaining access to favorable financing terms. These findings underscore the importance of CSR as a mechanism for companies to navigate financial constraints while simultaneously fulfilling their environmental and social responsibilities. As companies continue to face financial pressures, CSR can be leveraged to not only improve financial performance but also to ensure a balanced approach to environmental sustainability, helping them thrive in an increasingly socially conscious marketplace. There is also evidence to suggest that companies with strong CSR practices are better positioned to adapt to market fluctuations and regulatory pressures. By proactively addressing environmental, social, and governance (ESG) factors, organizations can reduce risks associated with non-compliance and public criticism, further strengthening their financial resilience. Moreover, CSR activities foster long-term stakeholder trust, which can lead to enhanced customer loyalty, employee satisfaction, and community support. These elements collectively contribute to a company's ability to secure funding and maintain operational stability, even during periods of economic uncertainty. Therefore, the integration of CSR into corporate strategies not only helps to mitigate financial constraints but also drives sustainable growth and competitive advantage in the global market.

The Influence of Corporate Social Responsibility on Corporate Emission Disclosure with Financing Constraint as an Intervening Variable

One of the variables that influences the relationship between the independent variable and the dependent variable is called the mediating variable. The Sobel test tests the mediation hypothesis. It evaluates the strength of the indirect effect, also known as the indirect effect, that passes from the independent variable (X) to the dependent variable (Y) through the mediating variable (Z). This statistical test calculates whether the indirect path ($X \rightarrow Z \rightarrow Y$) is significant, providing insight into how the mediator influences the relationship between the independent and dependent variables. The Sobel test examines both the direct effect of the independent variable on the dependent variable and the indirect effect mediated by the intervening variable, offering a comprehensive understanding of the mechanisms through which variables are related. A significant Sobel test result indicates that the mediating variable plays a substantial role in explaining the relationship between the independent and dependent variables, thereby providing valuable insights for hypothesis testing in behavioral and social science research. The Sobel test is widely used in social science, economics, and organizational studies to understand complex relationships between variables.

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

"

Additionally, conducting the Sobel test is essential for improving the reliability of research findings, as it goes beyond simple correlation and reveals whether the relationship between two variables is truly causal or whether it is influenced by an intermediary variable. This approach not only strengthens the theoretical framework of a study but also provides practical insights for real-world applications, especially in areas such as environmental governance and corporate responsibility. Using the following calculation, this Sobel Test calculator will automatically calculate and produce a calculated t value of 0.66157726, where the values of a, b, Sa, and Sb are entered as input:

Tabel 7. Output Sobel Test

Input		Test Statistic	Std. Error	P-Value
0,0110365	Sobel Test	0,66157726	0,00014236	0,50824219
0,0085335	Aroian Test	0,582905	0,00016157	0,55995725
0,0064184	Goodman Test	0,78412543	0,00012011	0,43296652
0,0119058				

Source: Data processed 2024

The results of the Sobel test show a t-count value of 0.66157726 from the t-table (1.96). So it can be concluded that corporate Social Responsibility does not mediate the influence of Corporate Emission Disclosure on Financing Constraints. Thus, the H4 hypothesis is rejected.

CONCLUSION

This study found that corporate social responsibility (CSR) has a positive and significant effect on corporate carbon emission disclosure. This means that higher levels of CSR are associated with corporate carbon emission disclosure. In contrast, financial constraints, also known as financing constraints, do not have a significant effect on carbon emission disclosure and are therefore not considered an important component of the process. However, evidence suggests that CSR can help companies facing financing constraints. However, financing constraints do not act as a significant mediating factor in the relationship between CSR and carbon emission disclosure. This suggests that lack of funds does not mediate the relationship between CSR and carbon emission disclosure. Additionally, this implies that while CSR can drive greater transparency and environmental responsibility, its effectiveness in promoting emission disclosures is not hindered by financial limitations, possibly due to the intrinsic value placed on sustainability by CSR initiatives themselves. The results underscore the importance of CSR in promoting environmental accountability, regardless of the company's financial situation. Even for firms facing financial difficulties, the drive to fulfill their CSR obligations can act as a powerful motivator for improving environmental performance and reporting. This also reflects a broader trend in corporate governance, where environmental, social, and governance (ESG) considerations are increasingly being recognized as vital for long-term success. In contrast to previous assumptions that financial constraints might suppress CSR activities or emissions reporting, this study suggests that companies can continue to prioritize sustainability even in financially challenging times. Therefore, stakeholders, including investors, regulators, and consumers, should recognize CSR as a critical tool for fostering corporate responsibility and promoting transparency, regardless of financial limitations. Moreover, policymakers may consider encouraging companies to enhance their CSR efforts, knowing that doing so can lead to more comprehensive environmental disclosures, contributing to the global sustainability agenda.

