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The Impact Of Profitability And Solvency On Firm Value Coal Mining Subsector Businesses Listed On The Stock Exchange Of Indonesia 2020–2024

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Abstract: *Coal mining firms listed on the Indonesia Stock Exchange (IDX) are the subject of this study between 2020 and 2024. These Businesses have a very important part in the national economy but simultaneously face difficulties like price volatility, shifts in global demand, and renewable energy transition policies. The study is motivated by previous various research results regarding impact of solvency and profitability on company value, necessitating further empirical examination. This study's objective is to evaluate the impact of profitability and solvency on company value. A quantitative causal-associative approach was employed using panel data from eight businesses that consistently release yearly reports throughout the study period, generating 40 observations. Analysis of multiple linear regression was performed on the data using SPSS version 30. The findings reveal that profitability, represented by Return on Assets (ROA), has a negative yet insignificant impact on firm value as measured by Price to Book Value (PBV). Conversely, solvency, proxied by Debt to Equity Ratio (DER), demonstrates a beneficial and noteworthy impact on the company's value. Collectively, profitability and solvency explain 20.3% of firm value variation. These results underscore the importance of maintaining a balanced capital structure to enhance investor confidence and corporate valuation. Academically, this research enriches financial management literature within the energy sector, while practically offering insights for managers and investors in financial decision-making.*
Keywords: *Profitability, Solvability, Firm Value, Capital Structure, Coal Mining*

INTRODUCTION

The advent of free markets at the regional and international levels has triggered fierce competition between domestic and foreign companies. This situation requires companies to continuously improve aspects that can become competitive advantages, especially internal factors in the financial sector, which are the main foundation for future success. Financial performance is an important method for measuring and maintaining business sustainability (Alam et al., 2025). Technological changes, social issues, and economic dynamics also have a major impact on how companies compete. To survive and grow, companies are required to be adaptable, improve performance, and obtain additional capital through the capital market (go public) by selling shares or bonds to raise expansion funds (Hartono, 2023). Therefore, assessing and managing financial

performance is a strategic approach increasing company value and ensuring sustainable growth. The greater the value of the business, the more degree of success felt by owners and shareholders.

The main goal of business owners is to achieve high company value, as this reflects positive growth prospects in the future. Stock prices in the capital market reflect investment, financing, and asset management decisions made by management. The worth of a company is determined by its management performance as seen from various aspects, such as net cash inflows from investments, growth rate, and cost of capital borne by the company. To achieve and maintain high company value, management needs to pay attention to factors such as profitability and solvency which influence performance as well as investor perception (Aries & Suhartono, 2021).

Indonesia has natural resources, including oil, coal, gold, nickel, and other metals. One significant industry listed on the Indonesia Stock Exchange (IDX) is mining with 63 companies divided into several subsectors, one of whi ch is coal, which holds a vital position in the national economy. Indonesia is also among the biggest coal producers in the world, and shares in this subsector have recorded positive performance with the highest increase in 2020 at 24.65% compared to other sectors (Zulfa & Marsono, 2023). However, despite being a leading industry, coal is not immune to global challenges. Price fluctuations are triggered by the China-US trade war, import restrictions in China and India, declining demand in Europe and East Asia, and oversupply conditions that make the market vulnerable to change.

Indonesia's coal production has tended to increase since 2014, despite a decline in 2016 and 2020 due to the Covid-19 pandemic. After that, production rose again to reach 775 million tons in 2023, exceeding the national target, but 2024 is expected to be the peak of production before declining in line with the new renewable energy transition policy Kementerian ESDM (2024). Changes in coal prices also have a direct impact on the capital market. In 2019, the mining sector index weighed on the JCI with negative growth of 12.83% due to oversupply, but in 2021 coal prices improved, causing mining company shares such as HRUM to rise 166.78% and ADRO to grow 17.13% (www.idxchannel.com). This phenomenon shows how sensitive mining stocks are to fluctuations in coal prices.

