

Analysis of Liquidity, Profitability and Company Size Ratios to Coal Company Value on the Indonesia Stock Exchange 2017-2022 with Capital Structure as an Intervening Factor

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Abstract:- The paper aims to investigate the role of liquidity Ratio, Profitability, and Company Size on Coal Company Value by using Capital Structure as an intervening factor during the 2017-2022 period. The population of this study are coal mining sub-sector companies listed on the Indonesia Stock Exchange during the 2017-2022 period. A total of 8 national coal companies were selected based on criteria using a purposive sample technique. The findings indicated that Size, Profitability, and Liquidity all had a detrimental impact on Capital Structure. The second finding is that Profitability and Capital Structure have a favourable impact on firm value whereas Liquidity and Size have a negative impact. In the coal sub-sector companies listed on the IDX in 2017–2022, the factors of liquidity, profitability, and size have an overall influence on company value through capital structure as an intervening variable.

Keywords:- Liquidity Ratio; Profitability; Company Size; Company Value.

I. INTRODUCTION

A company basically has a goal to achieve maximum profit or maximum profit. Another goal of a company is to prosper the company owner or shareholders. While another goal is to maximize the value of the company which is reflected in its share price. Company performance has an influence on the increase or decrease in the price of a stock. The company's financial performance is the basic thing studied in analyzing the company's value. This is because company management in obtaining profits is determined by the motivation of company managers (Pramudena, 2016). Public companies on the Indonesia Stock Exchange have an indicator where the value of the company is reflected in the price of shares traded on the capital market. The higher the stock price, the higher the firm value (Hermuningsih, 2009).

The coal sector is a sector that improves economic and financial functions in Indonesia. This is because Indonesia is the largest coal producer in the world. Coal contributes around 14% of the national primary energy supply. This portion is in third position after oil and gas. Indonesia's coal exports range from 70 to 80% of total production, the rest is sold in the domestic market. According to information from the Central

Statistics Agency (2022), coal exports reached 350 tons with a profit of 45 billion dollars. This is of course a form of profit from natural resources (Amalina, 2020). However, there is a contradiction between export results and company values in Indonesia. A number of coal companies in Indonesia have relatively small company values considering the extraordinary export value. Reporting from the Indonesia Stock Exchange (2022), the values of several Indonesian coal companies fall under a condition below 1. If a company has a company value below 1, it is certain that the stock price is lower than the company's book value, indicating undervalued. A low company value indicates a decrease in the company's performance (Panjaitan, 2023; Rahayu, 2021).

II. LITERATURE REVIEW

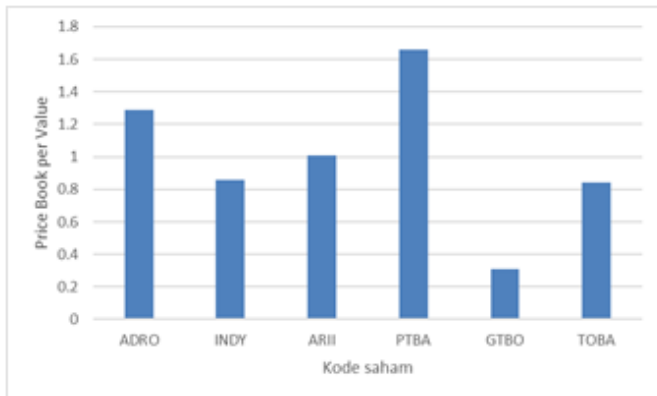
➤ *The worth of the business*

The price that potential buyers are prepared to provide for a company when it is sold is known as firm value. The prosperity that the company's owner will experience will increase as this value rises (Fama, 2012). High corporate value is the hope for company owners, because a high value will demonstrate the success of the shareholders. The Price to Book Value ratio can be used to calculate a company's value (Bringham and Houston, 2006). Price to Book Value (PBV), a measure of a company's value can show how expensive the stock price is compared to its book value. The higher the PBV value, the more expensive the stock price will be. Price to Book Value (PBV) describes how much the market appreciates the high value of this ratio. This indicates that the market believes in the company's prospects (Wulandari, 2009).

Company value or Price book value can be interpreted as a the outcome of comparing the share price and book value per share. The price-to-book ratio is a market metric used to assess how well a stock has performed in relation to its book value. Because price to book value allows investors to forecast expensive or undervalued stocks, the existence of price book value is crucial for determining investment strategies in the capital market (Meidiawati, 2016).

