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The Implementation of Green Accounting, Capital Structure, and Profitability on Firm Value: Firm Size as A Moderation

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A B S T R A C T

This investigation aims to evaluate the influence of green accounting, capital structure, and profitability on firm value, positioning firm size as a moderating variable, among basic materials sector entities listed on the Indonesia Stock Exchange from 2022 to 2024. Adopting a quantitative methodology, the study utilizes secondary data sourced from corporate financial statements and annual reports. The sample was selected via purposive sampling, comprising 35 firms and 105 observations. The analytical framework incorporates panel data regression and Moderated Regression Analysis (MRA). Findings reveal that green accounting and profitability lack a statistically significant impact on firm value, whereas capital structure demonstratesesa significant effect. Moderation analysis further indicates that firm size does not moderate the relationships between green accounting or capitals structure and firmsvalue; however, it does moderate the association between profitability and firm value

INTRODUCTION

Enterprise value constitutes a pivotal indicator that encapsulates investors' evaluations of a firm's performance and prospective trajectory. This metric is intrinsically linked to the degree of investor confidence in the firm's capacity to generate profits and sustain long-term operational viability. An elevated enterprise value correspondingly signifies enhanced returns accruing to shareholders. For this reason, increasing enterprise value is a primary goal for companies, pursued through various resource management strategies and efforts to optimize overall corporate performance. (Anik & Makaryanawati, 2020)

One sector that occupies a pivotal position within the Indonesian economy is the basic materials sector. This sector supplies various raw materials essential for other industries, including metals, minerals, and manufacturing inputs. The performance of this sector exerts a considerable influence on overall industrial activity; consequently, the iprogress of companies operating within this sector frequently garners the attention of investors. Thekvalue of firms in thebbasic materialslsector can be measured using market-based ratios, notably the Price tolBook Value (PBV) ratio, whichs illustrates the comparison between a stock's market price and the company's book value.

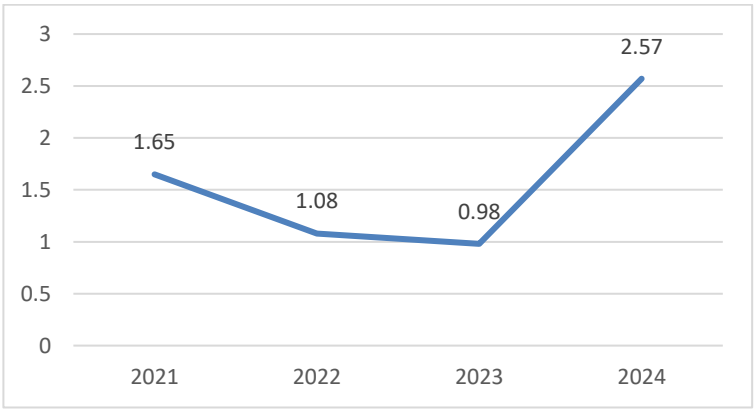

Figure1. PBV of Raw MaterialsiSector 2022 – 2024
Source: Idx.co.id

Data indicate that enterprise value in the basic materials sector has experienced fluctuations over the past several years. The sector's Price-to-Book Value (PBV) ratio stood at 1.65 in 2021, subsequently declined to 1.08 in 2022, further dropped to 0.98 in 2023, and then surged to 2.57 in 2024. These variations reflect shifts in investor perceptions concerning the performance and prospects of companies within this sector. This condition suggests that multiple factors—originating from both internal company dynamics and external circumstances can influence corporate value.

Internal company factors are most frequently associated with changes in corporate value. Such factors may include a company's financial performance, management policies, or resource management strategies. In recent years, attention to sustainability and environmental issues has also intensified, prompting companies to incorporate environmental considerations into their operations through the implementation of green accounting. Green accounting represents an accounting framework that incorporates environmental considerations into a company's recording and reporting mechanisms. The implementation of green accounting underscores a firm's dedication to environmental sustainability, concurrently augmenting the transparency of information available to stakeholders. Firms adopting such practices are anticipated to elevate their image among the public and investors, thereby bolstering investor confidence. As investor confidence intensifies, demand for the company's shares

escalates, potentially culminating in an enhancement of the firm's overall value.

In addition to environmental factors, financial factors also play a crucial role in determining corporate value. One financial factor often linked to corporate value is capital structure. Capital structure describes how a company manages its sources of funding, whether through debt or equity. An optimal capital structure can augment the efficiency of a company's fund utilization and transmit a favorable signal to investors concerning the firm's proficiency in managing its financial obligations. Nevertheless, an overreliance on debt may concomitantly heighten the company's financial risk, thereby potentially adversely influencing investors' perceptions of the firm's value.

Another factor that plays a significant role in determining corporate value is profitability. Profitability reflects a company's capacity to generate earnings from its resources. Firms with high profitability are generally perceived as having strong financial performance and more promising growth prospects. This can enhance investor interest in investing in such companies, thereby potentially increasing the company's value in the capital market.

