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The Effect of Carbon Emission Disclosure and Tax Avoidance on Firm Value: The Moderating Role of Board Diversity

Wijaya Triwacananingrum[a], Jemmima Rachmadita[b], Rayhan Mahatma Harikusuma[c]

[abc]Faculty Of Economics and Business, Pelita Harapan University, Indonesia

ABSTRACT

This study examines how board diversity affects the link between a company's carbon emission disclosure, tax avoidance, and its market value. Using data from 31 non-financial companies on Indonesia's Kompas 100 index from 2020 to 2023, the research found that carbon disclosure, tax avoidance, and board diversity do not directly influence firm value on their own. However, the study reveals that board diversity plays a crucial moderating role. It significantly strengthens the positive link between carbon emission disclosure and firm value, making environmental transparency more valuable to investors. In contrast, it does not affect the relationship between tax avoidance and firm value. The research suggests that for Indonesian companies, implementing board diversity is a key strategy to enhance the impact of their sustainability reporting. Furthermore, diverse boards can promote more ethical tax practices, which may positively influence company value in the long run.

***Keywords* -** Carbon Emission Disclosure, Tax Avoidance, Board Diversity, Firm Value.

INTRODUCTION

Climate change, driven by greenhouse gas emissions, and state losses due to tax avoidance practices are two crucial issues faced by Indonesia. From the total emissions in Indonesia in 2022, potential emissions will continue to increase by 2030 and are projected to reach 1.4 Gigatons of CO2-eq or by 59% (Widyarini, 2022). On the other hand, aggressive tax avoidance practices by companies significantly reduce state revenue, which largely comes from taxes, thereby hindering national development and economic stability. Referring to a report by the Tax Justice Network, tax avoidance in Indonesia was estimated to cost the country up to 4.86 billion US dollars, or the equivalent of IDR 68.7 trillion per year, during the 2020 pandemic. (Fatimah, 2020). These two issues are closely related to the Triple Bottom Line principle (Planet, People, Profit), where the transparency of carbon emission disclosure and tax compliance reflect a company's ethical responsibility and business sustainability, which can ultimately affect stakeholder trust and company value.

Research conducted by (Noto Soetardjo & Nurmawati, 2024) found that tax planning, with the Effective Tax Rate as a proxy, can decrease firm value, but carbon emission disclosure does not significantly affect it. From a governance perspective, the independent board of commissioners was unable to moderate the relationship between tax planning and firm value. Additionally, research by (Bedi & Singh, 2024) shows that carbon emission disclosure has a negative relationship with profitability and Tobin's Q. This study provides a new contribution by exploring the link between carbon emission disclosure and tax avoidance on firm value in Indonesia, especially by introducing board diversity as a moderating variable. By analyzing the moderating role of board diversity, this research fills a gap in the literature and offers a deeper understanding of how corporate governance mechanisms can influence the relationship between non-financial performance and firm value in the context of a developing country.

In practical terms, this research provides important implications for various stakeholders. For investors, the results of this analysis can serve as a reference in making investment decisions by providing insights into how a company's sustainability and tax compliance practices affect its market value. For companies, the study offers valuable information for developing more effective financial management and sustainability strategies to optimize firm value in the future. Furthermore, for academics and future researchers, this research opens new perspectives and can be used as a foundation for further studies using other proxies or variables that have not yet been explored.

Several cases in Indonesia highlight the urgency of this research, namely the refusal by BNP Paribas and DBS Bank to underwrite PT Adaro's bonds, as well as the unilateral termination of an aluminum supply agreement by the South Korean car company, Hyundai (Jong, 2024). This company also engaged in profit shifting for tax avoidance purposes amounting to US$125 million through Coaltrade Services International (Global Witness, 2019). This case led to predictions by financial regulators that the company would lose many investors in the future. Cases like these demonstrate how relevant the issues of carbon emission disclosure and tax avoidance are, and how they can directly affect the reputation and investor confidence in companies in Indonesia.