Based on graph 1, it can be seen that the average PBV value of coal companies in Indonesia is below 1. It can be seen that the value of Adaro Energy's coal company with the

ticker code ADRO is 1.3. The Indika Energy company with the INDY stock code has a PBV value of 0.8 as of December 2022. It can be seen that the PT Atlas Resources company with the ARII stock code has a PBV value of 1.06. The company PT Bukit Asam is known to have a PBV value that is greater than other companies, namely 1.7. The lowest PBV value is known to come from PT Garda Tujuh Buana with the GTBO stock code, which is 0.3. Another coal company that did not reach number 1 is known to be PT Toba Energy with the TOBA share code of 0.9.



Graph 1. Graph of Indonesian Coal Company PBV (idx.co.id, 2022, processed data)

Research will focus on fundamental analysis as an assessment of company value. The company's fundamental factors from financial ratios, namely liquidity, profitability, and company size influence firm value by using capital structure as a stepping stone factor. Numerous research have been conducted to examine the variables that firm value with various sectors as research objects. However, not much analysis of fundamental factors and their influence on the value of coal companies listed on the Indonesia Stock Exchange for the 2017-2022 period has been carried out. Factors that influence company value or PBV include the Current Ratio (CR) as a liquidity ratio, Return on Assets (ROA) as a profitability ratio, and company size or size. In addition, the factor that is linked is the debt to equity ratio (DER), often known as the capital structure as an intervening factor that influences firm value (PBV) (Bringham and Houston, 2006).

➤ *Liquidity*

The ability of the business to fulfil necessary financial obligations is known as liquidity. Companies with significant cash levels can demonstrate that they can fulfil obligations rapidly. This suggests that the more liquid a firm is, the more lenders will trust it with their money, increasing the company's worth (Sihombing, 2015). Liquidity ratio can be done by proxy current ratio which is by comparing the value of current assets with the company's liabilities. A high current ratio value indicates an excess of cash or other current assets compared to what is needed now. The CR value can indicate the extent to which current assets guarantee payment of their current liabilities, so that they can increase investor interest in investing in the company (Kasmir, 2015).

The ratio used to assess a company's liquidity is known as the liquidity ratio, also known as the working capital ratio. The balance sheet's components, total current assets and total current liabilities (short-term debt), are compared to determine this ratio (Salim, 2019). Current assets are those that can be quickly (up to one year) converted into cash. Cash, banks, marketable securities, receivables, inventories, prepaid costs, accrued income, loans, and other current assets are examples of current asset components. Based on the results of ratio measurements, low ratio results indicate that the company lacks capital to pay debts (Kasmir, 2015).

A high current ratio value of a company will reduce uncertainty for investors, but will indicate idle cash which reduces the company's income level. This demonstrates that the business has allocated a significant amount of money to the present asset side (Panjaitan, 2023). There are two different responses to the substantial allocation of funds to assets. On the one hand, the company's liquidity is improving, but it also misses out on a chance to make more money. This is because already available money might be used for company investment, but are reserved to meet company liquidity (Kasmir, 2015).

Based on graph 2, there is a change in the value of the liquidity ratio owned by coal companies in the period 2017 - 2022. Changes in the value of liquidity are known to originate from the condition of the coal company's financial performance in the last 5 years. In 2017, the company's average liquidity was 2.3 times, however, in 2018 the company's average liquidity decreased to 2 times. In 2019, the average liquidity increased to 2.5 times. In 2020 when the Covid 19 pandemic occurred, the average liquidity was still at 2.5 times. In 2021, after the pandemic ends, the average liquidity value will decrease to 2 times and this will remain until 2022. According to Ross et al. (2010), Changes in the average value of company liquidity will have an impact on investors' decisions so they tend to be careful in investing business capital in companies. The relationship between liquidity and firm value shows that the company has funds for its short-term obligations so that the company will have an opportunity for investors to provide venture capital.



Graph 2. Graph of Average Liquidity of Indonesian Coal Companies in 2017-2022 (idx.co.id, 2022, data processed)

Based on previous research conducted by Panjaitan (2023) and Kalbuana (2020) it explains that the liquidity or current ratio has a favourable impact on a company's worth. The current ratio or liquidity, according to studies by Salim (2019) and Maneerattanarungrot & Donkwa (2018), appears to have a detrimental impact on a company's value.

