

Research Article

Determinants of Company Value with Environmental Performance as a Moderating

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Received: 17-02-2025; Accepted: 19-03-2025

Abstract

The objective of the research is to examine the influence of leverage, liquidity, profitability, and institutional ownership on firm value with environmental performance as a moderating variable. The population in this study consists of coal sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2019 – 2023. The data analysis technique used in this study is panel data regression. The analysis results show that leverage does not affect firm value, liquidity negatively affects firm value, profitability positively affects firm value, institutional ownership does not affect firm value, environmental performance does not affect firm value, environmental performance cannot moderate the effect of leverage on firm value; environmental performance can moderate the effect of liquidity on firm value; environmental performance can moderate the effect of profitability on firm value. This study implies that companies need to focus on improving profitability and effective liquidity management while paying attention to environmental practices because environmental performance can strengthen the positive impact of profitability and reduce the negative impact of liquidity. For investors, environmental performance is an important consideration in assessing a company's ability to manage risk and create value.

Keywords: Leverage, Liquidity Profitability, Institutional Ownership, Environmental Performance, Firm Value

JEL Classification: G32, M14, Q56

How to cite: Sumampouw, R. W. J., Putri, N., (2025). Determinants of Company Value with Environmental Performance as a Moderating, *Research of Economics and Business (REB)* 3(1), 33-43

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1. Introduction

Indonesia is an important player in the global coal market, with regions like Kalimantan being the main contributors to the coal mining sector in the country. Historically, Kalimantan is known for its large coal and mineral production in Indonesia (Hilmawan & Amalia, 2020). East Kalimantan is a major coal mining operation area, thereby strengthening its position as a significant coal-producing region in the country (Afkarina et al., 2019). These regions play a crucial role in building Indonesia's reputation as a major player in the global coal market, supported by abundant coal resources (Albart et al., 2020)(Monica, 2023).

The demand for coal in Indonesia and internationally has prompted more in-depth studies on the sustainability of the industry and its environmental impact. Indonesia's coal exports serve various Asian countries, including China, India, South Korea, Japan, Thailand, the Philippines, and Malaysia, thus positioning Indonesia as a major coal supplier in the region (Susanto & Admi, 2021). This export demand has driven the growth of coal production in Indonesia, and the sector has experienced consistent expansion over the years. However, this growth has also raised concerns about the environmental impact of coal mining and the need for sustainable practices in this industry.

According to the signaling theory, company management sends signals to the market through relevant information about the company's financial performance. If the company's performance is good, management will send positive signals through financial reports, dividend distribution, or increased profitability. This signal will increase investor confidence, which positively impacts the demand for shares and the market value of the company. The market's assessment of a company's performance, which is often reflected in its stock price, is a key indicator of its value. Investors tend to invest in companies with high profitability and stock prices, resulting in a positive relationship between profitability, stock prices, and company value.

The esteem of a company isn't fair, a delineation of its current money related condition but moreover a reflection of its prospects. For speculators, the esteem of a company gets to be an imperative determinant that reflects the potential for benefit development. The increment in company esteem is an accomplishment craved by the company proprietors since, with the increment in company esteem, the welfare of the proprietors will moreover move forward (Santosa et al., 2023). The proprietors of the company anticipate a tall book esteem since it reflects a tall level of success for the shareholders (Nopianti et al., 2021).

This ponders points to analyze the components that influence firm esteem within the coal segment in Indonesia, considering natural execution as a directing variable. Environmental execution is becoming progressively vital within the setting of advanced trade, particularly within the coal industry, which is regularly related with negative natural impacts. The ponder will survey how natural execution moderates the relationship between variables that impact firm esteem.

2. Literature Review and Hypothesis

Signaling Theory

Signaling hypothesis centers on how firms utilize signals to communicate data to the advertise, particularly when there's vulnerability around the esteem and hazard of ventures. In this setting, topsy-turvy data alludes to a circumstance where one party has more or superior data than another party, which frequently happens between company administration and financial specialists (Balqis et al., 2024). Signaling theory plays a critical part within the money related setting, where data passed on through budgetary articulations and other administrative choices can impact speculation decisions and firm esteem. Existing inquire about appears that firms that can supply positive signals through great budgetary execution are more likely to draw in speculation and increment their advertise esteem. (Setiawanta & Hakim, 2019; Pebriawan et al., 2022).

