

# THE EFFECT OF GREEN INVESTMENT, INTELLECTUAL CAPITAL DISCLOSURE, AND CARBON EMISSION DISCLOSURE ON FIRM VALUE

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## **ARTICLE INFO**

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#### ABSTRACT

This study evaluates the market performance of mining businesses listed on the Indonesia Stock Exchange from 2017 to 2021 concerning intellectual capital disclosure, carbon emission disclosure, and green investment.

Secondary data for this study was from the Indonesia Stock Exchange/IDX (www.idx.co.id) and the Ministry of Environment and Forestry (www.proper.menlhk.go.id). The data were gathered through purposeful sampling. Based on a predefined set of criteria, 60 data sets from 12 mining companies were gathered over five years. The study's methodology included descriptive statistics and panel data regression.

According to this study, disclosures regarding intellectual property did not affect value, green investments did not affect firm value, and disclosures about carbon emissions had a significant and favorable effect.

**Keywords:** Green Investment, Intellectual Capital Disclosure, Carbon Emission Disclosure, Firm Value.

## INTRODUCTION

Economic growth is when the quantity and value of goods and services increase over time. A nation's economic development directly depends on how well-off its residents are. Development and economic success depend heavily on human and natural capital, sociocultural breakthroughs, and technological innovation. As a supplier of

energy raw materials, the mining sector is crucial for a country's economic growth. In 2021, Indonesia's mining area will be 97,767,729.55 ha and half of Indonesia's land area will be controlled by the mining sector. One of Indonesia's landlords in the mining sector is the mineral and coal sector, which controls 11,190,193.70 hectares of land, the remainder being the oil and gas sector, covering an area of 86,577,535.85 hectares. The mining sector's role certainly directly or indirectly impacts the causes of pollution and environmental damage. There were 58 criminal incidents in 2021. The mining sector was the most criminalized, with 52.00%, followed by the forestry and plantation sector, with 34.00%.(Jatmiko, 2022).

PT Adaro Energy Tbk (ADRO) conducted dredging operations and environmental destruction, mainly contributing to the flood disaster that hit South Kalimantan. In 2021, the activities killed 24 people and displaced 113,000 people. The company has also been involved in an agricultural dispute in South Kalimantan since 2005 due to the company's coal mining activities eviction and relocation of the village of Wanarejo in Balangan district because the location is included in the company's concession. There are about 1,000 souls/300 families lost their homes. In October 2022, the activity ended, and so far, the old coal dredging operations have left at least 30 new mines, 18 of which are P.T. Adaro's energy recovered. Indeed, according to mining law, before the expiration of the contract, all mine pits must be completed and rehabilitated. Cases such as old mine pits that do not recover will impact the destruction of forest areas. Besides aiming to profit, business entities must also have a social obligation to look after stakeholders related to the environment around the business. This question is interesting to discuss because miners' environmental activities are essential. Corporate obligations continue to grow, not only to investors and creditors but also to social and environmental responsibility. UU no. 40, Article 74 of 2007 concerning limited liability companies, regulates explicitly the company's obligations in fulfilling social and environmental responsibilities. (Jatmiko, 2022).

PT Gema Kreasi Perdana has damaged the environment and economic resources of the community (fishermen). The social, economic, and environmental impacts include mining waste, construction of company ports in Masolo and Roko Roko Villages, and damage to coral reefs, making it difficult for fishermen to catch coral fish, octopus, saury, tuna, and sunus horizontal conflicts between occupants and beneficiaries of mines, who deny access to electricity while beneficiaries gain access. Damage to community springs on Wawoni Island due to nickel mining has destroyed the only plateau that flows under the river, the primary water source for around 76.63% of the population. As a result, many fishermen have to put all their gold in boats, and their children are now threatened with being unable to continue their education to meet their daily needs. Almost the same as the case of deforestation and criminalization of PT Vale Indonesia, they carry out waste processing. PT Vale Indonesia accelerated sedimentation to form new fine mud fields on the outskirts of Lake Mahalona Tole village, Towuti District, East Luwu Regency. Sediment transport to Lake Mahalona via the Timbalo and Mata Buntu rivers. The area of Lake Mahalona is now around 2,289 hectares, down 151 hectares from the previous 2,440 hectares. The number of Butini fish (Glossogobius Matanensis), endemic to Lake Matano, Mahalona, and Towuti, has also decreased. PT Vale Indonesia also threatens the sustainability of endemic plant and animal species such as tembesu wood, Anoa Quarlesi, and Hog Deer and causes deforestation in 4,449.22 Ha. Over half of PT Vale Indonesia's concessions are in a protected forest area/Verbeck Mountains (Jatmiko, 2022).