➤ Profitability

According to Bringham and Houston (2006), company profitability is indicated by profit so it is explained that profitability is the net result of a series of company policies. Profitability is a company's ability to generate profits by comparing profits with assets or capital that generates profits. Assessing various profitability, it can be a comparison between profit net profit before taxes from operations or businesses, net profit after taxes from total assets, and profit with own capital. Although there are other ways to evaluate a firm's profitability, in general the corporation uses a ratio. The calculation of the gross profit margin, return on assets, return on investment, and earning power can all use profitability ratios (Sartono, 2016).

Profitability is the amount of dividends obtained by the business which affects the amount which must be paid to shareholders. Companies that have large profit values can pay dividends to investors in large amounts (Purwohandoko, 2017). Analysis of the company's profitability level is carried out by proxy The Return on Assets (ROA) metric evaluates the efficiency of a corporation in optimising its asset utilisation. A positive correlation exists between the level of Return on Assets and the overall success of a firm, indicating that a greater Return on Assets is indicative of superior performance and vice versa (Kasmir, 2015). The Return on Assets ratio can also measure the effectiveness of management in generating profits related to the availability of assets or can be referred to as ROI (Return of Investment). (Gitman, 2008).

Based on graph 3, there is an average significance of return on assets of coal companies in 2017-2022. In 2017, the profitability of coal companies reached 0.28. There was a decline in 2018 where the ROA value reached 0.24. The same thing, namely the decline in the value of ROA in 2019, which was around 0.12% when the Covid pandemic started. In 2020, there was an increase in the value of ROA reaching 0.15% due to energy demand from the international market. The increase occurred again in 2021 where it reached 0.23% due to government support for coal. A drastic increase occurred in 2022 where the ROA figure reached 0.47%. According to Purwohandoko (2017), profitability can be a factor that investors take into account regarding the capital structure and company value. Companies with high profitability can reduce the potential use of debt so as to enhance the perceived worth of the firm among investors in order to invest.



Graph 3. Graph of Average Profitability of Indonesian Coal Companies in 2017-2022 (idx.co.id, 2022, data processed)

Research conducted by Salim (2018), Hadijah (2018), and Nurwulandari (2021) suggests that profitability results have a significant positive effect on company value. Different results were put forward by Umayyah (2019) and Aggrawal (2018) where the ROA results have a significant negative effect on company value.

➤ Size

Company size is an enhancement of the fact that large companies will have large market caps. It also explains that size causes large book values and high profits. Meanwhile, small companies have small capitalization so that book values are small and profits are low (Wijaya, 2013). Company size has a different influence on the value of a company. If the company has large total assets, management tends to be more flexible in using the assets in the company (Sulistyono, 2017).

Based on chart 4, there is an average price for the dimensions of coal companies during the 2017-2022 period. The average value of company size is obtained from the average total assets of the company. In 2017, the average size of a coal company was 30%. In 2018, there was a slight increase in the average company size of 30.1%. There was a decrease in 2018, where the average company size was 30.05%, then followed by another decrease in 2019 of 30.025%. In 2021, the coal trend will increase so that the average company size is 30.35%. A similar increase will occur in 2022 when the country's economy is gradually recovering with a company size value of 30.58%. According to Van Horne and Wachowiz (2008), An expansion in the scale of a firm implies a corresponding improvement in its performance, leading to a favourable reaction from investors, which in turn signifies a growth in the company's worth. The determination of company size may be elucidated by the use of many metrics, including total assets, total net sales, average revenues, and average total assets.



Graph 4. Graph of Average Size of Indonesian Coal Companies in 2017-2022 (idx.co.id, 2022, data processed)

The results of previous company size research conducted by Aggrawal and Padhan (2018) & Nurwulandari (2021) stated that the results of company size had a significantly positive effect on firm value. The results of another study conducted by Panjaitan (2023) explain that company size has no effect on firm value. Meanwhile, different results were obtained from Hirdinis (2019) suggesting that the results of company size have a negative effect on company value.

➤ *Capital Structure*

The capital structure is a balance of permanent short-term debt, long-term debt, preferred stock and common stock (Sartono, 2008). Capital structure is also measured by comparing total debt to total assets, which reflects the amount of funding through debt, both current and long-term debt, to overall assets (Brigham and Houston, 2008).