Agency Theory

Organization hypothesis is a vital system for understanding the relationship between principals and operators within the setting of fund and bookkeeping. This hypothesis clarifies the strife of intrigued that emerges from the division of proprietorship and administration, where the central (proprietor) depends on the operator (administration) to oversee their assets. In this setting, the operator has superior data around the company's operations, which can lead to data asymmetry and potential mishandle of specialist. (Djatnika, 2022). Organization hypothesis gives profitable experiences into understanding the elements of the relationship between owners and administration, both within the open and private divisions. By applying the standards of this hypothesis, organizations can progress money related execution and diminish the dangers related with clashes of intrigued (Sihombing et al., 2024).

Firm Value

The hypothesis of firm esteem, particularly as measured by Cost to Book Esteem (PBV), is an imperative angle of budgetary investigation utilized to evaluate a company's execution and venture potential. Investigate appears that PBV is regularly utilized as a marker to pull in financial specialist intrigued, where companies with tall PBV are considered to have great monetary execution and promising development prospects (Irmawati & Murtianingsih, 2024) (Narita Ningrum & Zulfanti, 2024).

Hypothesis**Leverage**

Use could be a monetary proportion utilized to decide and degree a company's capacity to meet its money related commitments, which comprise of both short-term and long-term obligation. The company's capital structure, which incorporates the composition of obligation and value in financing, includes a critical effect on the company's value (Panjaitan & Supriyati, 2023). The tall utilize of obligation by the company may be a positive flag for the market. This result shows that the company's administration is sure within the company's growth prospects within the future, so they are willing to require dangers by expanding use. Speculators may react emphatically to this flag, which is reflected within the increment in stock costs or the company's esteem. This result is bolstered by past investigate by Pardiastuti, P., Fajri, R. N., & Samrotun, Y. C. (2020), which states that use features an altogether positive impact on company esteem.

H1: Leverage has a positive effect on firm value

Liquidity

Tall liquidity of the company comes about within the company having abundance resources that can emphatically impact the company's speculation and capital structure. Based on flag hypothesis, a company's capacity to meet its short-term commitments will get a positive reaction from the capital showcase since it is considered competent of keeping up the company's execution, which can lead to an increment within the company's esteem. This result is backed by the investigate of Nofika & Nurhayati (2022), which states that liquidity incorporates a essentially positive impact on the esteem of the company.

H2: Liquidity has a positive effect on firm value

Profitability

Productivity reflects the rate of return on speculation against the company's resources. Tall benefit reflects the company's capacity to produce critical returns for shareholders. Tall productivity reflects the company's capacity to produce noteworthy benefits for shareholders. Based on the signaling hypothesis, companies with tall benefit levels send positive signals to the advertise and speculators. With a tall benefit proportion, a company will pull in speculator intrigued to contribute their capital within the company. This result is backed by past investigate by Nofika, S., & Nurhayati, I. (2022), Pardiastuti, P., Fajri, R. N., & Samrotun, Y. C. (2020).

H3: Profitability has a positive effect on firm value

Institutional Ownership

Regulation possession is the possession of company offers by monetary educate such as annuity stores, protections companies, and shared stores. Regulation proprietorship can give stricter oversight of administration, as organization speculators have the motivating force to guarantee that the company is overseen successfully and effectively to maximize shareholder esteem. The nearness of noteworthy regulation speculators can upgrade advertise certainty within the company. This finding is since organization financial specialists by and large have superior data and in-depth examination some time recently contributing to a company. Tall regulation possession decreases organization clashes since organization investors have critical control to supervise directors. This result is upheld by inquire about by Suhandi (2021), which states that organization possession contains a positive impact on company esteem.