Based on this background, the main objective of this research is to conduct an in-depth analysis and provide empirical evidence on the relationship between carbon emission disclosure and tax avoidance on firm value. Furthermore, this study aims to examine whether board diversity, as an element of good corporate governance, can moderate or influence the strength of that relationship. Thus, this research not only tests the direct influence of each variable but also investigates the strategic role of the board's structure in shaping the impact of environmental and fiscal practices on corporate valuation in the Indonesian capital market.

LITERATURE REVIEW

Agency theory describes the relationship between shareholders, as the principal, and the company's management, as the agent who is responsible to the principal. (Eisenhardt, 1985). Legitimacy Theory states that companies have an implicit social contract with the society in which they operate. This social contract motivates top managers to align the company's activities with the values, norms, and boundaries of the host society. (Dowling & Pfeffer, 1975).

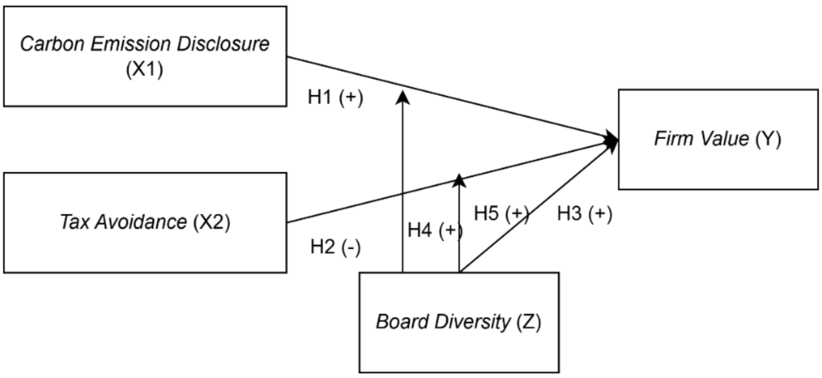

Fig. 1. Conceptual Framework

The Influence of Carbon Emission Disclosure, Tax Avoidance, and Board Diversity on Firm Value

From the perspective of agency theory, carbon emission disclosure can reduce information asymmetry between managers and shareholders. Shareholders need this information to assess the company's long-term risks related to climate change. Good financial performance motivates a company to be more transparent in its carbon emission disclosure (Wahyuningrum et al., 2024), which aligns with an increase in firm value. From the perspective of legitimacy theory, carbon emission disclosure serves as a tool for companies to demonstrate their social and environmental responsibility. By meeting these demands, a company gains legitimacy from the public and stakeholders, which can enhance its reputation and ultimately increase its firm value. This is supported by research from (Liu et al., 2023) which found that carbon emission disclosure is used as an effective legitimation tool to protect firm value. Additionally, societal pressure motivates this voluntary disclosure as companies seek to maintain the legitimacy demanded by stakeholders, in line with the growing importance of ethical business practices (Kılıç & Kuzey, 2019). The greater demand for carbon emission disclosure aligns with larger company size, which in turn motivates these firms to improve their carbon disclosures. (Bedi & Singh, 2024). From a market perspective (Desai et al., 2022) found that the market responds negatively to companies with high levels of Scope 1 carbon emissions. This aligns with research by (Zuhrufiyah & Anggraeni, 2019) which shows that a company's value increases significantly with carbon emission disclosure.

Agency theory views tax avoidance as an effort by management to minimize the tax burden in order to maximize net profit, which can increase their incentives. This practice is high-risk because it can damage the company's reputation and lead to unexpected future costs, ultimately decreasing firm value. Agency theory views tax avoidance as an effort by management to minimize the tax burden in order to maximize net profit, which can increase their incentives. This practice is high-risk because it can damage the company's reputation and lead to unexpected future costs, ultimately decreasing firm value. This aligns with legitimacy theory, which suggests that investors generally want companies to exhibit ethical behavior, including contributing to the state as good taxpayers, as a form of their social contract. This explanation is supported by research from (Noto Soetardjo & Nurmawati, 2024); (Kirkpatrick & Radicic, 2020); dan (Khaled & Abbas, 2024) which finds that a higher Effective Tax Rate has a negative effect on firm value.

