

The Effect of Green Accounting, Liquidity, and CSR on Company Profitability with Company Size as a Moderating Variable

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ABSTRACT

This research aims to investigate how green accounting variables, liquidity, and corporate social responsibility impact profitability, with company size acting as a moderating variable in firms from the raw material sector listed on the IDX over the period from 2020 to 2023. The sample for the study was selected using a purposive sampling method, resulting in 7 firms being included in the sample. Consequently, the total research sample for the four-year period consisted of 28 observations. To analyze the relationships among the studied variables, multiple regression analysis and moderate regression analysis were conducted using IBM SPSS Statistics 26. The findings of the study reveal that green accounting exerts a negative and insignificant impact on profitability, while liquidity demonstrates a positive yet insignificant influence on profitability, and corporate social responsibility also shows a positive but insignificant effect on profitability. Furthermore, the size of the company does not influence the connection between green accounting and profitability. Additionally, company size does not affect the relationship between liquidity and profitability. However, the findings of the previous research indicate that company size can influence the relationship between corporate social responsibility and profitability.

Keywords: Company Size; Corporate Social Responsibility; Green Accounting; Liquidity; Profitability

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INTRODUCTION

In tandem with technological advancements and the intensification of business competition, companies are required to develop resources in order to remain competitive. As a production unit, companies not only focus on profitability but must also consider the environmental impact to maintain sustainability (Atikah & Sastradipraja, 2024). Profitability reflects the effectiveness of the company in managing resources, while liquidity is an important role in maintaining financial stability (Sudarsono et al., 2018). However, increasing profits that do not pay attention to the environment can lead to excessive exploitation of natural resources.

Green accounting is a solution in integrating environmental factors into financial reports to evaluate costs and ecological impacts (Pratama & Mulyani, 2024). This environmental

management is part of CSR, where companies are responsible for preserving the environment through waste handling, energy efficiency, also sustainable management of natural resources. If ignored, environmental pollution due to industrial activities can reduce public trust, as happened to PT Antam in East Halmahera. Nickel mining activities in this area have caused waste sedimentation that has polluted the coast and sparked protests from residents since 2021, while the impact of exploitation on small islands such as Belemsi Island threatens the lives of traditional fishermen (Prabowo, 2021).

Amid environmental issues, mining companies are also facing financial challenges. PT Antam experienced a 19.45% decline in net profit in 2024, while PT Timah Tbk (TINS) recorded a loss of IDR 487 billion with a 26% increase in interest debt due to cash flow difficulties (Rhamadanty, 2024). This phenomenon shows that social and environmental responsibility can affect profitability. Companies in the basic materials sector, which is an industry that produces heavy waste, have a great responsibility to mitigate environmental impacts in order to maintain business sustainability.

The adoption of green accounting not only strengthens firm reputation in front of investors and consumers but also has the potential to increase profitability. CSR can contribute positively to profitability with attracting consumers and investors who care about sustainability. In addition, high liquidity provides flexibility in making long-term investment decisions that can increase profits. Firm size may also moderating between green accounting, liquidity, CSR, and profitability, as large companies tend to have a broader impact on the public. The study was conducted to review the profitability of companies with the latest period of the last four years (2020-2023). This study offers a new perspective by exploring how company size plays a moderating role in the effect of green accounting, liquidity, and CSR on profitability, which still rarely discussed in previous studies. Unlike previous studies that discuss these variables separately, this study integrates them in one model to provide a more comprehensive view

LITERATURE REVIEW

Legitimation Theory

Gray et al., (1995) explained that legitimacy is a business management approach that emphasizes the importance of creating harmony between companies and social organizations, government, and society. Legitimacy theory also states that companies must operate in accordance with societal norms in order to be accepted by external parties (Tisna et al., 2020).

Stakeholder Theory

Freeman & Phillips (2005) explained that stakeholder theory emphasizes importance of managing the interaction between the organization and stakeholders, both individuals and groups may have an impact on or be impacted by the company's goals. Business success depends not only on shareholders, but also on the continuity in accommodate needs of various parties, such as creditors, customers, suppliers, government, and society (Saputri, 2024).

Signal Theory

Spence (1973) explains that signaling theory describes how strong and accurate signals can influence investment decisions. Signaling theory states that companies need to convey information to external parties through financial reports to reduce information asymmetry (Sari et al., 2022).

Profitability

Nuraini & Suwaidi (2022), explain that profitability is a company's capacity how to get a profit, which can be linked to sales, total assets, and company equity.