H4: Institutional ownership has a positive effect on firm value

Environmental Performance

The company's natural execution is an accomplishment for the company in actualizing care for its encompassing environment to diminish contamination and natural harm caused by the company's operational exercises. Companies that unveil natural execution data well in their yearly reports will get positive reactions from financial specialists, showing that the company has satisfied its commitments, subsequently expanding the company's esteem. A tall Appropriate rating (for illustration, gold or green) signals that the company has great natural administration and complies with strict controls. This result is bolstered by investigate by Daromes and Kawilarang (2020), which states that natural execution emphatically influences company esteem.

H5: Environmental performance has a positive effect on firm value

Companies with great natural execution can be more trusted by speculators, indeed if they have tall use. This positive notoriety can decrease the dangers craved by speculators, in this manner expanding the company's esteem. Companies with solid natural execution can be superior at overseeing in general dangers, counting dangers related with tall use. This result can decrease the market's recognition of hazard and increment the company's esteem. Great natural execution is anticipated to direct (alter) the effect of use on the company's esteem. For case, in high-leverage conditions, companies with great natural execution may involvement a lower negative effect on their company esteem compared to companies with destitute natural execution.

H6: Environmental performance can moderate the effect of leverage on Firm Value

Great natural execution can reinforce the relationship between liquidity and company esteem by upgrading the company's notoriety within the eyes of speculators. Companies that are well-managed in terms of liquidity and the environment can be considered more secure and more economical speculations, subsequently drawing in financial specialist intrigued and possibly expanding the company's esteem. Companies with great natural execution are more proactive in overseeing dangers, which can diminish the negative effect of liquidity insecurity. This finding can improve investors' recognition of the company's soundness and long-term esteem. Natural execution can direct the relationship between liquidity and firm esteem, meaning that great natural execution can fortify the positive effect of liquidity on firm esteem.

H7: Environmental performance can moderate the effect of liquidity on Firm Value

Natural execution is seen as a appearance of the company's social obligation. Natural execution must be kept up at a great level because it reflects the company's concern for the environment in which it works. Natural execution, through different natural measurements such as eco-friendly hones, compliance with natural controls, or green innovation advancements, has the potential to impact the relationship between a company's benefit and its esteem. In other words, natural execution is considered a directing variable that influences the quality and course of the relationship between benefit and company esteem. This finding demonstrates that the effect of productivity on company esteem can change depending on the level or quality of the company's natural execution. These comes about are backed by past inquire about by Pramono & Rohman (2023), which states that natural execution can reinforce the effect of Return on Resources (ROA) on company esteem.

H8: Environmental performance can moderate the effect of profitability on Firm Value**Conceptual Framework**

The conceptual framework above shows that leverage, liquidity, profitability, and institutional ownership influence firm value. In addition, environmental performance acts as a moderating variable that strengthens or weakens the influence of leverage, liquidity, and profitability on firm value.

