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THE EFFECT OF FREE CASH FLOW ON COMPANY VALUE IN MINING SECTOR COMPANIES ON THE INDONESIAN STOCK EXCHANGE

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Abstract

The mining sector plays a crucial role in the Indonesian economy, and understanding the factors that influence the value of mining companies is of great importance for investors and policymakers. One such factor is free cash flow, which represents the surplus cash generated by a company after meeting its operating expenses and capital expenditures. Companies with higher free cash flow may have more resources available for investment, debt reduction, or returning value to shareholders, which can potentially enhance their overall value. However, it is essential to investigate whether this relationship holds true specifically for mining sector companies listed on the Indonesia Stock Exchange during the period of 2020-2021. This study aimed to assess the impact of free cash flow on the value of mining sector companies listed on the Indonesia Stock Exchange between 2020 and 2021. This study is explanatory research with a quantitative approach. Secondary data was utilized, and the research focused on a population of 55 mining sector companies listed during that specific period. The sample, consisting of 38 companies, was selected using purposive sampling. The analysis employed descriptive statistics and simple linear regression analysis using IBM SPSS version 21 software. The findings revealed that although free cash flow demonstrated a positive relationship with firm value, this relationship was not statistically significant. The regression coefficient for the free cash flow variable was 0.013, indicating a positive effect. However, the partial T test resulted in a t-statistic value of 1.766 for the coefficient of the free cash flow variable, which was lower than the critical t-table value of 1.995. Therefore, the null hypothesis (Ho) was accepted, and the alternative hypothesis (H_1) was rejected.

Keywords: *Company Value, Free Cash Flow, Indonesia Stock Exchange, Mining Sector*

1. INTRODUCTION

The rapid development of the modern economic situation requires companies to implement various strategies to build good corporate value, reflecting the company's overall condition. Firm value serves as a vital measure to assess a company's performance, beyond mere profitability. The primary objective of a company, apart from generating profits, is to enhance its overall value. An increase in company value indicates an achievement that positively impacts the well-being of company owners or shareholders (Hasibuan, 2009).

According to Marantika (2012), the ultimate purpose of a company's existence is to maximize its value. The higher the company's value, the greater the prosperity attained by its owners. For companies listed on stock exchanges, shareholder prosperity is demonstrated through higher share prices, which reflect investment decisions, financing activities, and dividend policies (Aminah, 2021).

This study adopts the Price Book Value (PBV) as a proxy for company value. The PBV is a ratio that compares a company's stock price to its book value per share. By examining this ratio, we can evaluate whether a company's stock price is overvalued or undervalued in relation to its book value. Generally, companies with strong performance tend to have a PBV ratio above one, indicating that the market values their stock higher than its book value. A higher PBV ratio signifies greater investor valuation and confidence in the company.

In practice, the value of a company, whether high or low, is influenced by various factors. Rofizar & Arfan (2013) state that one such factor is the company's free cash flow (FCF). FCF represents the net operating profit of a company after accounting for investments in working capital and fixed assets during a specific period. Shareholders have a rightful claim to free cash flow, which often leads to demands for its distribution within the company. Higher free cash flow tends to result in a greater firm value. Consequently, free cash flow plays a crucial role in increasing a company's value. Its benefits include enhancing shareholder welfare, serving as a funding source for company operations such as share repurchases, acquiring ownership of shares, and maintaining company assets. This study aims to establish the relationship between free cash flow and firm value.

The population for this study consists of mining sector companies listed on the IDX. The mining sector encompasses activities related to mining and quarrying, including coal, oil and natural gas extraction, metal ores, stone, clay, sand, as well as the extraction of chemicals, fertilizers, gypsum, asphalt, and limestone. As reported by Kontan.co.id-Jakarta, throughout 2020, the mining sector stock index showed the best performance compared to other sectoral indices, with a 24.65% increase. Additionally, according to Bisnis.com, mining is a sector with great potential, driven by the increasing prices of mining mineral commodities. Furthermore, the Central Statistics Agency (BPS) recorded a positive growth of 4% in the mining and quarrying sector throughout 2021. Being a highly visible sector, mining companies tend to attract public attention. Consequently, the value of mining sector companies is likely to increase, providing added value for the companies.