The presence of board diversity is a governance application that can potentially optimize firm value and minimize agency costs arising from conflicts of interest and information asymmetry (Vitolla et al., 2020). reater educational diversity among company leadership generates various perspectives grounded in the different knowledge and critical thinking of each board member, which is expected to help the company find solutions to new challenges. From a legitimacy standpoint, a diverse board is better able to understand and respond to the expectations of various stakeholders. This diversity helps the company balance economic, social, and environmental demands, aligning its business practices more closely with societal norms and thereby enhancing corporate legitimacy. Research shows that diversity on the board of directors including gender, education, and nationality has a significant positive relationship with accounting and market perspectives that impact firm value (Bin Khidmat et al., 2020). Consistent findings by (Yogiswari & Badera, 2019) dan (Ningrum, 2024) also confirm that the educational background of the board of directors in Indonesia positively influences firm value.

H1: Carbon emission disclosure has a positive effect on firm value
H2: Tax avoidance has a negative effect on firm value
H3: Board diversity has a positive effect on firm value

The Moderating Role of Board Diversity in the Relationship Between Carbon Emission Disclosure, Tax Avoidance, and Firm Value

The presence of a diverse board, with its broad insights, can ensure that disclosures are more strategic and credible. Moreover, the two-tier system adopted by companies in Indonesia gives the Board of Directors full authority to execute policies, especially regarding final decisions on environmental activities (Kılıç & Kuzey, 2019b) which is in line with Upper Echelons Theory (UET) (Hambrick dan Mason, 1984) that a company's strategic decisions are influenced by the characteristics of its upper echelons. This explanation is supported by research from (Kabir Rezaul & Thai Han Minh, 2021) which shows that a CEO's educational level influences Corporate Social Responsibility (CSR) disclosure. This transforms Carbon Emission Disclosure (CED) from a mere compliance obligation into a competitive advantage that the market responds to positively, thereby strengthening its positive impact on firm value.

A board with diverse educational backgrounds tends to have stronger ethical considerations. They can oversee and limit overly aggressive tax avoidance practices, ensuring the company's tax strategies do not cross lines that could damage its reputation. This oversight signals to investors that the company's tax risks are well-managed, thereby reducing the negative impact of tax avoidance on firm value. Findings by (Heryana et al., 2023) support this, showing that diversity in the educational levels of directors has a negative effect on tax avoidance. Furthermore, according to Legitimacy Theory, a diverse board is more sensitive to stakeholder demands and social norms that view aggressive tax avoidance as a violation of the "social contract." By promoting more responsible tax practices, the board helps the company maintain its legitimacy in the eyes of the public and investors.

H4: Board Diversity Strengthens the Effect of Carbon Emission Disclosure on Firm Value
H5: Board Diversity Weakens the Negative Effect of Tax Avoidance on Firm Value

METHODOLOGY

This research uses a literature study technique and sample data analysis of companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2023 period, with a total of 124 firm-years.

TABLE 1
RESEARCH SAMPLE SELECTION

No.	Sample Criteria	Amount
1.	Companies listed in Kompas100 2020—2023	400
2.	Financial Companies Listed in Kompas100 2020—2023	(52)
3.	Companies that are not consecutively listed in Kompas 100 for 2020—2023	(176)
4.	Companies that do not disclose at least 1 Carbon Emission Index item in their reports consecutively from 2020—2023	(16)
5.	Outlier Data	(32)
Final Observation Total		**124**

This study measures the dependent, independent, and moderating variables, which consist of Carbon Emission Disclosure, Tax Avoidance, Board Diversity, and Firm Value. These variables are incorporated into two distinct regression models: Model 1 is utilized to test the direct effects in hypotheses 1 through 3, while Model 2 is designed to test the moderating effects outlined in hypotheses 4 and 5.