Notwithstanding the foregoing, extant empirical studies have yielded divergent findings concerning the impacts of green accounting, capital structure, and profitability on firm value. While some studies indicate that these variables exert a significant influence on firm value, others proffer contradictory outcomes. This inconsistency intimates the potential mediation of supplementary factors in the nexus between these variables and firm value. Firm size emerges as one such factor postulated to modulate this relationship. Corporate scale delineates the magnitude of resources at a firm's disposal. Larger enterprises generally command superior access to financing, technology, and ancillary resources vis-à-vis their smaller counterparts. Furthermore, sizable firms are often better equipped to operationalize sustainability initiatives and optimize their capital structures. Ergo, firm size is anticipated to either amplify or attenuate the effects of green accounting, capital structure, and profitability on firm value.

Theoretical Foundation

Signaling Theory

Signaling theory describes the signals conveyed by managers to mitigate information asymmetry (S. K. Putri et al., 2021). According to this theory, a company can communicate internal information that is not readily observable through credible signals, including financial statements, sustainability reports, and annual reports. Such signals reflect management’s perspective regarding the company’s current condition and its future outlook (Jinan & Atiqah, 2025).

In this context, green accounting and superior environmental performance serve as critical signals. These signals reflect the commitment of companies within the raw materials sector to sustainability principles, as well as their ability to manage environmental risks over the long term. Beyond sustainable environmental practices, companies may also convey signals to investors through financing policies that are reflected in their capital structure. Signaling theory exerts a considerable influence on the determination of an optimal capital structure, giving rise to two managerial perspectives: whether the company's prospects are profitable or unprofitable. Moreover, the signals transmitted by a company originate not only from financing aspects but are also manifested in the firm's capacity to generate profits. Profitability is considered to provide a signal that encourages investors to make investment decisions.

Legitimacy Theory

Legitimacy theory, a concept originally introduced by Dowling and Pfeffer (1975), emphasizes the interaction between a company and society. According to this theory, a company actively seeks to obtain legitimacy and reinforce the relationships it establishes within the social environment where it operates (Puspitaningrum & Indriani, 2021). To maintain legitimacy in the eyes of the public, sustainability-oriented accounting practices serve as an important means of demonstrating the company’s compliance with and

responsibility toward the environment, for example, through the implementation of green accounting.

Resource Theory (Resource-Based View)

The Resource-Based View (RBV), initially proposed by Wernerfelt (1984) and further developed by Barney (1991) as cited in (Nakhwah, 2025), asserts that a company's competitive advantage and value arise from its ability to manage internal resources, including assets, capital, technology, and managerial skills. The greater and more robust the resources a company possesses, the higher its likelihood of generating value and attaining competitive advantage. From this perspective, company size becomes a crucial aspect that reflects the capacity of available resources and potentially influences various strategic decisions. Company size indicates the extent of resources held by a firm.

Firm Value

A paramount strategy for ensuring corporate longevity entails maximizing firm value, which encompasses the optimization of profits and shareholder wealth (Mansur et al., 2017). This value is conventionally manifested in stock prices, which encapsulate the ramifications of the company's investment, financing, and dividend policies. An elevated firm value correspondingly augments shareholder welfare and investor confidence in the enterprise. Within financial analysis, corporate value may be quantified through various ratios, such as the Price-to-Book Value (PBV), Price-Earnings Ratio (PER), and Tobin's Q. The current investigation employs Price-to-Book Value (PBV) as a proxy for firm value, owing to its ability to determine whether a stock is overvalued or undervalued. An elevated PBV ratio indicates greater investor confidence in the company's performance and future prospects (Alhayra et al., 2024).

Green Accounting

Green accounting refers to the process of collecting, analyzing, and reporting a company's environmental and financial information with the aim of minimizing negative environmental impacts and associated costs (Wara et al., 2023). he implementation of green accounting constitutes a vital component in supporting sustainable development through the triple bottom line framework, which encompasses environmental, social, and economic dimensions (Lubis et al., 2024). In the current investigation, the extent of green accounting implementation is measured through the Corporate Environmental Performance Rating Program (PROPER), administered by the Ministry of Environment and Forestry. PROPER appraises corporate environmental performance predicated on adherence to regulatory requirements, as well as initiatives that exceed such compliance, assigning ratings ranging from Black, Red, and Blue to Green and Gold. Firms attaining Green or Gold ratings exhibit robust environmental performance and are consequently deemed more appealing to investors.

Capital Structure

Capital structure denotes the relative proportion of debt and equity employed as financing sources for the corporation. An optimal capital structure is imperative for augmenting firm value, as it critically influences profitability and financial soundness via the entity's financing policies (Afida & Triyonowati, 2023). In this study, capital structure is measured using the Long-Term Debt to Equity Ratio (LTDER), which indicates the ratio of long-term debt to equity. A high LTDER value signifies a greater reliance on debt, thereby increasing the company's financial risk (Pitaloka & Setyabudi, 2025).