Company value can be measured by comparing stock prices with book value per share (Brigham & Houston, 2013). Table 1 presents the share prices and book value per share of mining sector companies for the period 2020-2021.

Table 1. Share Prices and Book Value Per Share of Mining Sector Companies in 2020-2021

No	Company name	Stock code	Stock price		Book Value Share	
			2020	2021	2020	2021
1	PT. Adaro Energy Indonesia Tbk	ADRO	1430	2250	1637	1845
2	PT. Aneka Tambang Tbk	ANTM	1935	2250	792	867
3	PT. Bayan Resources Tbk	BYAN	1547	2700	3518	7706
4	PT. Darma Henwa Tbk	GOD	50	50	174	177
5	PT. Dian Swastatika Sentosa Tbk	DSSA	16000	49000	29085	32410
6	PT. Elnusa Tbk	ELSA	352	276	512	517
7	PT. Energi Mega Persada Tbk	ENRG	129	102	289	258
8	PT. Harum Energy Tbk	HRUM	596	2065	2373	3434
9	PT. Vale Indonesia Tbk	INCO	5100	4680	2868	3094
10	PT. Indika Energy Tbk	INDY	1730	1545	1856	2091

Source: www.idx.co.id

Based on Table 1, it is evident that the share prices of mining sector companies are lower than the book value of their shares. This suggests that investors value these companies at a lower price, indicating a perceived mismatch between the company's assets and market assessment. Consequently, maximizing company value becomes crucial, as it not only reflects a company's performance but also influences investors' perceptions. Free cash flow is one of the factors affecting company value (Brigham & Houston, 2013). Considering Table 1, it is observed that there was a decrease in company value during the 2020-2021 period.

Free cash flow can be linked to agency theory, which describes the relationship between principals and agents. Agency theory views management as agents acting in their own interests rather than impartial parties representing shareholders (Marantika, 2012). On one hand, a company's ability to generate free cash flow is a determining factor for creating company value. On the other hand, the presence of free cash flow within a company can contribute to agency problems. Agency problems are more likely to arise in companies where the ownership function is separated from the management function (Meckling, W. H., & Jensen, 1976). Managers aim to maximize shareholder welfare, but in reality, this goal is often not achieved as managers are also motivated to maximize their own welfare. When both managers and shareholders seek to maximize their personal interests, it becomes challenging to ensure that managers always act in the best interests of shareholders (Meckling, W. H., & Jensen, 1976).

The objective of this study is to assess the impact of free cash flow on the valuation of mining sector companies that are listed on the Indonesia Stock Exchange during the period of 2020-2021. By analyzing the relationship between free cash flow and company

value, this research aims to determine the significance of this effect and provide insights into the financial dynamics of the mining sector in Indonesia during the specified timeframe.

2. RESEARCH METHODS

The research method employed in this study is explanatory research with a quantitative approach (Wahyuni, 2020). The data utilized in this study is categorized as quantitative data, as it comprises numerical figures extracted from annual reports, including balance sheets, cash flows, and notes to financial statements. The research data was collected from mining sector companies listed on the Indonesia Stock Exchange during the 2020-2021 period. The data source for this study consists of secondary data obtained from the Indonesian Stock Exchange website (www.idx.co.id). The population for this study consists of 55 mining sector companies listed on the Indonesia Stock Exchange in 2020-2021. A purposive sampling method was employed, resulting in a sample size of 38 companies.

The data collection techniques employed in this study involve documentation and literature study. Descriptive statistical analysis, coupled with simple linear regression analysis, is used as the analytical method. The simple linear regression analysis model employed to test the effect of free cash flow on firm value can be described as follows:

$$Y = a + bX$$

Where :
Y = Firm Value
a = Constant
b = Regression Coefficient
X = Free Cash Flow

3. RESULTS AND DISCUSSION

3.1. Research Results

3.1.1. Descriptive Statistics

Table 1. Descriptive Statistics Result

	Means	Std. Deviation	N
PBV	.0625	.38151	76
FCF	.086142	.1337016	76

Source: Data Process, 2023

Based on the table above, it reveals that the dataset consists of 76 observations. The mean value of the company value variable (Y) is 0.0625, accompanied by a standard deviation of 0.38151. Likewise, the mean value of the free cash flow variable is 0.086142,

with a corresponding standard deviation of 0.1337016. These statistics indicate that both variables exhibit a favorable spread of data. Consequently, it can be inferred that the dispersion of free cash flow is deemed satisfactory, as the average value for each variable surpasses its respective standard deviation.