TABLE 2
MEASUREMENT VARIABLES

Model 1:
FVi,t = α+β1 CEDi,t + β2 ETRi,t + β3 EDUDIVi,t + β4 SIZEi,t + β5 AGEi,t + β6 ROAi,t + β7 DERi,t + e

Model 2:
FVi,t = α+β1 CEDi,t + β2 ETRi,t + β3 EDUDIVi,t + β4 CEDi,t*EDUDIVi,t + β5 ETRi,t*EDUDIVi,t + β6 SIZEi,t + β7 AGEi,t + B9 ROAi,t + β9 DERi,t + e

Variables	Proxy	Formula	
Firm Value	Tobin's Q	FV	$\frac{(Market\ value\ of\ equity\ +\ Book\ value\ of\ de}{Total\ Asset}$
Carbon Emission Disclosure	Carbon Emission Disclosure	CED	37 Carbon Disclosure Index From (Bedi and Singh, 2024)
Tax Avoidance	Effective Tax Rate	ETR	$\frac{Tax\ expense}{Earning\ Before\ Tax}$
Board Diversity	Board Education Diversity	EDUDIV	Blau Index = $1-\sum_{i=1}^{k} Pi^2$
Firm Size	Firm Size	SIZE	Ln(Total Asset)
Firm Age	Firm Age	AGE	Year of closing of books - Year of establishment of the company
Profitability	Return On Asset	ROA	$\frac{Net\ Income}{Total\ Asset}$
Solvability	Debt To Equity Ratio	DER	$\frac{Total\ Liability}{Total\ Asset}$

RESULTS

Statistics Descriptive

TABLE 3
STATISTICS DESCRIPTIVE

Variable	Obs	Mean	Std. dev.	Min	Max
FV	124	1.974435	1.94338	0.55	10.57
CED	124	0.561936	0.197939	0.11	1.03
ETR	124	0.254839	0.126591	0.01	0.8
EDUDIV	124	0.379194	0.158948	0	0.63
ROA	124	0.091129	0.081721	0	0.45
DER	124	0.940968	0.949581	0.09	4.46
SIZE	124	7.571774	0.45528	6.59	8.65
AGE	124	46.95161	18.70996	12	104

Pairwise Correlation

TABLE 4
PAIRWISE CORRELATION

	FV	CED	ETR	EDUDIV	ROA	DER	SIZE	AGE
FV	1.000							
	124							
CED	-0.1402	1.000						
	0.1204							
	124	124						
ETR	-0.1281	-0.0113	1.000					
	0.1563	0.9008						
	124	124	124					
EDUDIV	0.0216	0.1247	-0.1297	1.000				
	0.8121	0.1677	0.1509					
	124	124	124	124				
ROA	0.5523*	0.2328*	-0.2674*	0.3207*	1.000			
	0	0.0093	0.0027	0.0003				
	124	124	124	124	124			
DER	0.2354*	-0.1237	0.2624*	-0.0731	-0.014	1.000		
	0.0085	0.1711	0.0032	0.4198	0.8774			
	124	124	124	124	124	124		
SIZE	-0.4575*	0.1968*	0.0394	0.1111	-0.2646*	0.1677*	1.000	
	0	0.0285	0.6641	0.2194	0.003	0.0626		
	124	124	124	124	124	124	124	
AGE	0.2006*	0.3874*	0.0555	0.1998*	0.2615*	0.0902	0.1881*	1.000
	0.0255	0	0.5406	0.0261	0.0034	0.3192	0.0364	
	124	124	124	124	124	124	124	124

Multicollinearity Test

TABLE 4
MULTICOLLINEARITY TEST

Variable	**VIF**	**1/VIF**
ROA	1.57	0.638883
SIZE	1.34	0.74734
CED	1.32	0.757311
AGE	1.32	0.760186
ETR	1.2	0.83225
EDUDIV	1.19	0.837054
DER	1.19	0.840744