Profitability

Profitability signifies a firm's capacity to generate earnings over a delineated period. Elevated profitability levels denote efficacious management in the deployment of the company's assets. The overarching managerial proficiency in profit generation—quantified by the ratio of net income to total assets—is encapsulated by Return on Assets (ROA). Furthermore, asset turnover, ascertained from sales volume, is likewise explicated by ROA. This implies that a high ROA signifies more effective asset utilization, leading to greater generated profits (Pingkan & Pertiwi, 2022).

Firm Size

Firm size constitutes an indicator delineating the magnitude of a company, customarily quantified by total assets. Larger enterprises generally exhibit more stable financial positions and enhanced access to funding sources (Siti Nuridah et al., 2023). In the present study, firm size is quantified via the natural logarithm of total assets (Ln Total Assets). The larger the company, the greater its resources and influence on increasing corporate value, making it more attractive to investors.

The Effect of Green Accounting Implementation on FirmjValue

The adoption of green accounting practices proves particularly attractive to investors and consumers attuned to sustainability concerns, thereby opening access to new markets and investment capital. Consequently, green accounting not only assists companies in operating more responsibly but also provides a competitive advantage that positively affects firm value over the long term.

H1: The adoption of green accounting affects firm value

The Effect of Capital Structure on Firm Value

Capital structure constitutes a pivotal dimension of a firm, given its direct bearing on the entity's financial condition, which in turn impinges upon firm value. In the present study, capital structure is operationalized through the Long-Term Debt to Equity Ratio (LTDER). Pursuant to signaling theory, an elevated LTDER value signifies that the firm relies more substantially on debt financing rather than equity to support its operations. This condition reflects an elevated level of risk, which investors typically prefer to avoid. Such high risk may diminish investor interest, leading to a decline in stock prices and consequently reducing corporate value (Gz & Lisiantara, 2022).

H2: Capital structure affects firm value

The Effect of Profitability on Firm Value

Profitability denotes a firm's capacity to generate earnings or profits. The higher the degree of profitability, the greater the profits yielded by the firm, thereby conveying pertinent information to investors regarding the entity's auspicious prospects. As profitability increases, investors perceive that shareholder returns are strong and improving, thereby enhancing investor interest in purchasing the company’s stock and subsequently driving up the company’s value.

H3: Profitability affects firm value

The Effect of Green Accounting on Firm Value with Firm Size as a Moderating Variable

Large firms tend to exhibit greater financial stability, possess better access to funding sources, and demonstrate a stronger capacity to adapt to changes in the business environment. Consequently, investors often perceive large firms as safer and more profitable investment options. Large commodity companies typically have more adequate resources, economies of scale, and access to capital, which enable them to implement green accounting practices more effectively.

H4: Firm size moderates the effect of green accounting implementation on firm value

The Effect of Capital Structure on Firm Value with Firm Size as a Moderating Variable

Capital structure pertains to the relative proportion of debt and equity in a firm's financing mix. Smaller firms typically depend more heavily on internal capital, whereas larger firms are inclined to procure debt as a financing source. The greater the scale of a firm, the more readily it garners creditor confidence, thereby augmenting the revenue derived from debt. This, in turn, draws heightened investor interest, culminating in elevated stock prices and an attendant enhancement in firm value (Dayanty & Setyowati, 2020)

H5: Firm size moderates the effect of capital structure on firm value

The Effect of Profitability on Firm Value with Firm Size as a Moderating Variable

As a company’s profitability and total assets increase, its capacity to generate profits becomes greater. Nevertheless, investors do not evaluate a company based solely on its profitability; they also incorporate firm size into their assessment when determining the value of its stock price. Investors assume that a large company possesses sound

management capable of generating substantial profits or earnings. Consequently, the company conveys a positive signal to investors regarding its effective management and increased stock returns, which will ultimately enhance corporate value and further drive the growth of firm size.

H6: Firm size moderates the effect of profitability on firm value

Research Model

The research model for the above hypotheses is as follows:

METHODS

This study adopts a quantitative descriptive methodology designed to describe and analyze the phenomenon under investigation based on numerical data obtained. The research objects comprise green accounting, capital structure, profitability, firm value, and firm size, whereas the research subjects encompass firms in the basic materials sector listed on the Indonesia Stock Exchange during the 2022–2024 period. The investigation endeavors to evaluate the influence of green accounting, capital structure, and profitability on firm value, positioning firm size as a moderating variable. The data employed are secondary in nature, procured indirectly via financial statements, annual reports, and sustainability reports retrieved from the official websites of respective companies. Data collection was executed through documentation techniques, involving the systematic gathering and examination of relevant documents. The population delineates all entities within the basic materials sector listed on the Indonesia Stock Exchange. The sample was delineated through purposive sampling, contingent upon the following criteria:

Table 1. Research sample criteria

Information	Amount
Entities within the Basic Materials Sector Listed on the Indonesia Stock Exchange (IDX)	94
Basic Materials Sector Firms That Did Not Disclose Sustainability Reports.	(23)
Basic Materials Sector Firms That Did Not Disclose PROPER Ratings for the Period 2022–2024 in Sustainability Reports.	(36)
Number of Sample Firms	35
Number of Observation Periods	3
Total Research Samples During the Observation Periods	105

Independent Variable (X)

Green Accounting

Green accounting is quantified utilizing PROPER (Corporate Environmental Performance Rating Program). The PROPER performance rating framework encompasses a quintet of color-based classifications for corporate environmental performance: blue, gold, green, red, and black. Each color designation, ranging from gold to black, is ascribed a numerical score from 5 to 1, as delineated below:

Table 2. PROPER Categories

Category	Rating	Score
Gold	Excellent	5
Green	Good	4
Blue	Fair	3
Red	Poor	2
Black	Very Poor	1

Capital Structure

$$\textit{Return on Asset}\ (\text{ROA}) = \frac{(Net\ Profit)}{Total\ Assets}$$

Capital structure is operationalized as the ratio of total long-term debt to equity serving as financing sources. In the present study, capital structure is quantified via the Long-Term Debt to Equity Ratio (LTDER). LTDER is computed employing the following formula:

$$\textit{Long Term Debt to Equity Ratio}\ (\text{LTDER}) = \frac{(Total\ long-term\ debt)}{(Total\ equity)}$$

Profitability

Profitability denotes a firm's capacity to generate net profit from its operations. The profitability metric employed is Return on Assets (ROA). The formula for the Return on Assets (ROA) ratio is as follows:

Dependent Variable (Y)

In the present study, the dependent variable (Y) constitutes firm value. Firm value is measured herein via the Price-to-Book Value (PBV) indicator. An optimal PBV ratio exceeds unity, signifying that the stock's market value surpasses its book value. The formula for computing the PBV ratio is as follows:

$$\text{PBV} = \frac{\text{Stock price}}{\text{Book Value Per Share}}$$

***Moderating* Variable (Z)**

In the present study, the moderating variable (Z) is firm size. Firm size is operationalized through the natural logarithm of total assets. Larger firms command greater resources and environmental responsibilities, concomitant with an augmented impact on firm value. The formula for the natural logarithm of total assets is expressed as follows:

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

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

Table 3. Descriptive Statistical Results

	Y	X1	X2	X3
Mean	1.237767	3.390476	0.328120	3.223862
Median	0.819061	3.000000	0.185349	2.805654
Maximum	13.71807	5.000000	3.773221	26.55980
Minimum	-4.105057	3.000000	-3.749605	-27.56020
Std. Dev.	1.876652	0.672184	0.759363	7.057754
Skewness	3.786415	1.453856	-0.000220	-0.389177
Kurtosis	24.51155	3.717978	14.88670	6.652300
Jarque-Bera	2275.415	39.24500	618.1594	61.00992
Probability	0.000000	0.000000	0.000000	0.000000

Sum	129.9656	356.0000	34.45261	338.5055
Sum Sq. Dev.	366.2697	46.99048	59.96971	5180.436
Observations	105	105	105	105

Source: Data Processed with Views 13

Based on the results of the descriptive statistical analysis, the following conclusions can be drawn:

- Firm value (Variable Y) exhibits a minimum value of -4.105057, recorded by Waskita Beton Precast Tbk. in 2023, and a maximum value of 13.71807, recorded by Chandra Asri Pacific Tbk. in 2024. The minimum value indicates the presence of a company with very low performance, while the maximum value reflects a company with very high performance. The mean value of 1.237767 suggests that, in general, firm value is at a relatively low but still positive level. The standard deviation of 1.876652, which is larger than the mean, indicates considerable data variation across companies, thus revealing significant differences in conditions within the research sample.
- Green accounting (Variable X1) exhibits a minimum value of 3.000000 and a maximum value of 5.000000. The mean value of 3.390476 indicates that, overall, green accounting is at a fairly stable level. a standard deviation of 0.672184, which is less than the mean, suggests relatively low data variation, so differences among companies are not very significant.
- Capital structure (Variable X2) shows a minimum value of -3.749605, recorded by Waskita Beton Precast Tbk. in 2023, and a maximum value of 3.773221, recorded by Toba Pulp Lestari Tbk. in 2024. The minimum value reflects a company with a very low or even negative level of long-term debt usage, while the maximum value indicates a company with a high level of long-term debt usage. The standard deviation of 0.759363, which is larger than the mean of 0.328120, indicates considerable data variation across companies, thus revealing fairly significant differences in conditions within the research sample.
- Profitability (Variable X3) shows a minimum value of -27.56020, recorded by Waskita Beton Precast Tbk. in 2024, and a maximum value of 26.55980, recorded by ESSA Industries Indonesia Tbk. in 2022. This very wide range indicates highly significant differences in conditions among companies. The mean value of 3.223862 suggests that, on average, profitability is at a fairly good level. However, the standard deviation of 7.057754, which is much larger than the mean, indicates that the data are highly variable and exhibit a high degree of fluctuation across companies in the research sample.