For 50 years, PT Freeport in Indonesia has caused environmental degradation, human rights violations, social conflict, loss of economic resources for indigenous Papuans, floods, and landslides triggered by piles of sediment that the company dumped into the Wanagon Valley. The death of the Aikwa, Agawagon, Otomona, and other ecosystems is due to mercury pollution and cyanide levels from tailings and piles of up to 840,000 tons. Pollution of the coastal areas of Kamorro, Kampung Pasir Hitam, and sedimentation have caused people to take a long time to cross due to the siltation of the river so that the fish caught for their daily needs quickly run out. There is also deforestation due to illegal mining in a protected forest area covering an area of 4,535 ha, which has the potential to suffer losses of IDR 185 trillion due to protection forests and inadequate waste management. (Jatmiko, 2022).

Legitimacy theory is essential for organizations; social norms and values determine their boundaries. Overcoming these limitations makes it essential to analyze organizational behavior toward the environment. Legitimacy encourages companies to ensure that their activities and results are acceptable to society. Companies explain incentives for voluntary environmental disclosure by organizations, communicate their sense of environmental responsibility through annual reports, and gain social acceptance by society so that legitimacy has benefits that help society/companies survive. The reason behind this theory is that a company will survive if the community perceives that the organization operates on a value system that is consistent with the community's value system (Lindrianasari, 2015).

Company value is the achievement or value from the company's inception until now based on public (investor) trust. Important factors needed by investors to decide whether to invest in the company. The company's opportunity to get investment is the result or effect of high company value. Before achieving high company value, management must improve the company's performance because its performance reflects the company's value and its share price. If the company value is high, investors can see the company's prospects in the future, and investors will gain profits and avoid losses if they invest in good or high-value companies. Company value is also an achievement of organizational management by increasing the public's or investors' trust by paying the company's share price, which follows the company's value. Increasing the value of a company will also increase trust.

A company's success cannot be separated from the influence of the environment in which it was founded. Thus, running a business not only increases the company's value but also needs to care for the environment through good corporate governance practices. Every company owes it to itself to safeguard and increase its corporate value. The market value of a company reflects the level of investor confidence in that company. The market price of a company's shares determines its value. Syafitri et al. (2018) claim that stock prices thoroughly justify a firm's value by assessing the company's performance. If a firm can optimize the value of its business, its earning potential is maximized.

One of the variables that affect the company's value is green investment. Green investment is a company's effort to preserve the environment and prevent environmental pollution by spending some costs. Therefore, the company can achieve sound environmental performance. On the other hand, environmental costs are considered by many companies as a burden because they will reduce company revenue and reduce company profits. On the other hand, this will have a long-term impact, such as a

positive corporate image (Meiyana & Aisyah, 2019). However, this green investment will increase the firm's value and affect the company's investor interest. The two are inexorably intertwined since environmental management functions as damage avoidance for green investment. Ensuring a positive working environment may increase a company's worth. According to Hariati & Rihatiningtyas (2015), a company's reputation grows the more committed it is to environmental sustainability. Enterprises with high environmental performance will have favorable investor responses, benefiting such enterprises.

