

Effect of Environmental Responsibility on Financial Performance: Organization Slack as Moderation

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Abstract

This study analyze the effect of environmental responsibility on financial performance with organization slack as a moderating variable. This study examines 21 property and real estate sector companies listed on the Indonesia Stock Exchange for the 2019-2021 period. Data analysis used panel data regression with the results of the random effect model. The result shows that environmental responsibility positively affects financial performance. Companies that implement environmental responsibility can avoid conflicts or losses that can disrupt company activities so that financial performance is increasing. The finding presents that organization slack positively affects financial performance. Excess resources can be used to increase investment so that financial performance also increases. Moderation testing proves that organization slack strengthens the positive influence of environmental responsibility on financial performance. Excess resources provide opportunities for companies to invest in the social sector and meet stakeholders' demands and expectations.

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1. Introduction

Financial performance reflects the company's business activities and the achievements that the company has obtained. This achievement can be in the form of a good company financial condition and company welfare in a certain period. The company must have a good strategy for improving its financial performance, because if the strategy is not appropriate, it can cause a decrease in financial performance, leading to losses (Lin et al., 2018; Kasim et al., 2018; Banamtuan et al., 2020; Ang et al., 2020; Bahta et al., 2021; Barauskaite & Streimikiene, 2021).

Each company tries to improve its performance to excel among other companies and achieve company goals. One of them is a company in the property and real estate sector. It is included in the five highest investment realized sectors 2019, with an investment value of IDR 31 trillion or 7.8% (KOMINFO, 2019). However, in 2020, the

Indonesian economy experienced a decline due to the COVID-19 pandemic, so many companies experienced a decreased performance. Based on 48 property and real estate companies that reported their financial performance, 33 reported a decline in net income (Citradi, 2020).

One of the companies that experienced a decline in financial performance was PT Bumi Serpong Damai Tbk. (BSDE). Under the auspices of the Sinarmas group, the company recorded a 2020 net profit of IDR 469.56 billion, a decrease of 79.67% compared to the previous year. The decline in net profit was quite significant. This was due to the enormous interest and other financial expenses, which increased by IDR 972.56 billion or 26.29%. That year, BSDE was also hit by a case related to environmental negligence. Several residents of the Setu sub-district, South Tangerang, complained of a strong odor coming from one of the waterways in the Taman Kota II area. The foul smell is caused by waste generated from the Te-

chno Park area. Techno Park is a factory area owned by BSDE. The factory waste generated by the technopark flows directly into the river and pollutes the river (Aul, 2020). This incident has happened frequently and is very disturbing to the activities and comfort of residents. After an investigation by the South Tangerang City Environmental Service, it was found that the Tecno Park industrial area did not yet have a Waste Water Treatment Plant (Ihy, 2020). As a result, industrial waste is not controlled and pollutes the river. This proves that there was environmental negligence by BSDE. In 2020, the company's net profit decreased, which impacted the company's ROA, which fell very far from 5.47% in 2019 to 0.8% in 2020.

Recently, the balance of environmental sustainability has been disrupted due to the large amount of environmental pollution caused by waste, especially industrial waste, causing air, soil, and air pollution. In 2021, the air quality index value decreased by 0.2 points compared to the previous year (Anugrah, 2021). Based on the 2021 air quality index, Indonesia is in first place as a country with high air pollution in Southeast Asia (Pranita, 2022). This pollution can arise from industrial activities. Industrial development is very beneficial for the country's economy. Still, it can also cause negative effects that can be detrimental to the environment and surrounding communities if business actors are negligent with environmental responsibility. Companies must focus not only on financial aspects but also on the circumstances or the surrounding environment.

The increasing environmental damage caused by development makes environmental responsibility an interesting research topic. Environmental damage is not only caused by development, but also shows the company's lack of commitment to protecting or caring for the surrounding environment and its future. In carrying out governance, companies should maintain a long-term strategic balance between company profits (profit), the company's commitment to considering the welfare of all stakeholders (people) and participating in environmentally (planet) friendly business practices (Haninun et al., 2018; Nuryana & Bhebhe, 2019; Isnaini & Diamantina, 2020; Zahara, 2022; Istikomah et al., 2023; and Khamisu et al., 2024).

