

Environmental Policy Strategy as a Moderator in the Relationship Between Green Investment, CSR Investment, and Financial Performance

Laura Mauzani^{1*}, Ilmi Fathul Karim², Eduardo Luis Torres³

^{1,2} Ilmu Ekonomi, Universitas Padjadjaran, Bandung, Indonesia

³ Computer Engineering, University of San Carlos, Cebu City, Philippines

*Corresponding Author: laurazani@gmail.com

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Abstract : This study aims to analyze the role of environmental policy as a moderator in the relationship between green investment, CSR investment, and corporate financial performance. As awareness of sustainability issues increases, companies are increasingly faced with pressure to invest in green initiatives and corporate social responsibility (CSR) programs. However, the impact of these investments on financial performance often depends on the environmental policy framework implemented. This research uses a quantitative approach with secondary data analysis from companies operating in capital-intensive and high-risk industries. The results indicate that strong environmental policies can strengthen the relationship between green investment and financial performance, as well as have a positive impact on the influence of CSR investment on financial performance. Conversely, in environments with weak policies, the relationship tends to be weaker and inconsistent. These findings provide new insights into the importance of environmental policy as a determining factor in maximizing the benefits of green and CSR investments for companies. Therefore, companies need to consider environmental policies when designing investment strategies to ensure optimal results in both financial and sustainability aspects.

Keywords : *environmental policy, green investment, CSR investment, financial performance, moderation*

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INTRODUCTION

Climate change and other environmental impacts have become global concerns influencing public policy and business decisions worldwide. In this context, sustainability has emerged as a fundamental foundation for developing business strategies prioritizing financial profitability and social and environmental well-being (Sudiantini *et al.*, 2023). Green investment and Corporate Social Responsibility (CSR) have become two principal concepts that have led to integrating environmental aspects into corporate investment decisions. Both concepts have garnered significant attention in academic research and business practice as they contribute to improved environmental management and offer long-term competitive advantages for companies (Suryani & Kelvin, 2023).

Green investment refers to investments made to support environmentally friendly projects, such as using renewable energy, energy efficiency initiatives, and carbon emission reductions (Bella & Murwaningsari, 2023). In contrast, CSR investment

encompasses a broader range of corporate contributions to society, including environmental stewardship and community empowerment. Both types of investments focus not solely on financial returns but also on creating sustainable social and environmental value. However, the relationship between green investment, CSR investment, and corporate financial performance is often indirect and influenced by various external factors, including government environmental policy (Sarif & Suprajitno, 2021).

Environmental policy comprises a set of rules or regulations aimed at protecting and preserving the environment. In many countries, such policies serve as guidelines for economic and industrial activities, including those in the private sector engaged in green investment and CSR. Within the corporate context, robust environmental policies can catalyze green investment by incentivizing companies to adopt environmentally friendly practices (Firmansyah & Ali, 2024). Conversely, weak or inconsistent policies may diminish the effectiveness and attractiveness of such investments, as companies may perceive the benefits of green investment and CSR to be reduced without adequate policy support (Damanik & Yadnyana, 2017).

Existing research has focused mainly on the direct relationship between green investment and financial performance or CSR and financial performance (Larasati *et al.*, 2024). However, studies examining the role of environmental policy as a moderator in the relationship between green investment, CSR investment, and financial performance remain limited. Therefore, this study seeks to fill a gap in the literature by exploring how environmental policy can moderate the relationship between green investment, CSR investment, and corporate financial performance.

In this study, we propose that supportive environmental policies will strengthen the positive relationship between green investment and financial performance. Conversely, in environments characterized by weak or ambiguous policies, this relationship will likely be weaker or insignificant. Furthermore, we examine how CSR investment influences corporate financial performance, considering environmental policy as a determining factor. In this context, environmental policy serves as a guide or constraint and a driver that can transform the way companies invest in environmentally friendly projects.

One important reason for considering environmental policy in this context is the increasing number of countries implementing stricter environmental regulations, such as carbon emission reductions and promoting renewable energy use. The government has issued various regulations supporting green investment in Indonesia, such as tax incentives for renewable energy use and carbon emission reductions (Karim *et al.*, 2024). Moreover, CSR has become an integral part of corporate strategy, with an increasing expectation for companies to focus on financial profit and making positive contributions to society and the environment (Abdullah & Inawati, 2024).

This study's data are sourced from the financial reports of companies listed on the Indonesia Stock Exchange (IDX), covering sectors potentially affected by environmental policies, such as energy, mining, and manufacturing. Statistical methods analyze how environmental policy influences the relationship between green investment, CSR investment, and financial performance. This research is expected to provide a deeper understanding of how environmental policy can function as a moderating factor that either strengthens or weakens the impact of green investment and CSR on corporate financial performance.