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

LIMITATION AND IMPLEMENTATIONS

One of the shortcomings of this study is that it only focuses on manufacturing companies in Indonesia, so the results may not be applicable to other industries or countries where this study was conducted. This limitation may reduce the external validity of the findings, as different industries may face unique challenges, market dynamics, and regulatory environments that influence corporate behavior. For example, the energy sector may have a different set of incentives or constraints when it comes to carbon emission disclosure compared to the manufacturing sector. Similarly, cultural and economic differences across countries could play a significant role in how CSR initiatives are prioritized and implemented. Therefore, while the findings provide valuable insights into CSR and carbon emission disclosure within the context of Indonesian manufacturing companies, the generalizability of these results to other contexts may be limited. Future research could explore a broader range of industries or countries to validate the findings and consider additional variables, such as market conditions or regulatory environments, which may also influence the relationship between CSR and carbon emission disclosure. It would be particularly beneficial to examine the impact of government policies and international agreements, such as the Paris Agreement, on corporate environmental practices. For instance, regulations that mandate carbon reporting or provide incentives for green technologies could significantly alter the relationship between CSR and emissions disclosure. By considering these additional factors, future research could provide a more holistic view of the relationship between financing constraints, CSR, and carbon emission disclosure, ultimately contributing to the development of more effective sustainability strategies and policies.

REFERENCES

Adquisiciones, L. E. Y. D. E., Vigente, T., Frampton, P., Azar, S., Jacobson, S., Perrelli, T. J., Washington, B. L. L. P., No, Ars, P. R. D. a T. a W., Kibbe, L., Golbère, B., Nystrom, J., Tobey, R., Conner, P., King, C., Heller, P. B., Torras, A. I. V., To-, I. N. O., Frederickson, H. G., … SOUTHEASTERN, H. (2019). UKURAN PERUSAHAAN, UMUR PERUSAHAAN, LEVERAGE, PROFITABILITAS DAN KOMISARIS INDEPENDEN TERHADAP MANAJEMEN LABA. *Duke Law Journal*, *1*(1).

Andrian, T., & Kevin. (2021). Determinant Factors of Carbon Emission Disclosure in Indonesia. *Journal of Southwest Jiaotong University*, *56*(1). https://doi.org/10.35741/issn.0258-2724.56.1.32

Bae Choi, B., Lee, D., & Psaros, J. (2013). An analysis of Australian company carbon emission disclosures. *Pacific Accounting Review*, *25*(1), 58–79. https://doi.org/10.1108/01140581311318968

Barusman, A. R. P., Nurdiawansyah, Warganegara, T. L. P., & Mega, S. A. (2020). Influence of company characteristics on carbon disclosure emissions on manufacturing companies in indonesia. *International Journal of Advanced Science and Technology*, *29*(6), 1423–1431.

Borghei-Ghomi, Z., & Leung, P. (2013). An Empirical Analysis of the Determinants of Greenhouse Gas Voluntary Disclosure in Australia. *Accounting and Finance Research*, *2*(1), 110–127. https://doi.org/10.5430/afr.v2n1p110

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

Damanudin, I., & Rinofah, R. (2020). Cash Flow, Profitability, Liquidity and Investment in Indonesia With Financial Constraint As Variable Moderating. *JBE (Jurnal Bingkai Ekonomi)*, *5*(1), 61–74. https://doi.org/10.54066/jbe.v5i1.66

Dewi, C. F. U. dan R. (2019). Volume 6 No.1 Tahun 2019 ISSN 25031546. *Equilibiria*, *6*(1), 1–14.

Dewi Khornida Marheni, Kelvin Kwek, A. G. R. (2024). *THE INFLUENCE OF CORPORATE SOCIAL RESPONSIBILITY ON FINANCIAL PERFORMANCE MEDIATED BY GREEN HUMAN RESOURCE MANAGEMENT Oleh*. *10*(1978), 2008–2020.

Firmansyah, A., Jadi, P. H., Febrian, W., & Sismayudi, D. (2021). Perusahaan Terhadap Pengungkapan Emisi Karbon Di Indonesia. *Jurnal Informasi, Perpajakan, Akuntansi, dan Keuangan Publik*, *16*(2), 303–320.