The capital structure ratio is the proportion of funding to debt where debt is used as the company's funding source. Capital structure has an influence on company value where companies that get funds through debt can know the extent to which loans influence company value as business capital (Nurwulandari, 2021). According to Brigham and Houston, (2008) capital structure can be used as an intervening factor that influences financial variables on firm value. The capital structure ratio is measured using the Debt to Equity Ratio (DER) which describes the ratio for measuring the level of use of debt capital against stakeholder's equity owned by the company. DER shows the percentage of provision of funds by shareholders to lenders. DER is basically one of the proxies used to measure company performance from the aspect of solvency (Kasmir, 2015).

Based on graphic image 5, the average value of the capital structure of coal companies during the 2017-2022 period has increased and decreased. In 2017, the average capital structure of coal companies was 1.8%. In 2018, there was a decrease in the value of the capital structure to 1.3%. In 2019, there was an increase in the value of the capital structure due to additional debt to carry out operations so that it rose to 2%. The increase in the average value was very sharp in 2020, reaching 4%. This is because the country is still experiencing the Covid-19 pandemic so that the use of debt increases. In 2021, there will be a decrease in the average value of the capital structure to 1.6% due to the country's

economy starting to improve. Until 2022, the average value of the capital structure is 0.75% indicating a decreased use of debt.



Graph 5. Graph of Average Indonesian Coal Capital Structure in 2017-2022 (idx.co.id, 2022, data processed)

The results of previous research conducted by Fadillah (2020) and Panjaitan (2023) suggest that capital structure has a significant positive effect on firm value. Different results were carried out by research by Sulistyono (2017) and Putra (2017) which explained that capital structure negatively affects firm value.

Based on the background that has been described, the research problem can be formulated as follows.

- Does Liquidity (CR), Profitability (ROA), and Size (SIZE) affect the Capital Structure (DER) of coal mining sub-sector companies listed on the Indonesia Stock Exchange?
- Does Liquidity (CR), Profitability (ROA), and Size (SIZE) affect the firm value (PBV) of coal mining sub-sector companies listed on the Indonesia Stock Exchange?
- Does the Capital Structure (DER) affect firm value (PBV) in coal mining sub-sector companies listed on the Indonesia Stock Exchange?
- Does Liquidity (CR), Profitability (ROA), and Size (SIZE) affect Firm Value (PBV) through Capital Structure (DER) in coal mining sub-sector companies listed on the Indonesia Stock Exchange?

III. METHODOLOGY

The framework for research is described in the following figure.

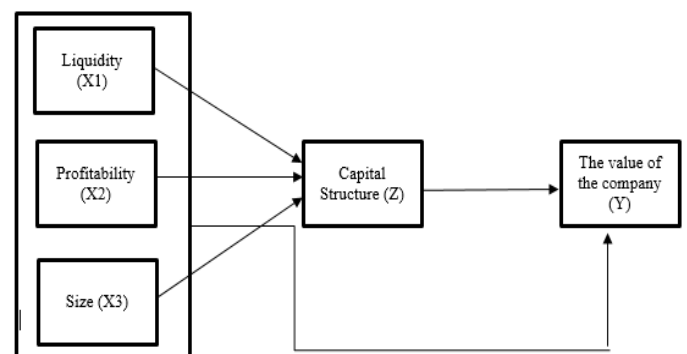


Fig 1. Thinking Framework for Research

Based on this framework, the hypothesis proposed is as follows:

- Liquidity (CR) has an influence on Firm Value (PBV)
- Profitability (ROA) has an influence on Firm Value (PBV)
- Size has an influence on Firm Value (PBV)
- Liquidity (CR) has an influence on Capital Structure (DER)
- Profitability (ROA) has an influence on Capital Structure (DER)
- Size has an influence on Capital Structure (DER)
- Capital Structure (DER) has an influence on Firm Value (PBV)
- Liquidity (CR) has an influence on Firm Value (PBV) influenced by Capital Structure (DER)
- Profitability (ROA) has an influence on Firm Value (PBV) influenced by Capital Structure (DER)
- Size has an influence on Firm Value (PBV) influenced by Capital Structure (DER)

This research is a quantitative research which begins with the development of hypotheses which are then tested quantitatively using numbers. This study uses independent variables, namely liquidity (X1), profitability (X2), and size (X3) while the independent variable is firm value (Y). One of the variables used as an intervening variable is capital structure (Z).