Environmental responsibility is a company's commitment and practice in adopting responsible actions to protect and improve the environment or the natural surroundings (Susanti & Prasetyo, 2019). Environmental responsibility is a

component of Corporate Social Responsibility (CSR). Wong et al. (2018) suggest that environmental responsibility is a corporate investment for future profits. Several studies on environmental responsibility on financial performance have been carried out before. The results of research by Li et al. (2017), Wong et al. (2018), Susanti & Prasetyo (2019), and Brogi & Lagasio (2018) show that environmental responsibility has a positive effect on financial performance. However, different results were shown by Testa & D'Amato (2017) and Vivianita & Nafasati (2018) which showed that environmental responsibility did not affect financial performance.

Organization slack is an allowance for resources that comes from the difference between the amount of resources and the number of payments that must be made (Daniel et al., 2004). Organization slack is classified into unabsorbed and absorbed slack (Lee et al., 2020). Unabsorbed slack is defined as a resource that is not absorbed and can be easily used within the organization, while absorbed slack is a resource that is absorbed and has been specifically used, making it difficult to reuse (Sugiarti, 2020). Both contribute differently to the possibility of companies disclosing their social and environmental responsibilities. It is easier for companies to transfer and use unabsorbed slack because it provides more flexible resources, making it more likely to be invested in socially and environmentally responsible activities. Meanwhile, on the other hand, absorbed slack is relatively inflexible, making it more difficult for companies to invest in this slack. The influence of organization slack on financial performance has been studied before. Harrison & Coombs (2012) and Daniel et al. (2004) showed a positive relationship between organization slack and firm performance. Vanacker et al., (2018) state that organization slack does not affect financial performance.

Management can use organizational slack as a resource to resolve unexpected corporate conflicts, both financial and non-financial (Tista et al., 2021; Mao et al., 2023). Slack not only provides opportunities for companies to invest in social causes but can also meet the demands and expectations of stakeholders (Vanacker et al., 2017). Several previous studies have examined organizational slack's role in the relationship between environmental responsibility and financial performance. Research conducted by Susanti & Prasetyo (2019) and Li et al. (2017) shows that organizational slack moderates the relationship between environmental responsibility and company financial

performance. However, different results were shown by Amir et al. (2021), who found that organizational slack did not moderate the relationship between environmental responsibility and financial performance.

To maintain business growth and sustainability, strategic efforts are needed to balance short-term and long-term goals. Companies that focus on investment and development tend to have better long-term performance (Schoenmaker & Schramade, 2019; Wibisono, 2020; Kurznack et al., 2021). By paying attention to long-term sustainability, companies can meet market needs, thereby continuing to grow and improving operational efficiency. Anggraini & Yuliana (2021) revealed that managing short-term performance can support the sustainability of companies in facing dynamic market conditions.

The balance of long-term and short-term goals makes companies tend to have good financial performance and be able to face a competitive business environment (Eccles et al., 2014; George, L.Schillebeeckx, 2021). Company management is required to continuously maintain the company's performance. Better financial performance can be achieved if the company is able to balance short-term goals with long-term goals. This can be realized by implementing environmental responsibility. Sari & Nugroho (2020) explain that companies that invest in social and environmental responsibility not only enhance their reputation but also create long-term financial benefits. Good environmental practices can increase stakeholder trust. This will lead to increased sales or company revenue. Additionally, implementing environmental practices can reduce the likelihood of future risks (Velte, 2019). On the other hand, the implementation of environmental responsibility in the short term will result in increased operational costs for the company (Cheng et al., 2019). Environmental practices such as emission reduction and waste management require a substantial initial investment, so the costs incurred can reduce the company's profit margins in the short term.

Based on previous research, there are variations or differences in results regarding the impact of environmental responsibility on corporate financial performance. Some studies show that the implementation of environmental responsibility can improve financial performance. However, there are also several studies that indicate that the

implementation of environmental responsibility can reduce company profitability. Therefore, this research is conducted with the aim of further understanding the relationship between environmental responsibility and financial performance, considering the moderating variable of organizational slack.