One way to maximize the company's value can be achieved through investment and financing decision strategies that are carried out effectively and accordingly. Effective investment decisions are characterized by achieving optimal output or return. Meanwhile, efficient financing decisions, on the other hand, are seen from the lowest capital costs. This strategic decision contributes to the achievement of company goals, namely to increase the welfare of company owners. The decision to invest is one of the monetary options that might raise a company's value. The firm's perceived value rises when investment decisions are made more often. Aprianto & Arifah's (2014) study suggests that raising investment creates the perception that the company is doing well and growing. Lundgren & Zhou (2017) define "green investment" as a company's efforts to decrease its adverse environmental consequences via improved environmental performance, impacting competitiveness, productivity, and energy efficiency. Significant academic and administrative efforts have been expended to clarify whether green investments deliver positive results (Pekovic et al., 2018). Most researchers focus on the relationship between green investment and economic performance, but until now, there has yet to be a consensus. (Tu et al., 2018).

Utomo & Kaujan's (2019) earlier research demonstrates that green investments significantly boost business value. Putriani (2019) states that green investment is rising, although not dramatically, to demonstrate that good corporate governance (GCG) and green investment influence business value. An organization's bottom line is impacted by good corporate governance and environmentally conscious expenditure by a combined 98.5 percent. Meanwhile, the research results of Tanasya & Handayani (2020) prove that corporate governance and green investment have an effect on company value and are mediated by profitability. Furthermore, the research results of Yatie & Tandika (2018) show that the green investment index variable significantly influences the financial performance of this variable through intervening variables in the form of return on assets (ROA).

Currently, many investors choose to invest in participating and environmentally responsible companies, thus encouraging more and more companies to take environmentally friendly initiatives related to their industrial production processes. Hsu & Wang (2013) argue that efforts to combat commitments to the environment and climate change can erode shareholder wealth. This statement is supported by Panggau & Septiani (2017), namely the business costs of fulfilling ethical standards through implementing an environmental management system, which will result in an increased cost of goods sold, bringing the company to losses in the industry and reducing shareholder wealth. An invaluable intangible resource, intellectual capital has the potential to become a key asset for a company. This is because disclosing intellectual property may increase operational effectiveness and brand value. According to Octaviany & Issabella's (2015) research, a company's market value is significantly

impacted by how much of its intellectual capital is revealed in the annual report. Consequently, firms' market values will increase if they provide more information about their intellectual property in annual reports. The results of Hidayat & Hairi's (2016) research also show that increasing company value can be measured by how companies manage their intellectual capital efficiently.

Intangible assets have not become the main focus in increasing company value in Indonesia. This is evidenced by the infrequency of Indonesian companies including intangible values on their balance sheets, so corporate values are distorted. This is because intellectual capital disclosure is voluntary and not mandatory in Indonesia. Pangaribuan & Pangaribuan (2020) assert that IP might become the key driver of rising company value and serves as a summary of corporate success. By comparing the various criteria for intellectual capital ownership, it is feasible to assess the relative competitive value of various firms (Zuliyati, 2018). The International Financial Reporting Standards (IFRS) and International Accounting Standard (IAS) 38 govern financial reporting in Indonesia and other nations. The annual report now contains many intellectual capital disclosures that help investors make decisions.

In addition to Kristina & Wiratmaja (2018), other researchers such as Berzkalne & Zelgalve (2014), Nimtrakoon (2015), Arini & Musdholifah (2018), and others discovered that intellectual capital has a favorable and substantial impact on corporate value. According to research by Ardianto & Rivandi (2018), and Rivandi (2020), intellectual capital disclosure has a positive and significant impact on corporate value. Carbon emissions are the divestment of carbon to the atmosphere. Carbon emissions are related to greenhouse gas emissions, which are the main drivers of climate change (http://www.ecolife.com). Disclosure of carbon emissions or disclosure of carbon emissions is part of carbon accounting, namely, the company's obligation to measure, recognize, record, report, and disclose carbon emissions (Irwhantoko & Basuki, 2016). By declaring their carbon emissions, businesses may better manage their environmental impact by allowing regulators and other interested parties to monitor the amount of carbon they emit (Kholmi et al., 2020). Since enterprises in Indonesia do not need to declare their carbon emissions, not all do so. Matsumura et al. (2014) argue that "investors who pay attention to disclosure of carbon emissions will provide information to investors about possible future costs incurred by companies in connection with carbon emissions."