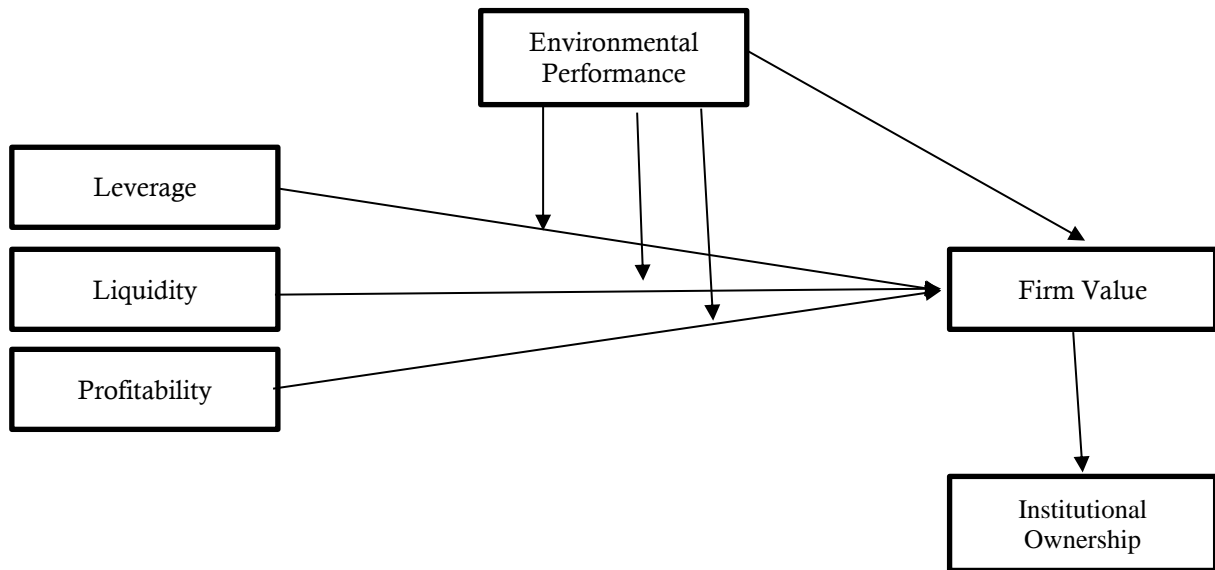


Figure 1. Conceptual Framework

3. Data and Method

This study employs a quantitative methodology. The population includes all 28 coal mining firms listed on the Indonesia Stock Exchange. Purposive sampling is used to retrieve data. The research utilizes secondary data available at www.idx.co.id, which comprises cross-sectional and time series data. The analysis is conducted using the e-views program with panel data.

Based on these variables, the panel data regression equation in this study can be formulated as follows: Based on these variables, the panel data regression equation in this study can be formulated as follows:

$$PBV = \alpha + \beta_1 DER_{it} + \beta_2 CR_{it} + \beta_3 ROA_{it} + \beta_4 KI_{it} + \beta_5 PROPER_{it} + \beta_6 DER * PROPER + \beta_7 CR * PROPER + \beta_8 ROA * PROPER + \varepsilon \quad (1)$$

Where: firm value = PBV (stock price/book value); leverage = DER (total debt/total equity); liquidity = CR (current assets/current liabilities); profitability = ROA (earning after tax/total assets); institutional ownership = the number of shares owned by institutions/number shares of outstanding; environmental performance = result PROPER.

4. Results

Data description

The research variables are described by their maximum value, minimum value, average value (mean), and standard deviation. These data are obtained from the annual reports of coal mining firms that served as samples for the research, covering the period from 2019 to 2023.

Table 1. Descriptive statistic

	PBV	DER	CR	ROA	KI	PROPER
Mean	2.4782	0.9915	1.5596	0.1591	0.0402	3.8571
Maximum	19.770	3.8309	5.3578	0.6025	0.3000	5.0000
Minimum	0.2800	0.0493	0.2029	-0.2599	0.0000	3.0000
Std. Dev.	3.1924	0.8505	1.0810	0.1762	0.0860	0.7476

Table 1 provides the characteristics of each variable used in this study. The dependent variable, firm value, represented by Price to Book Volume (PBV), has a minimum value of 0.2800, a maximum value of 19.770, and a mean value of 2.4782. The moderate variable, environmental

performance (PROPER), has a minimum value of 3.000 and a maximum value of 5.0000, and a mean value of 3.8571.

Board information relapse investigation can utilize three show approaches, to be specific the Common Impact Demonstrate, Settled Impact Show, and Irregular Impact Show estimation tests. From these 3 demonstrate approaches, the foremost fitting impact to be utilized for performing board information relapses will be determined. In deciding the foremost suitable demonstrate in this consider for performing board information relapse, tests will be conducted on each demonstration utilizing the Chow test, the Hausman test, and the Lagrange Multiplier test. The results of the tests can be seen within the taking after table:

Table 2. Results of the Best Panel Data Model Selection

Test	Test Criteria	Statistic	Prob.	Decision
Chow	Cross-section F	4.744864	0.0000	FEM
Hausman	Cross-section random	22.417792	0.0004	FEM
Lagrange Multiplier	Breusch-Pagan	6.191741	0.0128	REM

The results of the three panel model tests conducted in this study show that the best model is the Fixed-Effect Model.