2. Hypothesis Development

Natural Resource Based View

The Natural Resource Based View (NRBV) argues that companies should pay attention to the advantages of increasing challenges and protecting the natural environment through a good relationship between natural resources and competitive advantage (Hart & Dowell, 2011; Susanti & Prasetyo, 2019). According to the NRBV, pollution, and emissions signal ineffective resource use, resulting in economic losses. When a company takes steps to prevent pollution, it has made efforts to reduce operational costs (Hart & Dowell, 2011; Susanti & Prasetyo, 2019).

Environmental Responsibility and Financial Performance

Environmental responsibility means the company performs environmental management with preventive and reactive actions (Cahyaningsih & Septyaweni, 2022). These preventive actions are carried out by preventing environmental pollution by using environmentally friendly products and energy efficiency. Reactive action is the company's effort to be responsive in repairing a polluted environment and participating in maintaining and preserving it. Companies that implement environmental responsibility properly can reduce costs such as legal fees, promotion costs, and compensation costs due to environmental conflicts like environmental pollution, building permit issues, etc. Financial performance is the final result of accounting activities (accounting cycle), which reflects the company's financial condition and operating results presented in financial statements (Radiman, 2019). Companies should not only focus on short-term profits but can also commit to implementing environmental protection and pollution control for the company's sustainability in the future (Li et al., 2017). Li et al. (2017), Brogi & Lagasio (2018), and Susanti & Prasetyo (2019) found that environmental responsibility has a positive effect on a company's financial performance.

H₁: Environmental responsibility positively affects financial performance.

Organization Slack and Financial Performance

The organization slack is an allowance for resources that comes from the difference between the amount of resources and the number of payments that must be made (Sugiarti, 2020). Organization slack is created by management, whose role is to support using available resources to deal with internal and external events that may arise and threaten the company's condition (Testa & D'Amato, 2017). Financial performance determines a company or organization's success in generating profits (Parengkuan, 2017). Organization slack is used by management as a resource for resolving corporate conflicts that arise unexpectedly. Slack not only provides opportunities for companies to invest in social activities but can also meet the demands and expectations of stakeholders (Vanacker et al., 2017). Investors and creditors always expect maximum company performance by continuing to develop and innovate (Syafira & Cahyaningsih, 2022). According to NRBV, organizational slack is a company's potential resource, allowing the company to adapt to changes in the internal and external environment and make strategic adjustments to achieve organizational goals (Daniel et al., 2004; Susanti & Prasetyo, 2019; Vanacker et al., 2017). Daniel et al. (2004) and Harrison & Coombs (2012) found that organization slack positively affects financial performance.

H₂: Organization slack positively affects financial performance.

Organization Slack, Environmental Responsibility, and Financial Performance

Organization slack indicates that a company has adequate financial resources and allows the company to invest in corporate environmental responsibility programs without compromising the economic demands that the company faces. Companies that earn profits certainly have good financial conditions and slack resources, making them more likely to participate in socially and environmentally responsible activities.

Based on NRBV, organizational slack can influence corporate environmental behavior, in which companies with high organizational slack will be more likely for managers to perceive it as a buffer and ultimately take environmental issues as opportunities rather than threats so that it will be more likely for companies to implement res-

ponsible environmental practices (Qi et al., 2014). Previous research found that organization slack moderates the relationship between environmental responsibility and financial performance (Susanti & Prasetyo, 2019; Li et al., 2017; Vanacker et al., 2018). Companies with high levels of slack benefit from the greater the slack, the greater the company's responsibility to the environment. A high slack value directs the company to environmental projects that positively impact the company's financial performance (Vanacker et al., 2018). Companies with large slack easily invest in corporate responsibility activities, including social and environmental responsibility, to achieve profits (Daniel et al., 2004).

H₃: Organization slack moderates the relationship between environmental responsibility and financial performance.

3. Data and Methods

This study selects the sample using three criteria. The first criterion is a property and real estate sector company listed on the Indonesia Stock Exchange in 2019-2021. The second criterion is companies consistently publish annual reports and or sustainability reports. The third criterion is companies consistently disclose environmental responsibility and have other research data. Based on these three criteria, a sample of 21 companies was obtained with 55 observations after deducting eight outlier data. This study processes data using Eviews 9.