The significance of this study lies in offering insights for companies to design investment strategies that are not only financially profitable but also contribute to achieving sustainability goals. By understanding the role of environmental policy as a

moderator, companies can maximize the potential of green investment and CSR to achieve better financial performance. Additionally, the findings of this study are expected to serve as a reference for policymakers in formulating environmental policies that support the development of green investment and CSR in the private sector (Hendrianto, 2021).

This study also presents important implications for investors and other stakeholders increasingly attentive to sustainability factors in investment decision-making. By considering environmental policy as a key factor in determining the success of green investment and CSR, they can make wiser and more sustainable investment decisions.

RESEARCH METHODS

This study employs a quantitative approach with a descriptive and exploratory research design. The primary objective is to examine the relationship between green investment, CSR investment, and corporate financial performance, with environmental policy as a moderating variable. Accordingly, this approach was selected to identify and analyze the influence of environmental policies on corporate financial performance through their interaction with these two types of investments.

The data utilized in this research are secondary data obtained from the annual reports of companies listed on the Indonesia Stock Exchange (IDX) and international companies with well-structured sustainability policies. The dataset spans the most recent five-year period to ensure an accurate representation of changes in the environmental policies implemented.

Sample selection was conducted using purposive sampling, targeting companies with well-documented green investment and CSR reports and publicly accessible information regarding their environmental policies. The research sample comprises 50 companies operating in capital-intensive and high-risk sectors such as energy, manufacturing, and infrastructure. These sectors were chosen due to their significant environmental impacts and the necessity for more stringent environmental policies. The financial performance indicators employed in this study include Return on Assets (ROA), Return on Equity (ROE), and Earnings Before Interest and Tax (EBIT).

The independent variables in this study are green investment and CSR investment, each measured by the total investment value allocated by the companies towards green initiatives and corporate social responsibility programs, respectively. Green investment is directed towards projects contributing to environmental protection, such as developing renewable energy and waste management initiatives. CSR investment refers to funds for social initiatives to enhance community welfare, including education, healthcare, and poverty reduction programs. Meanwhile, the moderating variable, environmental policy, is measured based on the quality of policies implemented by governmental or regulatory authorities, as reflected in environmental regulations and corporate operations standards.

Data analysis used multiple regression and interaction approaches to test the proposed hypotheses. This regression model allows for examining the direct effects of green investment and CSR investment on financial performance and the moderating role of environmental policy in these relationships. The interactions between green investment and environmental policy and CSR investment and environmental policy were incorporated into the regression model to test for moderation effects. The t-test was employed to assess the significance of each variable's effect, while the F-test was used to evaluate the overall model fit.

Additionally, the study conducted robustness tests to ensure the reliability and consistency of the results across various conditions. A heteroscedasticity test was performed to detect any irregularities in the variance of the residuals that could potentially bias the regression estimates. Control variables such as company size, capital structure, and geographical location were also included to enhance the study's validity and reliability. Consequently, this research is expected to provide deeper insights into the role of environmental policy in shaping the relationship between green investment, CSR, and corporate financial performance.

RESULTS AND DISCUSSION

The results of this study demonstrate that environmental policies play a significant moderating role in the relationship between green investment, CSR investment, and corporate financial performance. Regression analysis found that green and CSR investments positively impact financial performance; however, their effects are amplified when environmental policies are stricter and more structured. These findings suggest that companies operating in environments with stringent environmental regulations are more efficient in leveraging green and CSR investments to enhance their financial performance. Conversely, the positive impacts tend to be weaker or insignificant in contexts with less stringent policies. This study reinforces the findings of Tjahjono and Eko (2013), who asserted that stricter environmental policies create incentives that encourage companies to optimize their green investments.

Specifically, the regression results indicate that green investment significantly affects corporate financial performance, as measured by ROA, ROE, and EBIT ratios. This is consistent with previous studies that assert that investments in green projects—such as renewable energy and waste management—can reduce operational costs over the long term and enhance company efficiency (Suratno et al., 2020). However, the positive effect of green investment on financial performance is more substantial among companies operating in environments governed by stricter environmental policies. This indicates that sound environmental policies support the sustainability of green investments by creating incentives for companies to adopt environmentally friendly technologies and optimize resource use (Cakranegara, 2021).

CSR investment similarly demonstrates a positive impact on corporate financial performance, albeit with greater variability than green investment. This study finds that CSR investment enhances a company's public image, which can increase sales and customer loyalty (Rosiliana et al., 2014). Nevertheless, this effect is more pronounced when environmental policies actively encourage and support corporate commitment to sustainable social responsibility. Policies that promote transparency and accountability in CSR practices can strengthen public trust in companies, ultimately affecting their financial outcomes (Alfiana et al., 2023).