Stock prices serve as a key indicator reflecting a worth of the business from the standpoint of investors (Shabir & Machdar, 2024). For example, the Price to Book Value (PBV) of coal companies in the 2020–2024 period shows fluctuations influenced by the pandemic, global price

dynamics, and the characteristics of company capitalization. PBV movements reflect adjustments in company valuations to commodity prices and energy policies. Internally, profitability and solvency are the main factors affecting a company's value. High profitability, which in this study is proxied by Return on Assets (ROA), indicates the efficiency of managing own capital in generating profits, and generally has a positive impact on increasing company value (Awliya, 2022). Conversely, solvency as reflected in the Debt to Equity Ratio (DER) shows how much a business depends on debt an excessively high DER can undermine investor confidence and worsen the company's valuation.

In accordance with these conditions, profitability serves as a primary indicator of a business's ability to provide steady profits (Awliya, 2022), while solvency reflects the capability to fulfill long-term liabilities (Kasmir, 2019). These two factors play an important role in shaping company value. However, previous research has yielded inconsistent findings. For example, Utami (2022) serta Vidi & Ramadhan (2023) found that profitability has a significant positive effect on company value, while Putri (2023) claimed that solvency offers a favorable but insignificant effect. In fact, Hendra (2024) found that solvency has a negative effect. Dianissa (2025) also found that a company's worth is significantly impacted negatively by profitability. In addition, the outcomes of Adhiguna's (2023) study show that profitability does not significantly impact on company value. This indicates that the inconsistency persists in the literature, so further research is needed on the impact of profitability and solvency on company value, particularly in the subsector of coal mining in Indonesia.

Based on these conditions, this study aims to analyze the effect of profitability (Return on Assets/ROA) and solvency (Debt to Equity Ratio/DER) on company value (PBV) in coal mining firms from the subsector that are listed on the Indonesia Stock Exchange (IDX) for the time frame 2020–2024. Academically, this study enriches the financial management literature related to factors determining company value in the energy sector. Practically, the results of this study can be taken into consideration by investors in their decision-making, as well as input for management in formulating financial strategies to maintain stability and increase market confidence.

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METHOD

Research Design and Approach

This study employs a quantitative research approach with a causal-associative design. The purpose of this design is to examine the causal relationship between independent variables—profitability and solvency—and the dependent variable, namely firm value. According to Sugiyono (2021), causal-associative research aims to identify cause-and-effect relationships between variables, enabling researchers to explain and predict observed phenomena. A quantitative approach is considered appropriate because the study relies on numerical data derived from financial statements and applies statistical techniques to test hypotheses objectively.

Population and Sample

The population of this study comprises all coal mining sub-sector companies listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. Based on IDX records, there were 25 coal mining companies listed during the observation period. The sampling technique used was purposive sampling, with the following criteria:

1. Companies consistently listed on the IDX from 2020 to 2024;
2. Companies publishing complete and audited annual financial reports throughout the study period;
3. Companies with complete data required to calculate all research variables.

Based on these criteria, eight coal mining companies were selected as the research sample. With a five-year observation period, the total number of observations amounted to 40 firm-year data points. Purposive sampling is suitable for financial research because it ensures data completeness and comparability across firms and periods (Sekaran & Bougie, 2020).

Data Type and Data Sources

This study utilizes secondary data obtained from published annual financial statements of the sampled companies. The data were collected from the official website of the Indonesia Stock Exchange (www.idx.co.id) and from the respective companies' annual reports. Secondary financial data are widely used in corporate finance studies due to their reliability, objectivity, and consistency over time (Kasmir, 2019).

Operational Definition and Measurement of Variables

Firm value is measured using the Price to Book Value (PBV) ratio, which reflects market perceptions of a company's worth relative to its book value. PBV is commonly used as a proxy for firm value because it captures investor confidence and market valuation (Palepu et al., 2020).