Financial performance is the first independent variable. One ratio that can be used as a benchmark in assessing a company's financial performance is profitability, measured by Return on Assets (ROA) (Wijaya, 2019). The ROA demonstrates the business' capacity to make money by making the best possible use of its assets (Cahyaningsih & Lestari, 2021). The greater the ROA, the greater the level of profit achieved by the company and the better the position of the company in terms of the use of assets (Wijaya, 2019). According to Cahyaningsih & Lestari (2021), FP can be measured by the following formula.

$$FP = \frac{\text{Net Income}}{\text{Total Assets}}$$

The independent variable used in this study is environmental responsibility. Environmental responsibility is the responsibility of companies whose business activities are related to utilizing and managing natural resources. Measurement of environmental responsibility uses the

GRI Standard 300, which consists of several aspects, one of which is environmental responsibility. The GRI 300 Series Standards are grouped into eight categories with 32 disclosure items. The eight elements include 301 related to Materials, 302 about Energy, 303 about Water and Effluents, 304 associated with Biodiversity, 305 connected to Emissions, 306 related to Waste, 307 coupled to Environmental Compliance, and 308 associated with Environmental Assessment of Suppliers. Measurement is done by checking each indicator listed in the GRI on the sustainability report, then giving a score of 1 if the company has disclosed the related indicator and 0 if not. After that, the total score of environmental responsibility disclosure is divided by the number of environmental disclosure items (Susanti & Prasetyo, 2019).

$$ER = \frac{\text{Number of Items Disclosed}}{\text{Total Items of GRI Standard Series 300}}$$

The organization slack acts as a second independent variable. The existence of slack in the organization can be in excess capacity, excess human resources, extra cash flow, and unused opportunities (Wang et al., 2017). Based on previous studies, organization slack can be calculated using the natural logarithm of the current ratio (Lee et al., 2020; Li et al., 2017).

$$SO = \text{Natural Logarithm} \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Organization slack acts as an independent variable in the main effect analysis and a moderating variable in the moderation analysis. Organization slack can strengthen or weaken the effect of environmental responsibility on financial performance. Data were analyzed using panel data regression to test for main effects. Moderated regression analysis to test the moderating effect (see equation 5).

$$FP = a + \beta_1 ER_{it} + \beta_2 OS_{it} + \varepsilon$$

$$FP = a + \beta_1 ER_{it} + \beta_2 OS_{it} + \beta_3 ER_{it} * OS_{it} + \varepsilon$$

Where: *FP*= Financial Performance; *ER*= Environmental Responsibility; *OS*= Organization Slack; *ER*OS*= Interactions of Environmental Responsibility with Organization Slack.

4. Result

The results of descriptive statistics are presented in Table 1. As measured by ROA, financial performance has a mean value of -0.0019. PT Pacific Star Tbk. (LPLI) obtained the maximum FP value of 0.2549 in 2021. This value shows that

LPLI can optimize the use of its assets to generate profits. The minimum value of financial performance obtained by PT Metro Realty Tbk. (MTSM) in 2020 is -0.1195. This value indicates that MTSM has been unable to use assets optimally, and even the company still suffers losses. The financial performance of companies in the property and real estate sector has fluctuated over the last three years (see Figure 1). In 2019, the company can generate net profit from using company assets. Decrease in financial performance in 2020 as a result of the COVID-19 pandemic. In 2021, financial performance can grow even higher than before the COVID-19 pandemic.

Tabel 1. Statistic Descriptive

Variable	Mean	Maximum	Minimum	Std. Dev
FP	-0.002	0.255	-0.119	0.055
ER	0.389	0.875	0.031	0.288
OS	4.482	65.252	0.257	9.213

Environmental responsibility, as measured by the standard GRI environmental series score, has a mean value of 0.388. The maximum value of ER is found in PT Kawasan Industri Jababeka Tbk. (KIJA) in 2021, which is 0.875. This indicates that in 2021, KIJA will carry out its environmental responsibilities well. From a total of 32 GRI Standard environmental series items, KIJA disclosed 28 items. PT Lippo Karawaci Tbk. (LPKR) obtains the minimum value of 0.031 in 2019. This value shows that LPKR have not been able to carry out their environmental responsibilities well. Out of 32 GRI Standard environmental series items, LPKR only revealed one item. Over the last three years, ER has increased. Property and real estate sector companies have an ever-increasing awareness and commitment to protecting and preserving the environment (see Figure 2).