3.1.2. Classic Assumption Test

Prior to conducting the simple linear regression model, the Classical Normal Linear Regression Model underwent a series of tests to assess the validity of its assumptions. These tests encompassed normality, multicollinearity, heteroscedasticity, and linearity.

1) Normality Test

Table 2. Normality Test Result
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residuals
N		76
Normal Parameters, [b]	Means	.0000000
	Std. Deviation	.37371689
Most Extreme Differences	Absolute	083
	Positive	083
	Negative	-.045
Test Statistics		083
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

Based on the table above, the Kolmogorov-Smirnov test indicates that the Test Statistics value is 0.83, which is greater than the significance level of 0.05. Additionally, the Asymp. Sig. (2-tailed) value of 0.200 is also greater than 0.05. These results suggest that the tested data follows a normal distribution.

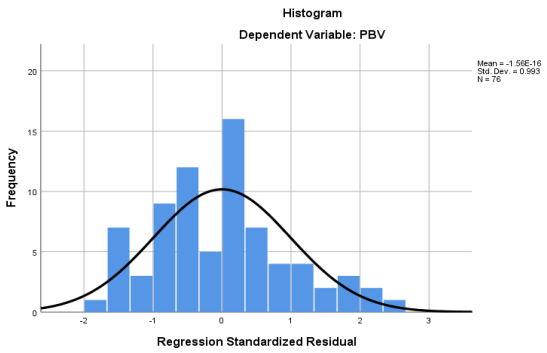

Figure 1. Normality Test Results with Histograms

The image displayed above represents a histogram graph. A histogram is considered to exhibit a normal distribution when the data is distributed in a bell-shaped manner, without any noticeable skewness to the left or right. Upon examining the histogram graph provided, it is evident that it forms a bell shape and does not exhibit significant skewness in either direction. Therefore, based on the characteristics observed, it can be concluded that the histogram graph conforms to a normal distribution.

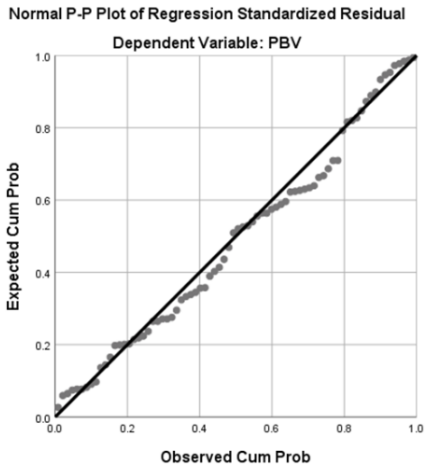

Figure 2. Normality Test Results with P – P Plot

The provided graph illustrates a P-P plot, which demonstrates that the data points cluster around the regression line. The P-P plot graph displays the data dispersed in proximity to the diagonal line, indicating adherence to the normality assumption. Consequently, it can be inferred that the regression model satisfies the normality requirement or exhibits normal distribution characteristics.

2) Multicollinearity Test

Table 3. Multicollinearity Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	Q	Sig.	Collinearity Statistics	
		B	std. Error	Betas			tolerance	VIF
1	(Constant)	013	051		.253	.801		
	FCF	.574	.325	.201	1,766	081	1,000	1,000

a. Dependent Variable: PBV

Based on the results presented in the calculation table above, the multicollinearity test was conducted. The findings reveal that the free cash flow variable exhibits a tolerance value exceeding 0.10 and a VIF value below 10.00. This is evident from the tolerance value of 1.000, which surpasses the threshold of 0.10. Additionally, the VIF for

the free cash flow variable is 1.000, which is lower than the cutoff of 10.00. Consequently, the regression analysis conducted in this study indicates the absence of multicollinearity, suggesting that there is no significant issue of multicollinearity present in the examined variables.