Profitability is proxied by Return on Assets (ROA), which measures a company's ability to generate profit from its total assets. ROA indicates management efficiency in utilizing company resources (Hery, 2023). Solvency is measured using the Debt to Equity Ratio (DER), which reflects the proportion of debt used in the company's capital structure and indicates long-term financial risk (Kasmir, 2019).

Data Analysis Technique

Data analysis was conducted using multiple linear regression analysis with the assistance of SPSS Statistics version 30. Prior to hypothesis testing, descriptive statistics were employed to describe the characteristics of the data. Furthermore, classical assumption tests were conducted to ensure the validity of the regression model, including tests for normality, multicollinearity, heteroscedasticity, and autocorrelation (Priyatno, 2014).

Hypothesis Testing

Hypothesis testing was performed using the t-test to examine the partial effect of each independent variable on firm value and the F-test to assess the simultaneous effect of profitability and solvency on firm value. The coefficient of determination (R^2) was used to measure the extent to which the independent variables explain variations in firm value. Statistical significance was evaluated at a 5% significance level ($\alpha = 0.05$).

RESULTS AND DISCUSSION

Analysis Descriptive

This research utilizes secondary data drawn from coal mining Companies that were listed on the Indonesia Stock Exchange between 2020 and 2024 (IDX). The study population comprises 25 companies; however, only 8 consistently published complete annual reports throughout the observation period. Thus, 40 company-year observations formed the final sample. SPSS Statistics version 30, was used to analyze the data using several linear regression, aiming to investigate the impact of profitability (ROA) and solvency (DER) on firm value (PBV).

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Variable	N	Minimum	Maximum	Mean	Std. Deviation
Firm Value	40	0.13	1.91	0.6487	0.54824
Profitability	40	0.10	0.80	0.2845	0.16800
Solvability	40	0.10	1.62	0.5740	0.32017

Tabel 1. *Analysis Descriptive*

For the company value variable, the mean value of 0.649 suggests that, in general, the companies in the sample have moderate valuations. The comparatively elevated standard deviation of 0.548 indicates significant disparities between companies, with some companies having very low values and others having relatively high values. For the profitability variable, the average of 0.285 with a standard deviation of 0.168 shows relatively homogeneous conditions. This figure indicates that companies in the sample are generally able to generate profits, although the value is still at a moderate level compared to the optimal profitability standard. Meanwhile, for the solvency variable, the average of 0.574 shows that companies collectively are still at a moderate level in terms of their Capacity to fulfill long-term commitments. The standard deviation of 0.320 reflects moderate variation between companies, which means that some companies have a fairly strong financial position, while others are more vulnerable to debt risk. Overall, these conditions illustrate that the companies in the sample have diverse company values, relatively stable profitability, and moderate solvency, which can serve as a basis for further analysis of the effect of profitability and solvency on company value.

Classical Assumption Test

According to Priyatno (2014:89), classical assumption tests are used to detect violations of basic assumptions in regression models, such as normality of residuals, multicollinearity, autocorrelation, and heteroscedasticity.

Statistic	Value
N	40
Kolmogorov-Smirnov Z	0.102
Asymp. Sig. (2-tailed)	0.200

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Statistic	Value
Monte Carlo Sig. (2-tailed)	0.360

Tabel 2. *Normality Test*

The Kolmogorov–Smirnov test results indicate that both Asymp. Sig. (0.200) and Monte Carlo Sig. (0.360) exceed the 0.05 significance level, confirming that a normal distribution of residuals and the model meets the normality assumption.

Variable	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
Constant	0.517	0.194		2.661	0.011		
Profitability	-0.985	0.495	-0.302	-1.989	0.054	0.936	1.068
Solvability	0.717	0.260	0.419	2.760	0.009	0.936	1.068

Tabel 3. *Multicollinearity Test*

Regression analysis results show that profitability has a negative but insignificant impact on firm value (B = -0.985; Sig. = 0.054), whereas solvency has a substantial and favorable impact on firm value (B = 0.717; Sig. = 0.009). Therefore, solvency is identified as the primary factor influencing business value in our research. Additionally, the findings of the multicollinearity test indicate a tolerance value of 0.936 (> 0.10) and a VIF of 1.068 (<10), indicating that the regression model is free from multicollinearity issues.