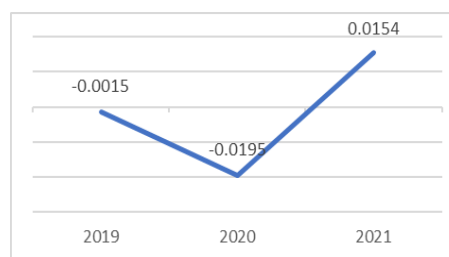


Figure 1. Financial Performance

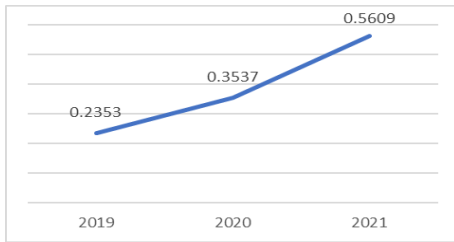


Figure 2. Environmental Responsibility

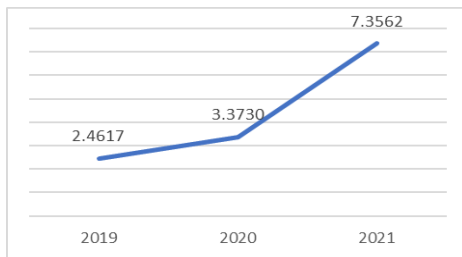


Figure 3. Organization Slack

Organizational slack, as measured by the natural logarithm of the current ratio, has a mean value of 4.482. In the last three years, OS has been improving every year (see Figure 3). PT Star Pacific Tbk. (LPLI) reaches a maximum value of 65.252 in 2021. This shows that the LPLI has a relatively high OS, as indicated by a relatively high current ratio. The current ratio shows the company's ability to pay its short-term obligations. If the value of the current ratio is high, the greater the company's ability to pay short-term debt. The company's added value can fulfill other financial and non-financial performance. PT Modernland Realty Tbk. (MDLN) obtains the minimum value of 0.257 in 2020. This indicates that MDLN has a weak ability to pay its short-term obligations.

Table 2. Classic Assumption

Test	Result	Decision
Normality	JB Prob. 0.0636	Normal
Autocorrelation	DW = 1.5657	Free
Heteroscedasticity	BP Prob. 0.3243	Free
Multicollinearity	VIF < 10	Free

This study also conducted a classic assumption test. Table 2 shows that the data is normally distributed and free from multicollinearity, heteroscedasticity, and autocorrelation problems.

Table 3. Panel Data Regression

Test	Result	Decision
Chow	Prob. 0.000	FEM
Hausman	Prob. 0.502	REM
Lagrange Multiplier	Prob 0.000	REM

This study tested the panel data regression model to determine the most appropriate model. Table 3 shows that the selected model is the Random Effect Model (REM).

Table 4. Results of Main and Moderating Effects

Variables	Main Effect		Moderating Effect	
	β	Prob.	β	Prob.
C	-0.036	00.002	-0.014	0.253
ER	00.052	00.001	0.042	0.023
OS	00.003	00.000	-0.003	0.132
ER*OS			0.000	0.007
Adjusted R ²	00.535		0.635	
F-statistic	32.103	00.000	32.258	0.000

Table 4 presents the results of the main effect test, which shows that environmental responsibility positively affects financial performance, so this result supports H₁. Organization slack positively affects financial performance, thus supporting H₂. Table 4 also presents the results of the moderating effect test. The result shows that organizational slack can moderate the relationship between environmental responsibility and financial performance. Therefore, this finding supports H₃. The positive coefficient is 0.000, which indicates that organization slack plays a role in strengthening the relationship between environmental responsibility and financial performance.

5. Discussion

Effect of Environmental Responsibility on Financial Performance

The result suggests that environmental responsibility has a positive effect on financial performance. The positive relationship between environmental responsibility and financial performance indicates that the better the environmental responsibility implementation level, the higher the company's financial performance. Conversely, the worse the implementation of environmental responsibility, the lower the financial performance.