Mean VIF	1.3	

Hypothesis Test Model 1

TABLE 5
Hypothesis Test Result Model 1

Linear regression				**Number of Obs**	=	124
				F (7, 116)	=	15.34
				Prob > F	=	0
				R-squared	=	0.2796
				Root MSE	=	0.3442
		Robust				
bc_tobins_w	**Coefficient**	**std. err.**	**t**	**P>t**	**[95% conf.**	**interval]**
CED	-0.2701	0.250851	-1.08	0.284	0.766925	0.226761
ETR	-0.1772	0.231696	-0.76	0.446	0.636075	0.28173
EDUDIV	-0.001	0.224325	0	0.996	0.445342	0.443265
ROA	1.4366	0.427512	3.36	0.001	0.589862	2.283345
DER	0.0673	0.028623	2.35	0.02	0.010644	0.124026
SIZE	-0.275	0.079872	-3.44	0.001	0.433199	-0.11681
AGE	0.0013	0.001397	0.96	0.337	0.001419	0.004115
_CONS	2.2464	0.597087	3.76	0	1.063772	3.428982

H1: Carbon emission disclosure has a positive effect on firm value.
Based on Table 5, the coefficient for carbon emission disclosure is -0.2700819, which indicates that carbon emission disclosure decreases firm value. The t-statistic is -1.08 and the p-value (P>|t|) is 0.284. Since the p-value is greater than the maximum significance level of 10%, the variable does not have a significant effect on firm value. Therefore, H1 is rejected.

H2: Tax avoidance has a negative effect on firm value
Based on Table 5, the coefficient for tax avoidance is -0.1771725, which means that as a company engages in more tax avoidance, its firm value decreases. The t-statistic is -0.76 and the p-value (P>|t|) is 0.446. Since the p-value is greater than the 10% significance level, the tax avoidance (ETR) variable does not have a significant effect on firm value. Therefore, H2 is rejected.

H3: Board diversity has a positive effect on firm value.
Based on Table 5, the coefficient for board diversity is -0.0010383, which means that as educational board diversity in a company increases, the firm's value decreases. The t-statistic is 0 and the p-value (P>|t|) is 0.996, indicating that the EDUDIV variable does not have a

significant effect on firm value, as it exceeds the 10% significance level. Therefore, H3 is rejected.

HYPOTHESIS TEST MODEL 2

TABEL 6
HYPOTHESIS TEST RESULT MODEL 2

Linear regression				**Number of Obs**	=	124
				F(9, 114)	=	20.06
				Prob > F	=	0
				R-squared	=	0.3692
				Root MSE	=	0.32491
		Robust				
bc_tobins_w t	**Coefficien**	**std. err.**	**t**	**P>t**	**[95% conf.**	**interval]**
CED	-2.1755	0.357167	-6.09	0	2.883013	-1.46792
ETR	-0.066	0.32777	-0.2	0.841	-0.71528	0.583336
CEDxEDUDIV	4.7803	0.904788	5.28	0	2.987948	6.572703
ETRxEDUDIV	0.1876	1.077396	0.17	0.862	1.946755	2.321869
EDUDIV	-2.3693	0.54617	-4.34	0	3.451258	-1.28734
ROA	1.0281	0.42781	2.4	0.018	0.180609	1.875585
DER	0.0857	0.029962	2.86	0.005	0.026333	0.14504
SIZE	-0.2445	0.073961	-3.31	0.001	0.391	-0.09797
AGE	0.0017	0.001425	1.21	0.229	-0.0011	0.004544
_CONS	2.9032	0.537894	5.4	0	1.837682	3.968811

H4: Board Diversity Strengthens the Effect of Carbon Emission Disclosure on Firm Value

Based on Table 6, the presence of EDUDIV as a moderating variable yields a coefficient of 4.780326 for its effect on the relationship between CED and FV, with a p-value (P>|t|) of 0. This means that educational board diversity significantly weakens the negative relationship between carbon emission disclosure and firm value. In effect, the presence of EDUDIV strengthens the ability of CED to increase firm value. Without EDUDIV, each unit of CED decreases firm value by approximately 2.18 units.