Considering that until now, environmental activists, communities, and non-governmental organizations (NGOs) continue to protest against global warming and climate change, the risk of corporate sustainability has not escaped the attention of investors. Evaluation from various parties certainly affects the company's image. It will undoubtedly be a risk for the company in the future. Voluntary disclosure of carbon emissions in annual reports is associated with increased corporate value as gauged by a rise in stock prices. Matsumura et al. (2014) argue that disclosure of carbon emissions has become a concern for investors because it informs them about the potential future costs companies will incur with carbon emissions. Environmental activists and the public about global warming and climate change, pressure from various parties can damage the company's image. They will have an impact on the company in the future. This information becomes a consideration that must be taken into account by investors when making investment decisions.

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Previous research by Saka & Oshika (2014), Olufisayo & Olalekan (2014), Anggraeni (2015), and Chen et al. (2017); The value of a business is damaged when information regarding the company's environmental responsibility is made public, claims Zuhrufiyah & Anggraeni (2019). According to research by Damas et al. (2021), disclosure of carbon emissions significantly impacts a company's worth. This hypothesis is supported by the market's apparent reaction to business disclosures of carbon emissions. One of the efforts to increase shareholder value is implementing good corporate governance (Sianturi, 2016). Corporate governance describes how a company is managed and supervised by setting goals and monitoring success to justify the interests of the company and its shareholders. Effective corporate governance will improve management performance, maximizing company value (Makki & Lodhi, 2014).

One element that defines a company's value is green investment, or the company's efforts to safeguard the environment and prevent environmental damage by spending a particular amount of money. Nevertheless, despite long-term advantages, including increased brand awareness, many firms see environmental expenditures as a barrier since they reduce sales and profitability (Meiyana & Aisyah, 2019). Green investment will, however, eventually increase the firm's value, which will impact investors' desire to invest in the company. Previous research by Utomo & Kaujan (2019) demonstrates that investing in green projects considerably raises a company's worth. Putriani, (2019) states that green investment is rising, although not dramatically, to demonstrate that GCG and green investment influence business value. Intellectual property is an immaterial yet precious asset for a business. This is because disclosing intellectual property may increase operational effectiveness and brand value. According to several researches, intellectual capital has a favorable and significant impact on corporate value. These include Kristina & Wiratmaja (2018), Arini & Musdholifah (2018), Nimtrakoon (2015), Berzkalne & Zelgalve (2014), and Arini & Musdholifah (2018). According to research by Ardianto & Rivandi (2018), and Rivandi (2020), intellectual capital disclosure has a positive and significant impact on corporate value.

Carbon emissions are the divestment of carbon to the atmosphere. Carbon emissions are related to greenhouse gas emissions, which are the main drivers of climate change (http://www.ecolife.com). Carbon emissions or disclosure of carbon emissions is part of carbon accounting, related to the company's obligation to measure, recognize, record, report, and disclose carbon emissions (Irwhantoko & Basuki, 2016). Through disclosure of carbon emissions, companies can prevent and reduce carbon emissions, and stakeholders such as governments and communities can monitor and regulate the amount of carbon emissions that impact the company's environmental performance (Kholmi et al., 2020). However, not all firms in Indonesia include this information in their annual reports because reporting carbon emissions is voluntary. Although investors are now concerned about the disclosure of carbon emissions, Matsumura et al. (2014) assert that it provides information for companies related to the potential future costs incurred by companies in connection with carbon emissions. Environmental activists and the public about global warming and climate change, pressure from many parties can damage the company's image and represent the effects taken in the future. This information can be considered by investors when making investment decisions.

Previous research conducted by Saka & Oshika (2014), Olufisayo & Olalekan (2014), Anggraeni (2015), and Zuhrufiyah & Anggraeni (2019) states that disclosure of corporate environmental responsibility, especially CO2 emissions, affects company value. It is supported by research by Damas et al. (2021), which discovered that the disclosure of its carbon emissions favorably impacts a company's stock price. Seeing how the market reacts to business disclosures of their carbon impact is reassuring.

Green investment is an effort to synergize economic and environmental investment objectives that can increase shareholder value in the short and long term. Environmental-based investment is a preventive investment action or effort by a company to protect the environment and reduce environmental pollution, commonly referred to as pre-environmental investment to achieve outstanding environmental performance. Companies incur many costs to carry out green management to protect the environment and prevent pollution. Utomo & Kaujan (2019).