Hypothesis test

The comes about of the show fit test utilizing the Settled Impact Demonstrate from the table underneath appear that the F-statistic gotten is $0.000 < 0.05$, which permits us to conclude that the free factors in this consider will collectively impact the subordinate variable. It can moreover be seen that the R-squared in this think about is 0.7334, meaning that the autonomous factors in this consideration will influence the subordinate variable by 73.34%. In comparison, the remaining 26.6% comes from the impact of other factors. The comes about of the factual tests in this consideration can be summarized within the table underneath.

Table 3. Results of the Best Panel Data Model Selection

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Information
DER	-0.5353	3.5213	-0.1520	0.8798	
CR	-7.1135	2.9638	-2.3956	0.0205	Significant
ROA	37.8851	15.092	2.5101	0.0155	Significant
KI	4.2078	29.936	0.2009	0.8416	
PROPER	-2.9913	3.1989	-0.9350	0.3544	
DER_PROPER	0.1667	0.8108	0.2056	0.8379	
CR_PROPER	1.5198	0.8692	1.7484	0.0868	Significant
ROA_PROPER	-9.7900	4.0658	-2.4078	0.0199	Significant
C	15.811	11.740	1.3467	0.1844	
F-statistic	5.6279	R-squared		0.7111	
Prob(F-statistic)	0.0000	Adjusted R-squared		0.5484	

5. Discussion

The effect of leverage on firm value

In a non-significant relapse, this demonstrates that use isn't a variable considered basic by speculators in deciding the esteem of the company. The Modigliani and Mill operator (MM) hypothesis states that in idealized showcase conditions, use does not influence the esteem of the company. Concurring to this hypothesis, the esteem of a company is as if it were affected by its capacity to produce benefits, not by its source of financing, whether from value or obligation. In case the company works in an effective showcase, tall or moo use will not have a critical effect on valuation since the potential for more prominent returns can balance the extra chance from obligation. The coming about of this ponder are in line with the investigation conducted by Santoso & Junaeni (2022), which state that use does not have an effect on the esteem of the company.

The effect of liquidity on firm value

The current proportion measures a company's liquidity, which is the capacity to meet its short-term commitments utilizing current resources. When the current proportion is as well tall, it can be translated that the company is holding as well numerous current resources, such as cash or stock, which are not being utilized proficiently to upgrade benefits or development. This result can lower investors' discernment of the company's esteem. The negative impact of the current proportion on the esteem of the company shows that a too tall liquidity level can be considered a frame of wastefulness, which in turn decreases the company's engaging quality within the eyes of investors. Investors are more curious about companies that can utilize current resources more successfully for development or ventures that surrender benefits. The comes about of this think about are in line with the investigation, which states that liquidity influences the esteem of the company.

The effect of profitability on firm value

ROA measures the company's capacity to create benefit from its claimed resources. The higher the ROA esteem, the more proficient the company is in utilizing its resources to produce benefits. In this case, financial specialists tend to discover companies with tall ROA more appealing, because it shows that administration is competent of optimizing accessible resources to create steady benefits. The comes about of this consideration are in line with the inquire about conducted by Nofika & Nurhayati (2022), and Pardiastuti, Fajri & Samroutun (2020), which state that benefit influences company esteem.

The effect of institutional ownership on firm value

Organization proprietorship is one of the components that can diminish organization clashes, where the institution plays a part in checking the company's administrative execution. Since the sum of regulation venture is ordinarily expansive, directors tend to consider its effect on the interface of regulation shareholders. Be that as it may, the investigation comes about appear that the oversight conducted by organization shareholders isn't critical in affecting the company's esteem. This result may be due to their need for coordinating association in administrative decision-making, which does not essentially affect the increment in company esteem. The coincidence of this ponder is in line with the investigation conducted by Widianingrum and Dillak (2023), which states that regulation proprietorship does not have an effect on the esteem of the company.