Therefore, H4 is accepted.

H5: Board Diversity Weakens the Negative Effect of Tax Avoidance on Firm Value

Based on Table 6, the presence of EDUDIV as a moderating variable yields a coefficient of 0.187557 for its effect on the relationship between ETR and FV, with a p-value (P>|t|) of 0.862.

This indicates that board diversity does not moderate the relationship between the Effective Tax Rate (ETR) and Firm Value (FV). Therefore, H5 is rejected.

DISCUSSION

THE EFFECT OF CARBON EMISSION DISCLOSURE ON FIRM VALUE

This finding is in line with the results of a study by (Kurnia et al., 2020) hich showed that carbon emission disclosure and Good Corporate Governance (GCG) at 43 companies listed on the Indonesia Stock Exchange (IDX) from 2015-2017 did not affect firm value as measured by Tobin's Q. Similarly, findings by (Noto Soetardjo & Nurmawati, 2024) also concluded that carbon emission disclosure in non-cyclical and cyclical consumer companies on the IDX during the 2021-2022 period did not influence firm value.

Based on **legitimacy theory**, carbon emission disclosure is a non-financial performance metric with a long-term focus, undertaken to gain recognition from stakeholders. Although the trend of carbon disclosure has been increasing year by year—showing companies' seriousness in meeting stakeholder demands, supported by sustainability policies in Indonesia—sustainability reporting is still in its early stages of development, as is common in other developing nations. The voluntary nature of this reporting means companies tend to focus on short-term performance over long-term goals, and there are still no significant incentives for disclosure. In 2022, only 100 companies in Indonesia used CDP as their chosen environmental risk reporting system, dominated by mining sector companies and State-Owned Enterprises (SOEs) which tend to have more extensive disclosures. Thus, awareness of carbon emission disclosure in Indonesia remains relatively low. Companies that do not disclose often perceive that the costs outweigh the benefits. This aligns with findings by (Bedi & Singh, 2024) and (Mahmudah et al., 2023) as investors may view the costs incurred to support emission reductions as a burden on the company.

During the 2020–2023 period, the COVID-19 pandemic was still affecting Indonesia. This caused companies to focus on their financial condition to ensure business continuity, leading them to sideline carbon emission disclosure. This is consistent with research by (Puspita et al., 2024) which found that the pandemic motivated manufacturing companies on the IDX to engage in earnings management to boost their income, resulting in lower carbon emission disclosures. During this global crisis, which destabilized the world economy for an uncertain period, investors viewed carbon emission disclosures as not sufficiently credible (Zhang et al., 2024).

THE EFFECT OF TAX AVOIDANCE ON FIRM VALUE

During the pandemic and economic crisis, investors tended to change their investment strategies. Their main priority was to ensure a company could survive and maintain its reputation to avoid negative long-term impacts arising from reputation costs (N. C. Smith & Pepe, 2020). Therefore, investors paid more attention to financial performance indicators that showed stability and the company's ability to generate profit and manage its liabilities. Tax avoidance, being a long-term strategy with risks that would only materialize in the future, became less relevant for investment decisions amid uncertainty.

To prevent a recession during the pandemic, the Indonesian government launched the National Economic Recovery program, which included incentives and relaxation of corporate income tax. This policy effectively reduced the tax burden on companies and decreased the practice of tax avoidance. The average Effective Tax Rate (ETR) of the sample companies in this study was 25%, which is above the corporate income tax rate of 22%, indicating a good level of tax compliance. Because the government had already provided these concessions, investors no longer viewed tax avoidance as a crucial factor for evaluating company performance (Hartono et al., 2025) and (Hendi et al., 2024). In a situation like this, the "social contract" becomes highly critical. Paying taxes fairly is no longer just a legal obligation but a fundamental ethical and social responsibility.