The population chosen is the coal mining sub-sector companies listed on the Indonesia Stock Exchange in 2017-2022 totaling 19 companies. Meanwhile, the sample is selected based on certain criteria or characteristics that are related to the known characteristics of the population. Samples were taken with the following assessment criteria.

Table 1. Sampling Criteria

No	Sample Characteristics	Amount
1	Coal mining sub-sector company listed on the Indonesia Stock Exchange	19
2	Coal companies that publish share prices in 2023	(5)
3	Coal mining sub-sector company that publishes complete financial reports for the last 5 years as of December 2022	(3)
4	A coal mining sub-sector company that has a positive profit in the final year of 2022	(3)
Number of research samples		8

A total of 8 companies were selected as research samples. The coal mining sub-sector companies that were sampled in the study can be seen in Table 2.

Table 2. Sampel Perusahaan yang Digunakan dalam Penelitian

No	Name	Code
1	Adaro Energy Tbk	ADRO
2	Baramulti Suksessarana Tbk	BSSR
3	Bumi Resources Tbk	BUMI
4	Harum Energy Tbk	HRUM
5	Bukit Asam Tbk	PTBA
6	Indo Tambangrata Megah Tbk	ITMG
7	TBS Energy Utama Tbk	TOBA
8	Indika Energi Tbk	INDY

Source: Indonesia Stock Exchange (2022) (processed)

The form of variable operationalization can be described as follows:

Table 3. Operasionalisasi Variabel Penelitian

Variables	Dimension	Indicator	Scale
Nilai Perusahaan (Z)	Price Book Value	$PBV = \frac{Price\ Per\ Share}{Book\ Value\ Per\ Share}$	Ratio
Likuiditas (X ₁)	Current Ratio	$CR = \frac{Current\ Asset}{Current\ Liabilities}$	Ratio
Profitabilitas (X ₂)	Return on Asset	$ROA = \frac{EBIT}{Total\ Asset} \times 100\%$	Ratio
Ukuran (X ₃)	SIZE	$SIZE = \ln(Total\ Asset)$	Ratio
Struktur Modal	Debt to Equity Ratio	$DER = \frac{Total\ Debt}{Total\ Assets} \times 100\%$	Ratio

The type of data in this study uses secondary data, namely data that is already available on the Indonesia Stock Exchange (www.idx.co.id), the data obtained is in the form of an annual report. The author uses an annual report in the form of company financial and performance reports that have been recorded and published from 2017 to 2022, as well as outstanding stock prices obtained from the finance website <https://finance.yahoo.com>.

The data obtained from the results of the research were then analyzed using the panel data regression analysis model using the help of the e-views calculation program version 12. Panel data regression was used because panel data is a

combination of cross sections and time series. This is done to determine the influence of liquidity, profitability, size, and capital structure on firm value. The first analysis performed before the panel data regression is descriptive statistical analysis, panel data testing methods and hypothesis testing.

The following details the panel data regression computation model

$$DER = a + b_1 CR + b_2 ROA + b_3 SIZE + e_i$$

$$PBV = a + b_1 CR + b_2 ROA + b_3 SIZE + b_4 DER + e_i$$

There are three techniques or models that can be used in estimating panel data, namely the Common Effect Model,

Fixed Effect Model, and Random Effect Model. Testing the model according to the research was carried out by the Chow Test, the Lagrange Multiplier Test and the Hausman Test. After the model is selected, classical assumption testing is carried out with Multicollinearity and Heteroscedasticity Tests. Finally, hypothesis testing is carried out which consists of the F test, T test, and the Coefficient of Determination Test (R2), then the Sobel Test is carried out to see the intervening factor.

Essentially, the F statistical test determines whether all of the independent factors or independent variables included in the model have a combined influence on the dependent or dependent variable. The following hypotheses are used while performing the F test:

H0: The dependent variable (PBV) is unaffected by any of the independent variables (CR, ROA, SIZE, and DER).

H1: The dependent variable (PBV) is jointly impacted by the independent variables (CR, ROA, SIZE, and DER).

If F-count exceeds F-table, H0 is disregarded and H1 is accepted; the independent factors have an impact on the dependent variable collectively.

When the F-count value equals the F-table, H0 is accepted and H1 is denied; the independent factors have no combined effect on the dependent variable.