3) Heteroscedasticity Test

Table 4. Heteroscedasticity Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	Q	Sig.
		B	Std. Error	Betas		
1	(Constant)	.294	.031		9,480	.000
	FCF	.020	.196	012	.104	.918

a. Dependent Variable: PBV

The test results indicate that the significance value for free cash flow (FCF) is 0.918, which exceeds the threshold of 0.05. Therefore, this study demonstrates the absence of heteroscedasticity, or in other words, heteroscedasticity is not observed in the analyzed data.

4) Linearity Test

Table 5. Linearity Test Result

ANOVA

			Sum of Squares	Df	Mean Square	F	Sig.
PBV * FCF	Between Groups	(Combined)	7,616	53	.144	.958	.567
		Linearity	.442	1	.442	2,944	.100
		Deviation from Linearity	7.175	52	.138	.920	.611
	Within Groups		3,300	22	.150		
	Total		10,916	75			

Based on the results of the linearity test (ANOVA test), the p-value for the deviation from linearity is calculated as 0.611, which exceeds the significance level of 0.05. Consequently, it can be concluded that a linear relationship exists between the independent variable, free cash flow, and the dependent variable, the value of the company. Furthermore, by comparing the Fstatistic value of 0.920 to the critical F-value (Ftable) of 1.8894, it can be inferred that there is indeed a linear relationship between free cash flow and firm value. This conclusion is based on the fact that the Fstatistic value is lower than the critical F-value. Therefore, based on the linearity test results, it can be confirmed that a linear relationship exists between the variables free cash flow and firm value.

3.1.3. Simple Linear Regression Analysis

Table 6. Simple Linear Regression Analysis Result

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	Q	Sig.
		B	std. Error	Betas		
1	(Constant)	013	051		.253	.801
	FCF	.574	.325	.201	1,766	081

a. Dependent Variable: PBV

Based on the results presented in the table above, the regression coefficient of free cash flow (X) on firm value (Y) is determined to be 0.574, with a constant value of 0.013. Consequently, the regression equation can be expressed as follows:

$$Y = 0.574 + 0.013X.$$

This regression model indicates that the estimated regression coefficient is positive. The findings demonstrate a positive relationship between the free cash flow variable and firm value, signifying that an increase in a company's free cash flow will lead to an increase in its firm value. It can be interpreted that the free cash flow variable possesses a positive regression coefficient of 0.013. This implies that if the free cash flow increases by 1 unit, the firm value will increase by 0.013 units. Moreover, if there is no change in the free cash flow variable, the firm value will be 0.013.

Overall, the results support the notion of a positive association between free cash flow and firm value, highlighting the significance of free cash flow in contributing to the overall value of a company.

3.1.4. Hypothesis Testing

Hypothesis testing was carried out using the coefficient of determination test (R^2), and the Partial test (t test).

1) Coefficient of Determination (R^2)

Table 7. Coefficient of Determination (R^2) Result

Summary model [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.201[a]	040	.027	.37623

a. Predictors: (Constant), FCF
b. Dependent Variable: PBV

The table indicates that the R Square value is 0.040. Interpreting the R Square (R^2) value, it can be inferred that 4% of the variation in the company value variable can be explained and influenced by the free cash flow variable. The remaining 96% of the

variation is attributed to the influence contributed by other factors not included in the model.

In summary, the free cash flow variable accounts for a small portion of the overall variability in company value, suggesting that there are additional factors at play that have a more substantial impact on determining firm value.

2) Partial Test (T Test)

Table 8. T Test Result

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	Q	Sig.
		B	Std. Error	Betas		
1	(Constant)	013	051		.253	.801
	FCF	.574	.325	.201	1,766	081

a. Dependent Variable: PBV

If the t-statistic is greater than the critical value (t-table), H_1 is accepted, and H_0 is rejected. In the calculation of the regression coefficient, the t-statistic for the independent variable, free cash flow, is determined to be 1.766, which is significant at a confidence level of $\alpha = 0.05$. The obtained p-value is 0.081, which exceeds the significance level of 0.05. To determine the test results, a comparison between the t-statistic and the critical value (t-table) is necessary. With $\alpha = 0.05$ and degrees of freedom calculated as 76-1 = 75, the critical t-value is found to be 1.995. As a result, the t-statistic value for the coefficient of the firm size variable is 1.766, which is smaller than the critical value (1.766 < 1.995). Hence, H_0 is accepted, and H_1 is rejected. Consequently, it can be concluded that free cash flow has a positive but insignificant effect on firm value.