The effect of environmental performance on firm value

Natural execution does not have an affect on the company's esteem. This finding may show that financial specialists don't consider sustainability aspects as the most determinant in assessing a company. Although Appropriate is an imperative marker that appears a company's compliance with natural controls in Indonesia, investors' primary center still lies on money related variables such as productivity and cash stream, which more straightforwardly reflect the potential return on speculation. The coming about of this think about are in line with the investigation, which states that natural execution does not have an affect on company esteem.

The role of environmental performance in moderating the effect of leverage on firm value

Natural execution is incapable to direct the impact of use on company esteem. Use shows the degree to which a company employs obligation to back its operations or extension. Assume natural execution, which relates to the administration of the company's natural effect, does not direct the impact of use. In that case, this may demonstrate that financial specialists don't see included esteem from environmental execution within the setting of the company's obligation. The company has great supportability hones, but typically not sufficient to alter investors seek on the money related dangers related to use. The comes about of this ponder are in line with the investigate conducted by Him, X., Jiang, S., & Yang, J. (2021), which states that natural execution does not continuously direct the relationship between use and firm esteem, particularly in high-risk segments such as mining.

The role of environmental performance in moderating the effect of liquidity on firm value

Natural execution can direct the affect of liquidity on company esteem. Liquidity reflects the

company's capacity to meet its short-term commitments, which serves as a pointer of budgetary solidness. When the liquidity held by the company is combined with great natural execution, speculators will see the company more emphatically. This result happens since great natural execution reflects the company's concern for maintainability and natural chance administration. Hence, tall liquidity isn't as it were considered a source of money-related steadiness but too an opportunity to bolster feasible commerce hones. As a result, the company's esteem will increase since speculators appreciate monetary execution that adjusts with natural execution. The comes about of this ponder are in line with the investigate conducted by Him, X., Jiang, S., & Yang, J. (2021), which states that natural execution (ESG) can reinforce the relationship between liquidity and firm esteem, particularly when firms illustrate a solid commitment to supportability hones.

The role of environmental performance in moderating the effect of profitability on firm value

Natural execution can direct the affect of productivity on company esteem. A tall ROA shows that the company is productive in utilizing its resources to create benefit. In any case, when natural execution debilitates the affect of benefit on company esteem, financial specialists see that the company has apportioned portion of its benefits to natural activities. This finding appears that in assessing the esteem of a company, financial specialists don't as it were center on benefit but moreover on the company's commitment to keeping up a adjust between monetary accomplishment and natural obligation. The coming about of this consideration are in line with the investigate conducted by Bouslah et al. (2018), which states that natural execution can direct the impact of productivity on firm esteem, particularly when firms are able to communicate the long-term benefits of natural activities to speculators.

6. Conclusion

Based on the comes about of this think about, it can be concluded that use does not influence the esteem of the company, liquidity adversely influences the esteem of the company, productivity emphatically influences the esteem of the company, organization possession does not influence the esteem of the company, natural execution does not influence the esteem of the company, natural execution does not direct the impact of use on the esteem of the company, natural execution moderates the impact of liquidity on the esteem of the company, and natural execution moderates the impact of productivity on the esteem of the company.

The managerial implications of this study's results are that companies need to focus on increasing profitability through operational efficiency and effective business strategies and managing liquidity optimally to avoid excessive accumulation of liquid assets. In addition, although environmental performance does not have a direct effect, companies should pay attention to environmental practices because environmental performance can strengthen the positive impact of profitability and reduce the negative impact of liquidity on company value. Implementing sustainable environmental programs and effective communication with investors can help improve reputation and market trust.

Recommendation

The company should not hold too many unproductive current assets. Unused funds can be invested in projects or assets that provide higher returns to increase the company's value. The company must continuously improve operational efficiency and optimize costs to increase profit margins. This finding creates more profits that can enhance the attractiveness to investors and the company's value while maintaining a balance between profitability growth and risk management. The company can further integrate sustainability aspects into its financial management strategy. With optimally managed liquidity, the company can allocate funds for environmentally friendly programs. The company can allocate profits in a balanced manner between sustainability projects and growth investments. In this way, profitability is not excessively disrupted by sustainability expenditures.

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