 $H_1$  = Green investment has a significant positive effect on firm value.

Intellectual capital disclosure (ICD) is a management role in a new form of communication to manage labor contracts and provide relevant explanations to those who need them (Yuskar & Novita, 2014). Asiah (2014), Examples of intellectual capital include patents, copyrights, real estate, and franchises. Generally, intellectual capital is an intangible asset that creates value for companies and society contend that one of the most critical factors in increasing corporate value is the disclosure of intellectual capital in the annual report, highlighting firm performance. Contrarily, Pangaribuan & Pangaribuan (2020), who assert that sharing IPIP helps speed up and enhance internal corporate procedures, are cited by Dutrianda & Pangaribuan (2020).

 $H_2$  = Intellectual capital disclosure has a significant positive effect on firm value.

Griffin & Sun (2013) states that a positive market reaction to the disclosure of carbon emissions is associated with investors' belief that management can control the environmental impact of company operations. These results indicate the market reaction to management's transparency regarding the company's sustainability risks. Chen et al. (2017) state that a firm's worth may be a proxy for the price at which a company may be sold. A company's share price in the capital market is determined by supply and demand, which in turn represents the value of the business. Stock prices are a reflection of investor attitude. It is essential to consider how stakeholders see the company. Giving the stakeholders, especially investors, a pleasant impression is always one method to succeed in business. The interest of companies that disclose aspects of the environment will encourage investors to invest (Iskandar & Fran, 2016). Apart from investors, the general public tends to be concerned about CO2 impacts, and managers play a role in challenging this legitimacy by disclosing details about carbon emissions (Choi et al., 2013).

 $H_3$  = Carbon emission disclosure (CED) has a significant positive effect on firm value

# RESEARCH METHODS

In this study, the statistical calculations used are software E-Views 12, with panel data regression analysis, which aims to determine the effect of the independent variables

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of green investment, intellectual capital disclosure, and carbon emission disclosure on the dependent variable, namely firm value.

Based on the research methodology described in the previous chapter, the researcher's data collection results are the following. In this research, the research object is the independent variable with indicators consisting of Green Investment  $(X_1)$ , Intellectual Capital Disclosure  $(X_2)$ , Carbon Emission Disclosure  $(X_3)$ , and the dependent variable, namely Company Value. In this research, the units analyzed are mining companies listed on the Indonesia Stock Exchange (IDX) and the Ministry of the Environment (PROPER). The population in this research are all mining companies listed on the Indonesian Stock Exchange (IDX), Ministry of the Environment in 2017-2021, namely 63 companies. However, after purposive sampling was carried out, a sample was obtained that met the criteria in the research, namely 12 companies.

This study uses descriptive statistics to conduct data analysis by providing a description or description of data by paying attention to the minimum, maximum, mean, and standard deviation values (Ghozali & Ratmono, 2018). The research period was conducted from 2017 to 2021. There were 12 companies. Next, panel data regression analysis will be carried out with the following equation:

$$NP = \alpha + \beta 1 GI + \beta 2 ICD + \beta 3 CED + \epsilon$$

Information:

β1 GIGI = The Green Investment Regression Coefficient is measured using the Company's PROPER/ Cost Environment

β2 ICD = Intellectual Capital Disclosure Regression Coefficient was measured using ICD Index

β3 CED = The Regression Coefficient of Carbon Emission Disclosure is measured using the CED Index

NPNP = Firm Value Regression Coefficient is measured using Tobin's Q

 $\alpha$  = Constant  $\epsilon$  = Error term

#### RESULTS AND DISCUSSION

This study conducted a panel data regression analysis test to determine a one-way relationship or the effect of green investment, intellectual capital disclosure, and carbon emission disclosure on firm value. Based on the panel data model test that has been done, the estimated panel data regression model used in this study is the random effect model. The following are the output results:

**Table 1. Matrix Analysis of Research Instruments** 

| Variable | Coefficient | Std. Error | t-Statistic | Prob.    |
|----------|-------------|------------|-------------|----------|
| С        | 0.101230    | 1.203508   | 0.084112    | 0.933300 |
| X1       | 0.098481    | 0.076949   | 1.279815    | 0.205900 |
| X2       | -1.266993   | 1.389139   | -0.912071   | 0.265600 |
| X3       | 0.810245    | 0.312751   | 2.590700    | 0.012200 |

**Table 1. Matrix Analysis of Research Instruments (continuation)** 

| Effects Specification |          |                           |           |  |  |  |
|-----------------------|----------|---------------------------|-----------|--|--|--|
|                       |          | S.DS.D.                   | Rho       |  |  |  |
| Cross-Section random  |          | 0.641308                  | 0.827600  |  |  |  |
| Idiosyncratic random  |          | 0.292680                  | 0.172400  |  |  |  |
| Weighted Statistics   |          |                           |           |  |  |  |
| R-squared             | 0.141410 | Mean dependent var        | -0.070943 |  |  |  |
| Adjusted R-squared    | 0.095415 | S.D.S.D. dependent var    | 0.301562  |  |  |  |
| SESE of regression    | 0.286814 | Sum squared resid         | 4.606699  |  |  |  |
| F-statistic           | 3.074416 | Durbin-Watson stat        | 1.547649  |  |  |  |
| Prob(F-statistic)     | 0.034909 |                           |           |  |  |  |
| Unweighted Statistics |          |                           |           |  |  |  |
| R-squared             | 0.080312 | Mean dependent var        | -0.354758 |  |  |  |
| Sum squared resid     | 22.57866 | Durbin-Watson stat 0.3157 |           |  |  |  |

Source: Data Processed, 2023

Based on the results of panel data processing, the regression equation is obtained, which can be interpreted as follows: a constant value of 0.101230, meaning that if green investment, intellectual capital disclosure, and carbon emission disclosure have a value of 0, then the value of the company has a positive value of 0.101230. The value of the green investment regression coefficient is positive, namely 0.09848, meaning that for every increase in green investment by one unit, the firm value will increase by 0.098481, assuming other independent variables are of a fixed value. The value of the regression coefficient for intellectual capital disclosure is negative, namely -1.266993, meaning that for every increase in intellectual capital disclosure by one unit, the company's value will decrease by -1.266993, assuming other independent variables have a fixed value. The carbon emission disclosure regression coefficient value is positive, namely 0.0810245. For every increase in carbon emission disclosure by one unit, the company's value will increase by 0.0810245, assuming other independent variables have a fixed value.

## The Effect of Green Investment on Firm Value

Green Investment does not affect company value in mining companies listed on the Indonesia Stock Exchange in 2017-2021. Based on the table above, the probability value for the Green Investment variable is 0.205900. Because the probability value is greater than the probability level, namely 0.205900 > 0.050000,  $H_a$  is rejected, it can be concluded that there is no influence between Green Investment and Company Value.

Here, the first question to be answered is whether or not green investments impact a company's value. With a regression coefficient of 0.098481 and a t-value of 1.279815 (p 0.05), the panel data regression analysis of the association between green investment and return on investment showed a significant relationship. These results contradict  $H_1$ , indicating that green investments do not raise a company's value.

The results of this research agree with those of Putriani (2019), who discovered that green investment rises but not dramatically, indicating that it indirectly affects corporate value but has a positive tendency toward doing so and demonstrating at the

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same time that GCG and green investments have a significant influence on corporate value. An organization's bottom line is impacted by good corporate governance and environmentally conscious expenditure by a combined 98.5 percent.

# The Effect of Intellectual Capital Disclosure on Firm Value

Intellectual Capital Disclosure does not affect company value in mining companies listed on the Indonesia Stock Exchange in 2017-2021. Based on the table above, the probability value for the Intellectual Capital Disclosure variable is 0.365600.  $H_a$  is rejected because the probability value is greater than the probability level, 0.365600 > 0.050000. It can be concluded that there is no influence between Intellectual Capital Disclosure on Company Value.