This evidence supports NRBV. Companies must pay attention to the advantages of increasing challenges and protect the natural environment through a good relationship between natural resources and competitive advantage. Increasing corporate investment in green technologies and environmental management systems is growing environmental performance. Pollution and emissions indicate ineffective use of resources, resulting in economic losses. Companies must be reactive to respond quickly to overcome the negative impacts of company operations, especially environmental pollution. When a company takes steps to prevent pollution, it has made efforts to reduce operating costs. This action is preventive, namely mitigating the risk of environmental pol-

lution, which can prevent loss and damage to the company's reputation. Strict environmental regulations can force companies to take responsible initiatives, such as actively participating in environmental practices and investing in green innovations. This result follows research conducted by Brogi & Lagasio (2018), Li et al. (2017), Susanti & Prasetyo (2019), and Ahyani & Puspitasari (2019), D'Amato & Falivena (2020) which mention that environment responsibility positively affect financial performance and contradict the results of research conducted by Testa & D'Amato, (2017), Vivianita & Nafasati (2018) and (J. Wang & Sarkis, 2020) which stated that environment responsibility has no effect on financial performance.

Effect of Organization Slack on Financial Performance

This study found that organizational looseness has a positive effect on financial performance. This finding indicates that the greater the organizational looseness a company has, the higher the company's financial performance. Excess resources to add investments or assets that can be used to improve financial performance. Company management may use excess resources to deal with unforeseen events that can harm their health inside and outside the organization.

This result supports NRBV. Organizational slack is a company's potential resource, allowing the company to adapt to changes in the internal and external environment and make strategic adjustments to achieve organizational goals. This can affect the efficient use of company assets and impact financial performance. Excess company resources that are well-managed can increase the company's profitability. On the other hand, extra resources that are not appropriately managed can cause losses to the company. This finding is in line with research by Daniel et al. (2004) and Harrison & Coombs (2012) which mention that organization slack has a positive effect on financial performance. This study result is not in line with research done by Liu et al. (2020) and Amir et al. (2021)

Organization Slack Moderates the Relationship between Environmental Responsibility and Financial Performance

The finding shows that organizational slack moderates the relationship between environmental responsibility and financial performance. Based on the study's results, it was found that the corporate slack variable was a quasi-moderator. It

occurs when organization slack functions as an independent variable and interacts with environmental responsibility. The effect of organization slack on financial performance and the interaction effect of organization slack with environmental responsibility both show significant probability results. Organizational slack moderates the relationship between environmental responsibility and corporate financial performance. Organization slack strengthens the relationship between environmental responsibility and the company's financial performance.

This finding supports NRBV. Organizational slack can affect corporate environmental behavior, in which companies with high organizational slack will be more inclined for managers to perceive it as a threat and ultimately make environmental problems an opportunity rather than a threat so that it will be more likely for companies to implement environmental responsibility policies. Companies benefit from a high level of slack. The greater the slack, the greater the company's environmental responsibility. A high slack value directs the company to environmental projects that positively impact the company's financial performance. Companies with large slack can easily invest in corporate environmental responsibility activities to improve financial performance. This result aligns with Susanti & Prasetyo (2019), Li et al. (2017), and Vanacker et al. (2018) and contradict the results of research conducted by Vanacker et al., (2018) and Zhou & Li (2021).

6. Conclusion and Suggestion

Conclusion

This study investigates the effect of environmental responsibility on financial performance with organization slack as a moderating variable. Environmental responsibility and organization slack positively affect financial performance. The moderation test proves that organizational slack moderates the relationship between environmental responsibility and financial performance. The organization slack strengthens the relationship between environmental responsibility and financial performance.

Suggestion

Environmental responsibility and organization slack can explain financial performance by 53.53%. Therefore, future researchers can test other variables, such as carbon emission, corporate social responsibility (CSR), and environmental

social governance (ESG). Future researchers can test other moderating variables, such as industry competition and earnings management. The implication of this study is that companies that want to be sustainable must maintain a balance between profit, fulfillment of community welfare (people), and active contribution to protecting the surrounding environment (planet). Investors are expected to invest their capital in companies that carry out environmental responsibilities. The government is expected to monitor the impact of its activities on the environment.

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