Regression Model Selection Analysis

Chow Test

Table 4. Chow test results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	10.884789	(34,67)	0.0000
Cross-section Chi-square	196.920162	34	0.0000

Source: Data Processed with Views 13

Based on Table 4. above, The Chow test results reveal a cross-section chi-square probability value of 0.0000, which falls below the 0.05 significance threshold. This outcome signifies that the Fixed Effects Model (FEM) constitutes the

appropriate specification, to be subsequently validated by the Hausman test.

Hausman Test

Tabel 1. Hasil uji hausman

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.179254	3	0.3648

Source: Data Processed with Views 13

Table 5 above presents a probability value of 0.3648, surpassing the 0.05 threshold, which signifies that the Random Effects Model (REM) constitutes the most suitable specification.

The Chow test results demonstrate that the Fixed Effects Model is preferable to the Common Effects Model. However, the Hausman test produces a probability value exceeding 0.05, thereby establishing the Random Effects Model as more appropriate, given the absence of correlation between individual effects and the independent variables. Thus, the panel data regression model utilized is the Random Effects Model.

Classical Assumption Tests

Multicollinearity Test

Table 6. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
X1	0.064217	27.08873	1.015082
X2	0.050218	1.204019	1.013053
X3	5.786833	1.237369	1.023445
C	0.757045	26.73946	NA

Source: Data Processed With Views 13

Drawing from the aforementioned table, the computed The Variancee Inflation Factors (VIF) values for the independent variables incorporated in the model are all below 10.00. Consequently, the dataset is deemed free of multicollinearity, thus fulfilling the assumptions of the multicollinearity test.

Heteroscedasticity Test

Table 7. Heteroscedasticity Test

F-statistic	1.961681	Prob. F(3,101)	0.1245
Obs*R-squared	5.781254	Prob. Chi-Square(3)	0.1228
Scaled explained SS	69.93199	Prob. Chi-Square(3)	0.0000

Source: Data Processed with Views 13

According to the table presented above, the probability value of the obs*R-squared statistic is 0.1228 (>0.05), thereby permitting the conclusion that the data manifests no symptoms of heteroscedasticity, and the assumptions of the heteroscedasticity test are duly fulfilled.

Panel Data Regression Analysis

In the present investigation, the outcomes derived from the employed model the Random Effects Model (REM) utilizing a sample of enterprises in the basic materials sector listed on the Indonesia Stock Exchange over the 2022–2024 period, are delineated as follows:

Table 8. Panel Data Estimation Results

Dependent Variable: Y?
Method: Pooled EGLS (Cross-section random effects)
Date: 02/27/26 Time: 05:26
Sample: 2022 2024
Included observations: 3
Cross-sections included: 35
Total pool (balanced) observations: 105
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1?	0.260511	0.254865	1.022154	0.3091
X2?	0.780855	0.241381	3.234940	0.0016
X3?	0.857677	1.867922	0.459161	0.6471
C	0.070548	0.912438	0.077319	0.9385

Source: Data Processed with Views 13

The panel data regression analysis encompassing the three independent variables integrated into the estimation model reveals that green accounting and profitability exert no significant influence on firm value. This inference stems from the significance probability values for green accounting and profitability exceeding 0.05. In contrast, the capital structure variable yields a significance probability value below 0.05, signifying that green accounting and profitability do not impact firm value, whereas capital structure does.

As presented in Table 4.4, the panel data regression equation may be formulated as follows:

$$Yit = \alpha + \beta_1 X_1it + \beta_2 X_2it + \beta_3 X_3it + \varepsilon it$$

$$Y = 0.070548 + 0.2600511 + 0.780855 + 0.857677 + \varepsilon it$$

The panel data regression equation presented above may be interpreted as follows:

1. A constant term of 0.071084 implies that, in the absence of PROPER (X1), LTDER (X2), and ROA (X3)—i.e., when all are equal to zero—PBV (Y) assumes a value of 0.070548.
2. The coefficient for PROPER (X1) stands at 0.2600511, signifying that each one-unit increment in the green accounting variable is associated with a 0.260348 increase in PBV (Y), ceteris paribus.
3. The coefficient for LTDER (X2) is 0.780855, indicating that each unit increase in the capital structure variable corresponds to a 0.780852 augmentation in PBV (Y), holding all other variables constant.
4. The coefficient for ROA (X3) is 0.857677, denoting that each unit increase in the profitability variable yields a 0.857803 rise in PBV (Y), with other variables held constant.