Haryanto, H., & Noviany, I. M. (2023). Journal of Global Business and Management Review Implementation of CSR in Increasing Company Performance in the Banking Sector in 2016-2020. *Ivana Metta Noviany*, *05*. https://doi.org/10.37253/jgbmr.v5i1.7416

Haryanto, H., & Valencia, V. (2021). Firm Value Determinants Of Manufacturing Companies On The Indonesia Stock Exchange. *Accounting and Business Journal*, *5*(1). https://journal.pancabudi.ac.id/index.php/Accountingandbussinessjournal/article/view/3921%0A https://journal.pancabudi.ac.id/index.php/Accountingandbussinessjournal/article/download/3921/3633

Haryanto, M. Y. D., Chariri, A., & Yuyetta, E. N. A. (2021). Corporate social responsibility, firm value, and financial constraints: A signal of corporate liquidity. *Universal Journal of Accounting and Finance*, *9*(6), 1322–1331. https://doi.org/10.13189/ujaf.2021.090611

Ika, S., & Anita Wahyu, I. (2020). Jurnal Akuntansi dan Keuangan FEB Universitas Budi Luhur. *Jurnal Akuntansi dan Keuangan*, *9*(2), 167–184.

Islah, J. N. (2021). Disclosure of Corporate Social Responsibility on Corporate Financing Constraints with Financial Transparency Moderating Variables. *Jurnal Manajemen Stratejik dan Simulasi Bisnis*, *2*(2), 76–89. https://doi.org/10.25077/mssb.2.2.76-89.2021

Kawedar, W. (2020). Analisis Pengaruh Kinerja Keuangan, Kinerja Operasional, Biaya Ekuitas dalam Pengungkapan Emisi Karbon Untuk Menciptakan Nilai Perusahaan. *Diponegoro Journal of Accounting*, *9*(2), 1–11. http://ejournal-s1.undip.ac.id/index.php/accounting

Kholmi, M., Dewi, A., Karsono, S., & Syam, D. (2020). *J r a k*. *10*(2), 349–358. https://doi.org/10.22219/jrak.v10i2.11811

Kleemann, L., & Murphy-Bokern, D. (2014). *Reducing greenhouse gas emissions in the food sector: Effects of corporate responsibility*. *1967*, 39.

Larasati, R., Cores Seralurin, Y., & Sesa, P. V. S. (2020). Effect of Profitability on Carbon Emission Disclosure. *The International Journal of Social Sciences World*, *2*(2), 182–195. https://doi.org/10.5281/zenodo.4248320

JURNAL ILMU MANAJEMEN (JIM)
Vol 21, No 2, December 2024, Page 101-116
p-ISSN: 1683-7910 | e-ISSN: 2549-0206
DOI : 10.21831/jim.v21i2.78669

Marheni, D. K., & Kristina. (2023). Peran Financial Leverage Sebagai Pemoderasi Pengaruh Corporate Social Responsibility Terhadap Financial Performance. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, *9*(2), 67–80. https://doi.org/10.34204/jiafe.v9i2.8579

Pirdayanti, P. D., & Wirama, D. G. (2019). Dewa Gede Wirama 2 Fakultas Ekonomi dan Bisnis Universitas Udayana, Indonesia. *e-Jurnal Akuntansi*, *28*(3), 1650–1666.

Prasetyantoko, A. (2007). *Financing Constraint and Firm Investment Following a Agustinus Prasetyantoko To cite this version : HAL Id : halshs-00133964 Financing Constraint and Firm Investment*.

Rachmawati, N. A., & Fitriana, A. (2021). The Effect of Financial Constraints and Institutional Ownership on Tax Agressiveness. *ACCRUALS (Accounting Research Journal of Sutaatmadja)*, *5*(01), 38–53. https://doi.org/10.35310/accruals.v5i01.606

Rehman, I. U., Shahzad, F., Hanif, M. A., Arshad, A., & Sergi, B. S. (2024). Financial constraints and carbon emissions: an empirical investigation. *Social Responsibility Journal*, *20*(4), 761–782. https://doi.org/10.1108/SRJ-01-2023-0014

Saraswati, E., Puspita, N. R., & Sagitaputri, A. (2021). Do firm and board characteristics affect carbon emission disclosures? *International Journal of Energy Economics and Policy*, *11*(3), 14–19. https://doi.org/10.32479/ijeep.10792

Sari, K. P., & Susanto, B. (2021). Green strategy, corporate social responsibility disclosure, good corporate governance terhadap pengungkapan emisi karbon. *Business and Economics Conference in Utilization of Modern Technology*, 642–657. https://journal.unimma.ac.id

Sembiring, eddy rismanda. (2009). Narratorial border crossings in major early-twentieth-century english novels. *Poetics Today*, *30*(2), 237–255. https://doi.org/10.1215/03335372-2008-009

Yuwono, W., Candy, C., & Joey, J. (2024). the Influence of Financial Ratios on Firm Value With the Csr Moderating Variable: Lq45 Companies. *At-Tadbir : jurnal ilmiah manajemen*, *8*(1), 28. https://doi.org/10.31602/atd.v8i1.12879