The moderating effect of environmental policies reveals that stricter regulations strengthen the relationship between green investment and financial performance. This aligns with Cakranegara's (2021) findings, which indicate that stringent environmental regulations encourage companies to innovate in environmental management, resulting in cost efficiencies and profit improvements. Conversely, in less regulated environments lacking adequate policy support, the impact of green investments on financial performance tends to be lower, as companies feel less compelled to invest in environmentally friendly technologies without clear external incentives or pressures (Firmansyah & Ali, 2024).

For instance, in companies operating within the energy and manufacturing sectors where strong environmental policies are enforced, investments in renewable energy and waste management lead to significant cost savings, reflected in improved financial performance. This aligns with research conducted by Yusnia et al. (2024), who demonstrated that firms investing in renewable energy and waste management can reduce energy expenses and waste disposal costs, thereby enhancing profit margins. These findings also support earlier research by Wilana & Naryoto (2024), which concluded that green investments contribute to long-term energy cost reductions, thereby improving corporate financial performance.

However, while environmental policies significantly moderate the studied relationships, the findings reveal that control variables such as firm size and capital structure influence financial performance. Larger firms tend to possess more resources to invest in green projects and CSR initiatives, greater market access, and higher credibility among investors. Thus, even though environmental policies serve as moderators, larger firms benefit more as they are better positioned to implement such policies effectively (Tambunan & Prabawani, 2018).

Moreover, environmental policies supporting green investment and CSR initiatives positively impact corporate transparency and accountability. Companies operating under robust policy systems are more likely to disclose their green and CSR investments transparently to the public. This enhances their reputation and strengthens relationships with stakeholders, including investors, consumers, and communities. Effective environmental policies, therefore, not only benefit companies in the long run but also foster better stakeholder relationships (Ritonga, 2024).

The study further finds that environmental policies play a role in enhancing corporate competitiveness. Companies that invest in environmentally friendly technologies and CSR initiatives can strengthen their position in markets increasingly demanding sustainability and social responsibility. In this regard, policies that promote environmental sustainability can serve as powerful tools for companies to differentiate themselves from competitors that do not prioritize sustainability. These findings corroborate those of Adisaputra *et al.* (2017), who observed that firms committed to sustainability are better positioned to attract customers concerned about environmental issues.

Conversely, the study also highlights that environmental policy uncertainty can hinder companies from fully implementing green investments and CSR activities. Uncertainty surrounding environmental regulations introduces risk, particularly for long-term investments that require regulatory stability. Thus, stable and clear environmental policies provide companies the security to make sustainability-oriented investment decisions. Research by Rachmawati and Fadilah (2020) suggests that policy uncertainty can inhibit firms from effectively planning and executing green investments.

Another notable finding of this study is that firms operating in more regulated sectors, such as renewable energy and waste management, tend to derive greater benefits from green investments and CSR initiatives than those in less regulated sectors. This indicates that sectors with higher environmental standards are more open to change and better prepared to adapt to existing environmental policies. These findings align with Bukran & Ramdani (2024), who noted that sectors governed by clear environmental regulations adapt more rapidly to sustainability demands and reap greater benefits from green and CSR investments.

Overall, the findings of this study suggest that strong environmental policies enhance the relationship between green investment, CSR investment, and corporate

financial performance. Companies operating in environments with robust environmental regulations are more successful in leveraging green and CSR investments to improve their financial outcomes. Consequently, governments and related institutions are encouraged to promote stricter environmental policies to incentivize companies to invest in sustainability initiatives.

CONCLUSION

Based on the findings of this study, it can be concluded that environmental policy is a significant moderating factor in the relationship between green investment, CSR investment, and corporate financial performance. The analysis results indicate that both green investment and CSR investment positively influence financial performance; however, this influence is more substantial among companies operating within environments characterized by stringent environmental policies. This suggests that clear and well-structured environmental regulations can incentivize companies to leverage green investment and CSR initiatives more effectively to enhance their operational and financial efficiency. Consequently, firms operating in markets with robust environmental policies tend to achieve better financial performance compared to those in environments with more lenient regulations.

This study also finds that effective environmental policies impact the management of green and CSR investments and influence corporate transparency and accountability. Companies operating under strong regulatory frameworks are likelier to report their green investment and CSR activities openly, strengthening stakeholder relations and enhancing corporate reputation. These findings align with the observation that firms supported by favorable environmental policies possess higher competitive advantages, as they are better equipped to adapt to growing sustainability demands.

Overall, environmental policy plays a crucial role in supporting the success of green investment and CSR initiatives as strategies to improve corporate financial performance. Therefore, it is imperative for governments and relevant institutions to continuously strengthen environmental policies that incentivize companies to implement sustainability initiatives. Clear and consistent policies assist firms in improving operational efficiency and encourage innovation to create greater value for stakeholders and society.

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