Moderated Regression Analysis (MRA) Test

Table 9. Results of the Moderated Regression Analysis (MRA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Z	0.080457	0.823487	0.097703	0.9224
X1Z	0.043698	0.252059	0.173363	0.8627
X2Z	0.241054	0.344533	0.699655	0.4858
X3Z	-4.688858	2.266426	-2.068834	0.0412
C	-3.383363	25.21877	-0.134161	0.8936

Source: Data Processed with Views 13

The Moderated Regression Analysis (MRA) outcomes elucidate the moderating role of firm size through the statistical significance of the interaction terms between each independent variable and firm size.

The interaction term representing the interplay between green accounting implementation and firm size (X1Z) yields a probability value of 0.8627 (>0.05), indicating that firm size does not moderate the effect of green accounting implementation on firm value.

Similarly, the interaction term between capital structure and firm size (X2Z) produces a probability value of 0.4858 (>0.05). This result demonstrates that firm size does not function as a moderator in the relationship between capital structure and firm value, implying that the influence of capital structure on firm value is invariant to fluctuations in firm size.

In contrast, the interaction term between profitability and firm size (X3Z) exhibits a probability value of 0.0412 (<0.05). This finding corroborates that firm size moderates the impact of profitability on firm value.

Hypothesis Testing

Coefficient of Determination Test (R^2)

Table 10. Results of the Determination Coefficient Test

R-squared	0.107653	Mean dependent var	0.362113
Adjusted R-squared	0.081148	S.D. dependent var	0.865406
S.E. of regression	0.829551	Sum squared resid	69.50360
F-statistic	4.061564	Durbin-Watson stat	1.107510
Prob(F-statistic)	0.009052		

Source: Data Processed with Views 13

The coefficient of determination (R^2) is 0.1076, equivalent to 10.76%. Accordingly, it may be concluded that green accounting, capital structure, and profitability collectively account for 10.76% of the variance in firm value. The residual 89.24% is attributable to factors beyond the purview of this investigation.

Partial Test (t-Test)

Within a panel data regression framework, the partial t-test is employed to ascertain whether each independent variable exerts a significant influence on the dependent variable. An independent variable is deemed to possess such an effect if its associated probability value (p-value) from the t-test falls below 0.05. In this context, the objective is to determine whether Green Accounting (PROPER), Capital Structure (LTDER), and Profitability (ROA) exert partial significant effects on Firm Value (PBV), with Firm Size serving as a moderating variable.

a. The Effect of Green Accounting Implementation on Firm Value

H1: The implementation of green accounting influences firm value.

The green accounting variable yields a t-statistic probability of 0.3091, exceeding the 0.05 significance threshold. Thus, it is determined that green accounting exerts not influence firm value. Accordingly, research hypothesis H1 is rejected.

b. Effect of Capital Structure on Firm Value

H2: Capital structure affects firm value.

The capital structure variable produces a t-statistic probability of 0.0016, which is below the 0.05 significance level. Consequently, capital structure is deemed to influence firm value. Thus, research hypothesis H2 is accepted.

c. The Effect of Profitability on Firm Value

H3: Profitability affects firm value.

The t-statistic probability for the interaction term between green accounting and firm size is 0.8627, exceeding the 0.05 significance threshold. Ergo, firm size

does not moderate the effect of green accounting on firm value. Thus, research hypothesis H4 is rejected.

d. The Effect of Capital Structure on Firm Value with Firm Size as a Moderating Variable

H5: Firm size moderates the effect of capital structure on firm value.

The t-statistic probability for the interaction term between capital structure and firm size is 0.4858, surpassing the 0.05 significance threshold. Ergo, firm size does not moderate the effect of capital structure on firm value. Thus, research hypothesis H5 is rejected.

e. The Effect of Profitability on Firm Value with Firm Size as a Moderating Variable

H6: Firm size moderates the effect of profitability on firm value.

The t-statistic probability for the interaction term between profitability and firm size is 0.0412, falling below the 0.05 significance level. Thus, it is concluded that firm size moderates the effect of profitability on firm value. Accordingly, research hypothesis H6 is accepted.

Discussion

Thet Effect of Green Accounting Implementation on Firm Value

The results of this study indicate that green accounting variables do not affect firm value in the raw materials sector. This is evidenced by a p-value greater than 0.05 (0.3094 > 0.05) and a coefficient of 0.260348, leading to the conclusion that H1 is rejected.