Green Accounting

Meiriani et al., (2022), explained green accounting is an approach includes activities of measuring, recording, reporting, and delivering information related to the organization impact on economic, social, and environmental impacts. This information is presented in integrated accounting reports to assist stakeholder to evaluate and make decisions both economically or non-economically.

Liquidity

According to Nuraini & Suwaidi (2022), the liquidity ratio is financial metrics that assesses an organization's capacity to meet short-term liabilities.

Cosporate Social Responsibility

CSR is a concept to integrates business and social aspects to ensure that companies contribute to stakeholder welfare while achieving optimal profits (Saputri, 2024).

Company Size

Company size refers in relation to size companies, which can be measured using total assets, total sales, and average sales (Zurriah & Prayogi, 2023).

METHOD

This research applies quantitative methods with secondary data collection techniques from financial reports available on the IDX (Nurkhasanah & Nur, 2022). Data were collected through documentation methods from the IDX and various relevant websites (Saputri et al., 2022). The research is use to explain problem solving based on data to respond to the research hypothesis. The population is composed of basic material sector firm listed on the IDX in 2020-2023. Purposive sampling was used to select the sample with characteristics: basic material sector firm listed on the IDX in 2020-2023, consistently attach financial reports to the IDX, present sustainability reports with CSR disclosure information, and participate in the PROPER program.

Operational Definition

Profitability acts as the dependent variable in this study, which reflects firm capacity to earn profits based on sales, total assets, and equity. Profitability is measured using Return on Assets by the formula:

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$$

The independent variables in this research include green accounting, liquidity, and CSR as follows:

1. Green accounting is an accounting approach, includes environmental factors in economic also business calculations, measured through environmental performance using PROPER, which assesses companies on a color scale from gold (5) to black (1).
2. Liquidity indicates as firm capacity to pay off its short-term obligations and is measured by the Current Ratio using the formula:

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

3. CSR is a firm effort to carry out social, economic, also environmental responsibilities, measured based on 117 criteria in the 2021 GRI standard. CSR measurement is carried out using the formula:

$$\text{CSR}_j = \frac{\sum X_{ij}}{N_{ij}}$$

Company size acts as the variable in this study, which reflects the firm scale based on total assets, sales, and profits. This size affects social performance and the achievement of company goals. Determination of asset size is calculated using the formula:

$$\text{Firm Size} = \text{Log} (\text{Total Assets})$$

RESULT AND DISCUSSION

Secondary data were obtained from the IDX website and related companies, focusing on basic material sector firm on the IDX in 2020–2023. The sample was selected using purposive sampling, resulting in 7 companies over 4 periods and the total is 28 samples. Data analysis was performed using SPSS 26 to process and interpret data statistically. Descriptive statistical analysis was performed to present the min value, max value, average, and standard deviation. The following are the outcomes:

Table 1. Descriptive Analysis Results

	N	Minimum	Maximum	Mean	Std. Deviation
Green Accounting	28	3.0000	5.0000	4.285714	.5998236
Likuiditas	28	.2138	22.1698	2.904558	4.0243389
CSR	28	.2051	1.0000	.624542	.2515948
Profitabilitas	28	-.0350	.1136	.043931	.0347499
Ukuran Perusahaan	28	13.1090	14.1935	13.580720	.3201062

Valid N (listwise) 28

Source: Data processed from SPSS 26 (2025)

Classical Assumption Test

In the following table you can see the outcomes:

Table 2. Classical Assumption Test

Classical Assumption Test	Test Indicators	Conclusion
Normality	<i>Asymp. Sig. (2-tailed)</i> 0,200 > 0,05	Normally distributed
Heteroscedasticity	Sig. GA (0,296 > 0,05) LIQ (0,127 > 0,05) CSR (0,666 > 0,05) CS (0,076 > 0,05)	Does not show heteroscedasticity
Multicollinearity	VIF GA (1,037 < 10) LIQ (1,142 < 10) CSR (1,307 < 10) CS (1,208 < 10) Tolerance GA (0,964 > 1) LIQ (0,876 > 1) CSR (0,765 > 1) CS (0,828 > 1)	Does not show multicollinearity
Autocorrelation	Breush Godfrey Sig. LAG (0,733 > 0,05)	There is no autocorrelation

Source: Data processed from SPSS 26 (2025)

Regression Analysis

Table 3. Regression Analysis

Variable	Regression Coefficient	Direction	Sig.
GA	-0,013	Negative	0,247
LIQ	0,002	Positive	0,307
CSR	0,041	Positive	0,142
GA*CS	-0,006	Negative	0,896
LIQ*CS	0,003	Positive	0,771
CSR*CS	0,218	Positive	0,050
R Square		0,347	
Adjust. Square	R	0,118	

