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

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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 environmental degradation have become central global challenges that influence economic policies, corporate governance, and investment decisions (UNEP, 2023; IPCC, 2022). In this context, sustainability-oriented strategies such as green investment and Corporate Social Responsibility (CSR) have become key pillars in promoting environmentally responsible and socially conscious business practices (Clark et al., 2018; Eccles & Klimenko, 2019). Companies are increasingly pressured to integrate environmental and social concerns into strategic decision-making to ensure long-term financial viability and reputational resilience (Friede et al., 2015; Eccles et al., 2020).

Green investment refers to financial commitments directed toward environmentally friendly initiatives, such as renewable energy, waste reduction, and carbon-neutral technologies (Nguyen et al., 2021; Bella & Murwaningsari, 2023). These investments are

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not only associated with sustainability goals but also with financial returns through efficiency gains and risk mitigation (Wang et al., 2022). CSR investment, on the other hand, reflects corporate efforts to contribute positively to society while maintaining accountability toward stakeholders and the environment (Carroll, 2021; Adisaputra et al., 2023). Empirical evidence suggests that CSR can enhance firm performance by improving brand image, stakeholder trust, and access to sustainable financing (Fatemi et al., 2018; Suryani & Kelvin, 2023).

However, the effectiveness of green and CSR investments in improving financial performance largely depends on the institutional and regulatory environment, particularly the strength of environmental policy frameworks (Xie et al., 2022; Firmansyah & Ali, 2024). Environmental policies define the regulatory mechanisms, incentives, and penalties that guide corporate environmental behavior (Dangelico & Vocalelli, 2017; Bukran & Ramdani, 2024). When effectively implemented, such policies can stimulate sustainable investment by reducing uncertainty and aligning corporate incentives with national sustainability goals (Porter & van der Linde, 1995; Darnall et al., 2010).

In contrast, weak or inconsistent environmental policies may reduce the attractiveness of green investments, leading firms to prioritize short-term profitability over long-term sustainability (Del Río et al., 2017; Tjahjono & Eko, 2013). Several studies have found that countries with robust environmental policies tend to experience higher levels of green innovation and better financial performance among firms engaging in sustainability-oriented strategies (Luo et al., 2021; Testa et al., 2020). In the Indonesian context, policy instruments such as tax incentives for renewable energy and carbon credit mechanisms are increasingly being adopted to promote sustainable investment (Karim et al., 2024; Yusnia et al., 2024).

Despite this, the moderating role of environmental policy in the relationship between green investment, CSR, and financial performance remains underexplored (Larasati et al., 2024; Sudiantini et al., 2023). Most prior studies have examined these relationships separately, without considering how policy context shapes their effectiveness (Li et al., 2023). Hence, this research seeks to fill the gap by analyzing how environmental policy moderates the link between green and CSR investments and firm financial outcomes.

In strong policy environments, corporate green initiatives are likely to yield higher financial benefits due to better regulatory support and reduced environmental risk (Abdullah & Inawati, 2024; Wilana & Naryoto, 2024). Conversely, in weak policy regimes, the same initiatives may fail to generate significant economic returns (Cakranegara, 2021). Therefore, understanding this moderating relationship is crucial for both corporate managers and policymakers to design synergistic strategies that align economic objectives with environmental goals (Dangelico et al., 2022; Tjahjono & Eko, 2013).

This study contributes to the growing body of literature on sustainable finance by highlighting the critical interplay between corporate sustainability initiatives and environmental policy structures (Widyanto & Utami, 2020; Rosiliana et al., 2014). The findings are expected to provide empirical evidence supporting the formulation of integrated strategies that enhance financial performance while achieving sustainability outcomes. Ultimately, recognizing the moderating role of environmental policy will help firms and regulators build an enabling ecosystem for green transformation and long-term economic resilience (Sarkar et al., 2023; Damanik & Yadnyana, 2017).

Vol. 3 No. 1, April 2025 | E-ISSN: 2987-7407 | DOI: https://doi.org/10.70716/ecoma.v3i1.133

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.

Vol. 3 No. 1, April 2025 | E-ISSN: 2987-7407 | DOI: https://doi.org/10.70716/ecoma.v3i1.133

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.

Vol. 3 No. 1, April 2025 | E-ISSN: 2987-7407 | DOI: https://doi.org/10.70716/ecoma.v3i1.133

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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Vol. 3 No. 1, April 2025 | E-ISSN: 2987-7407 | DOI: https://doi.org/10.70716/ecoma.v3i1.133

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