Normatively, this result contradicts Signaling Theory, which suggests that the disclosure of information such as green accounting should serve as a positive signal to investors and thereby enhance firm value. However, empirically, the market has not yet responded to this signal. A plausible explanation is that green accounting is still perceived as supplementary information that does not directly affect cash flows, and investors in emerging markets tend to prioritize financial indicators. From the perspective of Legitimacy Theory, green accounting is viewed more as an effort to maintain social legitimacy and operational sustainability rather than to directly increase market value. Furthermore, its influence may be indirect, operating through other variables such as reputation or investor trust. These results align with several previous studies that found no direct effect, although they differ from other studies reporting contrary findings. Therefore, the lack of statistical significance does not imply that green accounting is unimportant; rather, it suggests that the market has not yet fully incorporated environmental information into its valuation of companies.

The findings of this investigation align with those reported by Larastiwi & Setiadi (2024), Hutabarat (2024), Primayanti et al. (2025), and Anisah et al. (2025), who determined that green accounting has no direct influence on firm value. In contrast, the present findings diverge from those of Septiana & Sundari (2024), Andika & Lubis (2024), and Sulistiono & Nur (2024), which showed that the green accounting variable influences firm value.

The Effect of Capital Structure on Firm Value

The results of this study indicate that the capital structure variable influences firm value in the raw materials sector. This is evidenced by a significance level of less than 0.05 (0.0016 > 0.05) with a coefficient value of 0.7808, leading to the conclusion that H2 is accepted.

The findings of this study underscore that corporate financing decisions—particularly the debt-equity composition—constitute pivotal factors that investors weigh in appraising the value of enterprises within the basic materials sector. An optimal capital structure evinces a firm's proficiency in mitigating financial risk while concomitantly maximizing corporate value. From the vantage of Signaling Theory, debt utilization is construed as a favorable signal, denoting management's assurance in the company's prospective trajectory and its aptitude to engender future cash flows. Furthermore, analytically, investors tend to be more responsive to information that is directly related to financial risk and return, as capital structure influences bankruptcy risk, interest expenses, and the cost of capital. This

explains why capital structure has a more tangible and direct relationship with firm value.

The the results of the present investigation are corroborated by prior studies undertaken by Veronica & Viriany (2020), Muliana & Ahmad (2021), Pitaloka & Setyabudi (2025), Kurniawan & Munawaroh (2022), and Mustajirin & Putri (2025) However, contrary to the findings of Kurniawan & Munawaroh (2022), Mustajirin & Putri (2025) found that capital structure does not affect firm value.

The Effect of Profitability on Firm Value

The results of this study indicate that the profitability variable does not affect firm value in the raw materials sector. This is evidenced by a significance level greater than 0.05 (0.0016 > 0.6470) with a coefficient value of 0.8578, leading to the conclusion that H3 is rejected.

The results of this study indicate that profitability does not have a significant effect on the value of companies in the raw materials sector during the observation period, suggesting that profit levels do not directly influence investor valuation. This may be attributed to high profit volatility driven by global economic conditions and fluctuations in commodity prices, implying that profits do not adequately reflect stable long-term performance. Theoretically, profitability serves as a strong signal within the framework of Signaling Theory, as it reflects a company's ability to generate future profits and cash flows. Empirically, however, higher profits do not always translate into increased firm value. Investors tend to prioritize the quality and consistency of profits over the magnitude of short-term earnings, and they recognize that profit figures are historical in nature rather than reliable predictors of future prospects. Furthermore, potential information overlap with other variables, such as capital structure, may render the impact of profitability statistically insignificant. These results suggest that not all financial signals carry equal weight; in the context of this study, investors are more responsive to financing decisions than to a company's level of profitability.

These results are supported by studies conducted by Fadilah et al. (2024) and Alhayra et al. (2024), which reveal that profitability influences firm value. However, this study does not align twith the findings of Putri & Machmuddah (2025), Afida & Triyonowati (2023), and Pingkan & Pertiwi (2022), who concluded that profitability does not influence firm value.

The Effect of Green Accounting on Firm Value with Firm Size as a Moderating Variable

The Moderated Regression Analysis (MRA) results for the interaction between green accounting and firm size yield a probability value of 0.8627, surpassing the 0.05 significance threshold, with a coefficient of 0.043698. This outcome indicates that firm size does not moderate the effect of green accounting on firm value, culminating in the rejection of Hypothesis H4.

This result can be explained from the perspective of investor behavior in the Indonesian capital market, where investors tend to prioritize direct financial indicators, such as profit and risk, over environmental information whose benefits are more long-term in nature. Although large companies possess more adequate resources to implement green accounting, this does not automatically enhance the relevance of such information in the eyes of investors. From the standpoint of Resource-Based Theory, the extent of resources does not guarantee management effectiveness, particularly if green accounting practices remain merely symbolic and have not been strategically integrated. Furthermore, from a methodological perspective, the lack of significance of this moderating effect suggests that the impact of green accounting is likely indirect, mediated through other variables such as reputation or investor trust.