Source: Data processed from SPSS 26 (2025)

The following is the regression equation:

Equation 1

$$Y = 0,068 - 0,013 X_1 + 0,002 X_2 + 0,041 X_3 + e$$

Equation 2

$$Y = 1,435 + 0,070 X_1 - 0,035 X_2 - 2,940 X_3 - 0,103 M - 0,006 X_1 * M + 0,003 X_2 * M + 0,218 X_3 * M + e$$

Refers to the equation, it can be explained that profitability still has a value of 0.068 if there are no independent variables such as green accounting, liquidity, and CSR. The green accounting coefficient stands at -0.013, suggesting that a one-unit increase in green accounting will result in a decrease in profitability of -0.013. The liquidity coefficient is 0.002, indicating that a one-unit rise in liquidity will lead to an increase in profitability of 0.002. The CSR coefficient is 0.041, which means that with a one-unit growth in CSR, profitability will increase by 0.041. Then, the interaction of green accounting with company size has a coefficient of -0.006, the interaction of liquidity with company size is 0.003 and the interaction of CSR with company size is 0.218.

DISCUSSION

Referring to the table above, it is evident that the adjusted R^2 is 0.118. This reveals that green accounting, liquidity, and CSR in the regression model can reveal 11.8%. The remaining 0.882 or 88.2% affected by factors not present in the regression equation.

Green accounting variable show that the sig. is 0.247 which is greater than 0.05. Thus, the test results of the green accounting variable, H_0 is accepted and H_1 is rejected that is insignificant effect. Unstandardized Coefficient Beta value is -0.013 and the t count is negative -1.186 > t table 2.064. This indicates that the influence of green accounting on profitability is negative but not statistically significant. However, these outcomes align with the research results of Pratama & Mulyani (2024), which stated that green accounting has a negative effect on profitability. In addition, Fitrifatun & Meirini (2024) also revealed that green accounting negatively impacts profitability. This research indicates that the rise in green accounting cannot be followed by a significant increase in profitability.

However, the changes in profitability that occur are not significant because green accounting is not the main benchmark for companies in achieving high profits. There are 57.14% of the total sample of firm in this research that acquired a green rate on PROPER. Many companies do not participate in the PROPER program organized by KLHK consistently and do not always get a PROPER rating every year. Legitimacy theory explains that some companies may implement green accounting only as a symbolic form to gain social acceptance, not because of a real commitment to the environment. This causes the implementation of green accounting not to be carried out comprehensively, so that its effect on profitability becomes negative or insignificant.

H1: Green accounting has a negative and insignificant effect on profitability

The outcomes on the liquidity variable show that the sig. value is 0.307 > 0.05. Hence, H_0 accepted while H_2 is rejected, it represents the variable doesn't have a significant effect on profitability. Unstandardized Coefficient Beta value is 0.002 and the calculated t is 1.044 < t table 2.064. This indicates that liquidity has a positive and insignificant effect on profitability. However, consistent with the results of Atikah & Sastradipraja (2024) liquidity has a positive

effect on profitability. These outcomes demonstrate that high liquidity signifies the firm capacity to cover its short-term liabilities, but does not directly impact profit growth. Based on data from Vale Indonesia Tbk, in 2021 it increased by 14.7% from 4.33 to 4.96, but profitability actually decreased by 53.2% from 0.0716 to 0.0335. In 2022, liquidity increased by 13.8% and profitability increased by 125% to 0.0754. Vale Indonesia Tbk is able to manage its current assets optimally by utilizing liquid assets to support operational efficiency. This implies that although liquidity can support profitability, its influence is not always significant. In signaling theory, high liquidity signals a company's healthy financial condition, but its impact on profitability may be insignificant, as excess liquidity can indicate idle funds not used productively to boost profits.

H2: Liquidity has a positive and insignificant effect on profitability

Testing of the CSR variable shows that the sig. value is $0.142 > 0.05$. This implies that the CSR variable has no significant effect on profitability. Furthermore, the Unstandardized Coefficient Beta value is 0.041 and the calculated t is $1.517 < t \text{ table } 2.064$. This indicates that CSR has a positive and insignificant effect on profitability. However, the study is consistent with Heryanto & Juliarto (2017) that CSR has a positive effect on profitability. CSR disclosure with 2021 GRI standard has not been widely implemented by the majority of companies in this sector and research period. However, based on research data, Solusi Bangun Indonesia Tbk in increasing the implementation of CSR from 2021 to 2022 by 33.94% only increased profitability by 17.1%. In 2023, a 15.2% increase in CSR only resulted in an increase in profitability of 2.62%. This shows that although higher CSR can provide a better corporate image and potential for business sustainability, its impact on profitability is not significant. According to stakeholder theory, CSR is a company's responsibility to maintain long-term relationships and reputation. Although strengthening the image, the impact of CSR on profitability can be insignificant because its economic benefits are long-term and not immediately visible in the financial statements.