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.605	0.091	–	6.663	<0.001
Profitability	-0.910	0.231	-0.561	-3.934	<0.001
Solvability	0.096	0.121	0.113	0.789	0.435

Tabel 4. *Heteroscedasticity Test*

The Glejser according to test results, profitability has a significance value below 0.05, indicating heteroscedasticity, while solvency's significance (0.435) exceeds 0.05, showing no heteroscedasticity for that variable. Thus, the model may contain heteroscedasticity effects primarily due to profitability.

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R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.450	0.203	0.160	0.50261	0.771

Tabel 5. *Autocorrelation Test*

Based on the he value of regression analysis's coefficient of determination (R Square) obtained was 0.203, it indicates that profitability and solvency were able to clarify 20.3% of the variation in business worth, whilst the remaining 79.7% was accounted for by additional elements not covered by this research model. The value of the Adjusted R Square for 0.160 indicates that the actual contribution of the two independent variables to the variation in company value is 16%. Meanwhile, a Durbin-Watson value of 0.771 indicates the presence of positive autocorrelation, suggesting that the regression model needs to be further examined in relation to the assumption of residual independence.

Multiple Linear Regression Analysis

Variable	B	Std. Error	Beta	t	Sig.
Constant	0.517	0.194		2.661	0.011
Profitability	-0.985	0.495	-0.302	-1.989	0.054
Solvability	0.717	0.260	0.419	2.760	0.009

Tabel 6. *Regression Analysis and Partial Test (t-test)*

The regression results demonstrate that profitability has a minor but detrimental effect on the value of the company (Sig. = 0.054), while solvency exhibits a positive and significant effect (Sig. = 0.009). This implies that businesses with greater DER ratios tend to have higher firm value, possibly due to efficient debt utilization enhancing investor confidence.

Simultaneous test (F-test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.375	2	1.188	4.702	.015[b]
Residual	9.347	37	.253		
Total	11.722	39			

Tabel 7*. Simultaneous test (F-test)*

Accordingnto the F test results, the determined F value of 4.702 with a significance level of 0.015 (<0.05) indicates that profitability and solvency together have a major impact on company

value. Therefore, the regression model is suitable for explaining the connection between the separate factors (profitability and solvency) and the dependent variable (company value).

Coefficient of Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.450[a]	.203	.160	.50261	.771

Tabel 8. *Coefficient of Determination (R^2)*

The R^2 value (0.203) indicates that 20.3% One explanation for the variance in company value is profitability and solvency, while the rest of79.7% is attributed to additional elements not included in the model. The Adjusted R^2 (0.160) confirms a moderate explanatory power, and the Durbin–Watson (0.771) again suggests mild autocorrelation.

CONCLUSION

Considering the findings from investigations and conversations conducted in accordance with applicable regulations objectives and hypotheses using multiple linear regression analysis, it may be said that profitability (ROA) has a negative but insignificant effect on company value (PBV) in coal mining sub-sector companies listed on the IDX for the period 2020–2024. This suggests that the business's capacity to generate a profit is not yet strong enough to influence market valuation.

Conversely, solvency (DER) has a favorable and noteworthy impact on the value of the organization, which indicates that a higher debt ratio in the capital structure can proportionally increase investor confidence, as it is perceived to be able to support business expansion and strengthen the company's growth prospects.

Simultaneously, The value of a corporation is significantly impacted by profitability and solvency, contributing 20.3%, while the remainder is explained by additional external factors the scope of this study. These findings emphasize the importance of sound capital structure management in maintaining company valuation within the capital market and provide practical consequences for business managers and investors in formulating financial strategies.

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