The coefficient of determination (R2) is used to determine the suitability of the relationship between the independent variable and the dependent variable in a regression equation. The value of R2 explains how much influence the independent variable has on the dependent variable. The coefficient of determination formula is explained as follows:

$$KD = r^2 \times 100$$

Information:

KD = Coefficient of determination

r2 = correlation coefficient

The t statistical test pertains to the extent to which the explanatory or independent variable independently accounts for the variance in the dependent variable. The t-test formula is elucidated by the subsequent hypothesis:

H0: The independent variables (CR, ROA, SIZE, and DER) do not partially affect the dependent variable (PBV)

Ha: The independent variables (CR, ROA, SIZE, and DER) partially affect the dependent variable (PBV).

The t-test decision maker can compare the T-count value with the T-table or use the significance value.

t-count value > t-table, then the H0 value is rejected; there is the impact of the independent variables on the dependent variable..

t-count value < t-table, then the value of H0 is accepted; there is no influence between the independent variables on the dependent variable.

The significance level applied in this study is $\alpha = 5\%$.

probability value < 0.05, then the H0 value is rejected; independent variables individually or partially have an influence on the dependent variable.

probability value > 0.05, then the H0 value is accepted; independent variables individually or partially have an influence on the dependent variable.

Testing variables that influence as intervening will be carried out using the Sobel test. The Sobel test analysis is performed by comparing the coefficients of the variables in the linear regression equation. The Sobel test formula is explained as follows:

$$t = \frac{ab}{\sqrt{(b^2 SEa^2) + (a^2 SEb^2)}}$$

note:

a: the path of the independent variable to the intervening variable

b: the path of the intervening variable to the dependent variable

SE: Standard Error

hypothesis

H0: Independent variables (CR, ROA, SIZE,) have no effect on the dependent variable (PBV) through DER as an intervening factor

Ha: Independent variables (CR, ROA, SIZE,) affect the dependent variable (PBV) through DER as an intervening factor

The decision on the results is based on comparing the t-count and t-table values.

t-count value > t-table then the value of H0 is rejected; there is influence between the independent variables on the dependent variable.

t-count value < t-table, then the value of H0 is accepted; there is no influence between the independent variable on the dependent variable through the intervening variable

IV. RESULTS AND DISCUSSIONS

The statistical and descriptive results of the research are presented in the following table

Table 4. Table of Research Descriptive Statistics

	N	Minimum	Maksimum	Mean	Std Deviation
<i>Current Ratio (X1)</i>	48	0,2696	10,0743	2,2035	1,8243
<i>Return on Asset (X2)</i>	48	0,0026	1,4212	0,2447	0,2650
<i>SIZE (X3)</i>	48	27,7640	32,7578	30,1824	1,4161
<i>Debt to Equity Ratio (Z)</i>	48	0,0965	24,8489	1,8813	3,7638
<i>Price book value (Y)</i>	48	0,1250	4,8970	1,4269	1,0140

Sumber: Microsoft Excel

Next, a path analysis is carried out, where the calculation structure is divided into 2 parts, namely Sub-structures 1 and 2 are separated into this sub-chapter's description of sub-structure 1 and a longer description of sub-structure 2 respectively in the next sub-chapter.

➤ *Sub Structure 1*

A model known as sub-structure 1 will be used to analyze the impact of liquidity (X1), profitability (X2), and size (X3) on capital structure (Z). Based on the results of the Chow Test, a probability value of 0.0029 has been obtained. . It is known that the value is 0.0029 <0.05, so the model decision obtained is the Fixed Effect Model or FEM. The next step is the Hausman Test which obtains a probability value of 0.0589. It is known that the value is 0.0589 > 0.05, so the decision model obtained is the Random Effect Model or REM. The final step is to do the Lagrange Multiplier Test which obtains a probability value of 0.0398. It is known that the value is 0.0398 <0.05, so the decision model obtained is the Random Effect Model or REM.

According to Gujarati & Potter, (2012) the Random Effect model does not need to be tested classically, it is assumed that the Generalized Least Square (GLS) estimation

method can overcome heteroscedasticity and autocorrelation. The estimation model that uses the GLS method is only the Random Effect Model in the eviews application, while Common Effect and Fixed Effect use Ordinary Least Square (OLS). This shows whether or not it is necessary to test classical assumptions in research depending on the results of selecting estimates. If based on the selection of the appropriate estimation model for the regression equation is the Random Effect Model, then there is no need to test the classical assumptions. Conversely, if the estimation method of the regression equation is more suitable to use the Common Effect or Fixed Effect (OLS), it is necessary to test the classical assumptions.