These findings align with the research conducted by Alhayra et al. (2024), which showed that firm size does not moderate the impact of green accounting on firm value. However, this study does not align with the research by Indrastuti (2024), who states that firm size can moderate the effect of green accounting on firm value.

The Effect of Capital Structure on Firm Value with Firm Size as a Moderating Variable

The Moderated Regression Analysis (MRA) results for the interaction between capital structure and firm size indicate a probability value of 0.4858, exceeding the 0.05 significance level, accompanied by a coefficient of 0.241054. This finding demonstrates that firm size does not moderate the effect of capital structure on firm value, thereby warranting the rejection of Hypothesis H5.

The findings of this study reveal that firm size does not moderate the effect of capital structure on firm value, suggesting that investors evaluate financing policies relatively uniformly without considering the size of the firm. Capital structure is perceived as a managerial decision emblematic of the firm's overarching risk management and financing approach; consequently, firm size does not alter investors' perceptions of its impact. From the vantage of Resource-Based Theory, although large companies possess greater resources, this does not guarantee effective debt management or an increase in corporate value, as what matters more is the efficiency and strategy of resource utilization. Furthermore, the capital-intensive and high-risk characteristics of the raw materials industry make the use of debt a common practice across companies of all sizes, thereby not leading to divergent perceptions among investors.

These results are consonant with the investigation by Ermawati and Agustino (2025), who determined that firm size does not moderate the effect of capital structure on firm value. In contrast, they diverge from the findings of the research by Rachmadevi et al. (2023), which posited that firm size exerts a moderating effect on the relationship between capital structure and firm value.

The Effect of Profitability on FirmValue with Firm Size as a Moderating Variable

The Moderated Regression Analysis (MRA) results reveal that the interaction between profitability and firm size yields a probability value of 0.0412 below the 0.05 significance threshold coupled with a regression coefficient of -4.688858. These findings substantiate that firm size moderates the influence of profitability on firm value, thereby upholding Hypothesis H6. Nonetheless, the negative interaction coefficient implies that firm size attenuates the effect of profitability on firm value.

Theoretically, profitability functions as a positive signal under Signaling Theory, emblematic of a firm's performance and prospective trajectory, and thus ought to augment firm value. Nevertheless, the empirical findings of this study reveal that firm size attenuates the effect of profitability on firm value. This finding can be explained through Resource-Based Theory: large firms typically already possess substantial resources, a strong reputation, and high levels of investor trust, so fluctuations in profitability do not significantly alter investor perceptions. Conversely, for small firms, profitability acts as the primary indicator for assessing performance and prospects, making its impact on firm value more pronounced. Furthermore, large firms tend to have complex organizational structures and face higher potential costs and agency problems, meaning that the profits they generate do not always translate into a proportional increase in firm value. These findings demonstrate that firm size functions as a moderating factor, weakening the relationship between profitability and firm value. In other words, profit growth does not consistently elicit the same market response, particularly among large-scale companies.

The results of this study are consistent with the investigation undertaken by Rosihana (2023), which found that firm size moderates the effect of profitability on firm value. How ever, they are inconsistent with the research by Pingkan & Pertiwi (2022), which showed that firm size does not moderate the effect of profitability on firm value.

CONCLUSION

Drawing from the panel data regression analyses employing the Random Effects Model (REM) and Moderated Regression Analysis (MRA) on firms in the basic materials sector listed on the Indonesia Stock Exchange over the 2022–2024 period, the following conclusions may be drawn:

when assessed individually, green accounting and profitability evince no significant influence on firm value. By contrast, capital structure manifests a significant effect on firm value, positioning it as the sole variable explicating variations in firm value within this investigation. Moreover, firm size neither moderates the impacts of green accounting nor capital structure on firm value, yet, it does moderate the effect of profitability on firm value. Accordingly, capital structure emerges as the primary factor considered by investors, while firm size functions solely as a moderator in the relationship between profitability and firm value.

Recommendations

A limitation of this study is that it uses only three independent variables—green accounting, capital structure, and profitability—and thus cannot fully explain the factors influencing firm value. The study period used is relatively short, namely three years (2022–2024), so it does not fully depict the company's long-term conditions. Moreover, the present investigation is confined to firms in the basic materials sector listed on the Indonesia Stock Exchange (IDX); consequently, the findings cannot be generalized across the broader industrial landscape. Furthermore, the measurement of variables herein is circumscribed, relying on specific proxies for green accounting, capital structure, profitability, firm size, and firm value, thereby precluding a comprehensive representation of each variable's multifaceted dimensions.

Suggestions for subsequent research encompass the integration of additional independent variables that may impinge upon firm value, including dividend policy, ownership structure, firm growth, or macroeconomic factors. Additionally, scholars are encouraged to extend the temporal scope to yield more robust and stable outcomes. Future investigations should also expand the analytical purview beyond the basic materials sector to encompass diverse industrial sectors.

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