3.2. Discussion

Based on the test results, it is evident that free cash flow has a positive but insignificant effect on firm value. This implies that while free cash flow has a positive association with firm value, it does not have a statistically significant impact on determining the value of the company. The t-test results support this finding, with a t-statistic value of 1.766 smaller than the t-table value of 1.995. Additionally, the significance level of 0.081 is greater than the conventional threshold of 0.05, further indicating the lack of statistical significance. Therefore, the null hypothesis (Ho) is accepted, suggesting that free cash flow does not have a significant effect on firm value, while the alternative hypothesis (H_1) is rejected.

The insignificance of the effect of free cash flow on firm value observed in this study may be attributed to several factors. Firstly, it is possible that the market does not perceive free cash flow as a reliable indicator of a company's future performance or profitability. Investors may consider other factors, such as earnings growth, revenue generation, and industry-specific metrics, when evaluating the value of a company.

Consequently, the amount of free cash flow owned by the company may not have a direct and immediate impact on its overall value.

Furthermore, the allocation and utilization of free cash flow within the company can also influence its impact on firm value. In the context of this study, it is noted that mining sector companies tend to utilize their free cash flow for capital expenditures rather than distributing it as dividends. This preference for reinvestment over dividend distribution may be driven by the need to finance expansion projects, acquire new assets, or invest in research and development. While these activities can potentially enhance long-term growth and profitability, they may not have an immediate effect on the market value of the company.

The findings of this study align with the agency theory proposed by Jensen and Meckling (1976), which suggests that conflicts of interest between managers and shareholders can arise due to the presence of free cash flow. Managers may be inclined to pursue their own objectives, such as personal financial gains or empire-building, rather than maximizing shareholder value. This agency problem becomes more pronounced when the company has excess free cash flow at its disposal. Shareholders may prefer the distribution of free cash flow as dividends, as it allows them to directly benefit from the company's profitability. However, managers may have different priorities and choose to reinvest the cash flow into the business.

The lack of significance in the relationship between free cash flow and firm value found in this study contributes to the existing body of research on this topic. It supports previous studies conducted by Selvianah and Hidayat (2022), Profita (2016) and Bukit et al. (2021), which also found no significant impact of free cash flow on company value. These consistent findings highlight the complex nature of the relationship between free cash flow and firm value and suggest that other factors, such as industry dynamics, management decisions, and market conditions, may play a more influential role in determining the value of a company. Meanwhile, recent study found that free cash flow has a positive and significant impact on firm value (Sinaga & Maksum, 2022).

In general, the impact of free cash flow on firm value may depend on other factors, such as profitability, leverage, liquidity, and dividend policy (Sinaga & Maksum, 2022). One study found that profitability, leverage, liquidity, and free cash flow all have a positive and significant impact on firm value (Sinaga & Maksum, 2022). Another study found that managerial ownership, leverage, dividend policy, and free cash flow all have a significant impact on firm value, but the impact of each variable is different (Rahmawati & Garad, 2023).

4. CONCLUSION

The hypothesis test indicates that free cash flow has a positive yet insignificant impact on firm value. In other words, when there is a high amount of free cash flow, it tends to create a conflict between managers, who act as agents striving for business development, and shareholders, who act as principals desiring the distribution of free cash flow as dividends. This conflict often results in managers prioritizing their individual goals over the goals of the company.

Further research endeavors could delve into exploring additional variables and factors that may exert a stronger influence on firm value within the mining sector. By considering a broader range of variables, such as debt levels, industry-specific characteristics, or management practices, researchers may uncover key determinants that have a more substantial impact on firm value. Moreover, extending the investigation to other industries would offer an opportunity to examine the relationship between free cash flow and firm value in different contexts. This would facilitate a comparative analysis and allow for a deeper understanding of the nuances and variations that may exist across industries.

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