The second hypothesis proposed in this study is that intellectual capital disclosure affects firm value. The panel data regression analysis results show that the intellectual capital disclosure variable has a regression coefficient of -1.266993 and a t value of -0.912071 with a significant level above its probability value (0.365600 > 0.050000). These results indicate that intellectual capital disclosure does not affect firm value. Thus, it can be concluded that  $H_2$  is rejected.

The results of this study are in line with previous research by Amalia & Wahidahwati (2021), Sugiarti (2018), Purnomo & Marcelia (2016) which state that intellectual capital disclosure does not affect company value.

#### The Effect of Carbon Emission Disclosure on Firm Value

Carbon Emission Disclosure positively and significantly influences company value in mining companies listed on the Indonesia Stock Exchange in 2017-2021. Based on the table above, the probability value for the Carbon Emission Disclosure variable is 0.012200. Because the probability value is smaller than the probability level, namely 0.012200 > 0.050000, Ha is accepted, it can be concluded that there is an influence between Carbon Emission Disclosure and Company Value.

The last hypothesis examined in this study is whether knowledge of a company's carbon emissions affects its market value. The panel data regression analysis revealed that carbon emission disclosure had a regression coefficient of 0.810245 and a t value of 2.590700, considerably higher than the probability value of 0.05 (0.012200 > 0.050000). These results allow us to firmly accept H<sub>3</sub>, which states that disclosure of carbon emissions has a favorable and statistically significant impact on company value. The author can conclude that, among the three variables in this study's panel data regression model, there is one independent variable, namely Carbon Emission Disclosure, which influences the dependent variable, Company Value.

The results of this study are supported by previous research conducted by Benkraiem et al. (2023), Saka & Oshika (2014), Matsumura et al. (2014), Anggraeni (2015), Olufisayo & Olalekan (2014) which state that carbon emission disclosure has a significant positive effect on firm value the interest of companies that reveal aspects of the investment environment (Iskandar & Fran, 2016). Apart from investors, the general public also tends to be concerned about the impact of CO<sup>2</sup>, and managers play a role in challenging this legitimacy by disclosing details about carbon emissions (Choi et al., 2013).

### **CONCLUSION**

Green investment, as defined by the corporate performance rating program (PROPER), does not influence firm value, according to the study and hypothesis testing on the impact of green investment, intellectual capital disclosure, and carbon disclosure emission on firm value. The disclosure of the company performance rating program carried out by the Ministry of Environment still needs to give confidence to investors in investing. Investors do not only look at how much a company generates profits but also how much the entity cares about preserving the environment around it. Environmental activities have not become a positive influence and signal for consumers and investors in making decisions because they are still voluntary. With this in mind, there are other things besides green investment for the company. Intellectual capital disclosure proxied by ICDI does not affect firm value. Investors do not see ICD as a form of consideration for investing because disclosure of intellectual capital is also challenging to measure, assess, or manifest in numerical form. In general, the extent of disclosure of a company's intangible assets is disclosed as it is, while it is possible that investors and company creditors need to be more interested in how companies disclose the intellectual capital owned by the company. Because investors are currently paying more attention to what the company produces and the final result of the value of a company. Carbon emissions disclosure, proxied by the CED index, affects company value. According to the legitimacy theory, the market responds voluntarily to information on the disclosure of carbon emissions because it believes that information on carbon emissions is one of their considerations in predicting company sustainability. The stakeholder theory, where the love for the created environment will be a marketing tool for companies to improve company performance, such as achieving maximum profitability because consumers will only be interested in using products from companies that care/are friendly to the environment.

In the future, this research will provide higher-quality research with input on several things. Apart from paying attention to profit information, companies must also pay attention to environmental aspects to increase company value so that investors will be interested in investing in the company concerned. The results of this research will help investors and potential investors make suitable investments in companies that prioritize the environment to protect nature. Global warming has become an increasingly significant issue and problem, triggering an international response. For future researchers who wish to research similar titles, increasing the number of variables, increasing the sample size to obtain more diverse data results, and extending the observation period are recommended, as well as using different sample criteria, especially PROPER ratings. In this study, PROPER was assessed as being able to eliminate most of the samples.

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