H3: CSR has a positive but insignificant effect on profitability

The outcomes on the green accounting variable moderated by firm size show that the significance is $0.896 > 0.05$. This indicates that company size does not have a significant

influence in moderating between green accounting and profitability. The test outcomes on the green accounting variable moderated by company size show that the significance value is $0.896 > 0.05$. This indicates that company size does not have a significant influence in moderating the relationship between green accounting and profitability. This research contradicts the research results of Pratama & Mulyani (2024), which revealed that firm size could diminish the influence of green accounting on profitability. Green accounting implementation can vary depending on the resources a company has. Large companies tend to have sufficient funds and manpower to implement green accounting without experiencing a significant impact on profitability. On the other hand, small companies are more selective in implementing it. In addition, regulations and compliance can encourage large companies to implement green accounting as a sustainability strategy, while smaller companies may see it as an additional cost that does not directly contribute to profitability. According to legitimacy theory, companies implement green accounting to gain social legitimacy. However, company size does not moderate the relationship between green accounting and profitability because its implementation is more symbolic due to external pressure, not an internal strategy to improve financial performance.

H4: Company size cannot moderate the relationship between green accounting and profitability.

The outcomes of the liquidity variable test moderated by company size show that the significance is $0.771 > 0.05$. This reveals, company size insignificant influence in moderating the relationship between liquidity and profitability. However, this study is in line with Pratama & Mulyani (2024), which shows that company size cannot moderate liquidity in influencing profitability. Larger companies have wider access to funding sources and better cash management. So the level of liquidity does not always have a direct effect on profitability. Meanwhile, smaller sizes have limitations, so they are more careful in managing short-term assets and liabilities. In the context of signaling theory, high liquidity is seen as a positive signal sent by a company to the market regarding its healthy financial condition and ability to meet short-term obligations. However, company size cannot moderate the relationship between liquidity and profitability because the signal of financial stability provided by high liquidity tends to be interpreted uniformly, both in large and small companies.

H5: Company size cannot moderate the relationship between liquidity and profitability.

The test results on the CSR variable moderated by company size indicate that the significance value is 0.05 and not greater than 0.05. Thus, it shows that company size has a significant influence in moderating the relationship between CSR and profitability. The Unstandardized Coefficient Beta value of 0.218 indicates that firm size has the potential to alter how CSR affects profitability. Company size serves as a moderating factor in the link between CSR and profitability, because companies with larger scales have a higher capacity to manage and implement CSR more effectively. Large companies have strong resources, so they can carry out various social, environmental, and governance initiatives that have a positive impact on reputation. In addition, wider exposure to stakeholders, such as customers and investors, makes CSR programs implemented by companies related to increased loyalty and public trust. The results are in line with the hypothesis discussed by the author, firm size may act as a moderating factor in the link between CSR and profitability. So it is concluded that company size can moderate the relationship between CSR and profitability. From a stakeholder theory perspective, companies have a moral and strategic obligation to meet stakeholders' expectations in order to maintain support. Company size can moderate the relationship between CSR and profitability because larger companies have greater resources, higher public visibility, and stronger stakeholder pressure.

H6: Company size can moderate the relationship between CSR and profitability.

CONCLUSION

Based on the findings from the tests and analyses that have been presented, the study's conclusions are green accounting shows a negative and insignificant effect on profitability, liquidity shows a positive and insignificant effect on profitability, CSR shows a positive and insignificant effect on profitability, company size does not serve as a moderator in the relationship between green accounting and profitability, company size does not serve as a moderator in the relationship between liquidity and profitability, and company size does not serve as a moderator in the relationship between CSR and profitability.

In this study, the author provides several suggestions. For companies, especially those in heavy polluting industries like the basic materials sector, it is important to prepare and present

reports transparently, completely, and periodically, as comprehensive reporting not only reflects a commitment to environmental sustainability but also has the potential to build public trust and enhance profitability and for future researchers, it is recommended to explore different industry sectors and extend the study duration to gain a broader and more accurate understanding of the factors influencing profitability.

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