THE EFFECT OF BOARD DIVERSITY ON FIRM VALUE

Based on the processed data, the average board diversity in the sample companies was only 38%, meaning its impact was not strong enough to significantly influence company performance. Additionally, investors do not yet consider the aspect of educational diversity as it is not specifically regulated in Indonesia. For investors, diversity in the educational backgrounds of directors is meaningless if it is not accompanied by satisfactory financial performance (Kurnia et al., 2020) and (Suhartini et al., 2024).

THE MODERATING ROLE OF BOARD DIVERSITY ON THE EFFECT OF CARBON EMISSION DISCLOSURE ON FIRM VALUE

Based on legitimacy theory, companies with good governance are expected to be more ethical in upholding their environmental responsibilities through transparent Carbon Emission Disclosure to support sustainability and meet stakeholder pressure. Although board diversity does not have a direct impact on firm value, it plays a crucial role in increasing the urgency of carbon emissions reporting. Furthermore, this diversity can encourage the board of directors to make decisions and business strategies with a more long-term orientation. This disclosure also prompts the identification of future risks that could potentially be turned into opportunities or mitigated.

The presence of board diversity also successfully reduces information asymmetry between agents and principals (in line with Agency Theory), as diversity within the company's organizational structure can generate various creative ideas that serve as alternatives in decision-making. This is supported by research from (Aliani, 2023) which proves that board skill diversity is positively correlated with carbon emission performance. Similarly, (Wahyuningrum et al., 2024) found that board diversity also has a positive correlation with Carbon Emission Disclosure.

THE MODERATING ROLE OF BOARD DIVERSITY ON THE EFFECT OF TAX AVOIDANCE ON FIRM VALUE

Although the presence of board diversity can reduce tax avoidance behavior, investors focused on the short term during the pandemic. Consequently, they did not view tax compliance as a positive signal for the company's long-term future. This was also influenced by external factors, namely the tax relaxation and incentives provided during the pandemic, which already made companies more compliant. As a result, the impact of internal oversight from a diverse board became less visible to investors. The results of this study are in line with findings by (Anggraeny & Soepriyanto, 2023) which showed that board diversity did not affect tax avoidance behavior in Indonesian companies from 2017-2021. According to their study, board directors do not focus on their diversity; instead, they focus only on the impact of aggressive tax avoidance behavior, meaning diversity is not considered a factor that influences tax avoidance.

CONCLUSION

The demand for transparency in non-financial information has spurred numerous studies aimed at uncovering how corporate sustainability and ethical practices affect firm value. Internally, there is a push to reduce information asymmetry through good corporate governance mechanisms, such as board diversity. Externally, pressure from regulations and stakeholders requires companies to be more transparent, particularly through carbon emission disclosure.

The author conducted a quantitative study to test the effect of carbon emission disclosure and tax avoidance on firm value, with board diversity as a moderating variable. The research subjects were non-financial companies listed on the Kompas 100 Index during the 2020–2023 period, with a total sample of 31 companies. The required data was collected from annual reports, sustainability reports, and financial statements and was processed using Stata 12 software.

The test results found that carbon emission disclosure, tax avoidance, and board diversity individually did not have a significant effect on firm value. This is because carbon disclosure in Indonesia is still in a developing stage and is perceived by investors as a cost. Meanwhile, the impact of tax avoidance became less relevant due to government fiscal incentives and a shift in investor focus to short-term financial performance during the COVID-19 pandemic.

However, board diversity was found to significantly strengthen the relationship between carbon emission disclosure and firm value, turning an initially negative impact into a positive one by acting as a signal of good governance. Conversely, board diversity was not significant in moderating the relationship between tax avoidance and firm value, as investors prioritized financial stability over governance aspects related to tax policy during the crisis period.

This study contributes insights into the influence of carbon emission disclosure in Indonesia with board diversity as a moderating factor. Based on the findings, the author suggests that future research use a longer time frame and a sample from a specific sector to obtain more consistent results. Several limitations were identified, including the short research period, which was heavily influenced by the economic conditions of the COVID-19 pandemic.

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