Based on the selected model Random Effect Model and it is known that it is not necessary to do multicollinearity and heteroscedasticity tests. The regression equation obtained is as follows:

$$Z = 7.237316 - 0.195831 * X1 - 0.823720 * X2 - 0.167516 * X3$$

$$DER = 7.237316 - 0.195831 * CR - 0.823720 * ROA - 0.167516 * SIZE$$

The following is a table of the results of the regression of sub structure 1

Table 5. Calculation of the Sub-Structure Regression Model 1

Variabel	Random Effect Model			Information
	Coefficient	t-statistic	probability	
C	7,237316	0,601398	0,5507	
CR	-0,195831	-1,165476	0,0201	Influential
ROA	-0,823720	-0,862733	0,0330	Influential
SIZE	-0,167516	-0,423610	0,0169	Influential
F-statistic	0,658910			
Prob (F-statistic)	0,041736			

Based on the table above, the determination of the hypothesis test is as follows:

- Calculated t value. X1 1.16 <t table (2.012) and the probability value. X1 0.0201 <0.05 then Ha is accepted and H0 is rejected, which means:

Liquidity Variable (CR) has an effect on Capital Structure (DER)

- Calculated t value. X2 0.86 <t table (2.012), and the probability value. X2 0.0330 <0.05 then Ha is accepted and H0 is rejected, which means:

Profitability variable (ROA) has an effect on Capital Structure (DER)

- Calculated t value. X3 0.42 <t table (2.012), and X3 probability value 0.0169 <0.05 then Ha is accepted and H0 is rejected, which means:

Variable Size (SIZE) has an effect on Capital Structure (DER)

- The results of the F test show the prob value. 0.0417 < 0.05, then Ha is accepted and H0 is rejected, which means:

Liquidity (CR), Profitability (ROA), and size (SIZE) variables affect Capital Structure (DER)

➤ *Sub Struktur 2*

Analysis of the effect of liquidity (X1), profitability (X2), and size (X3), capital structure (Z) on firm value (Y) is described in a model which will be referred to as sub-structure 2. The next stage is to carry out the Chow test and obtained a probability value of 0.0007. It is known that the value is 0.0007 <0.05, so the decision model obtained is the Fixed Effect Model or FEM. Then the Hausman test was carried out with a probability value of 0.0534. It is known that the value is 0.0534 > 0.05, so the model decision obtained is the Random Effect Model or REM. The last step is to do the Lagrange Multiplier Test by producing an output probability value of 0.045. It is known that the value is 0.045 <0.05, so the model decision obtained is the Random Effect Model or REM. So that the two sub-structures will use the Random Effect Model or REM regression model. The model equation is as follows:

$$Y = 6.444826 - 0.100484 * X1 + 0.316090 * X2 - 0.167833 * X3 + 0.126123 * Z$$

$$PBV = 6.444826 - 0.100484 * CR + 0.316090 * ROA - 0.167833 * SIZE + 0.126123 * DER$$

The following is a table of the results of the sub-structural regression 2

Table 6. Calculation of the Sub-Structure Regression Model 2

Variabel	Random Effect Model			Information
	Coefficient	t-statistic	probability	
C	6,444826	1,906750	0,0632	
CR	-0,100484	-1,392003	0,0171	Influential
ROA	0,316090	0,668846	0,0072	Influential
SIZE	-0,167833	-1,539352	0,0131	Influential
DER	0,126123	1,993404	0,0256	Influential
F-statistic	2,202479			
Prob (F-statistic)	0,014664			

Based on the table above, the determination of the hypothesis test is as follows:

- Calculated t value. X_1 1.392 < t table (2.012), and the probability value. X_1 0.0171 < 0.05 then H_a is accepted and H_0 is rejected, which means: Liquidity Variable (CR) has an effect on Firm Value (PBV)
- Calculated t value. X_2 0.668 < t table (2.012), and the probability value. X_2 0.0072 < 0.05 then H_a is accepted and H_0 is rejected, which means: Profitability Variable (ROA) has an effect on Firm Value (PBV)
- Calculated t value. X_3 1.539 < t table (2.012), and X_3 probability value 0.0131 < 0.05 then H_a is accepted and H_0 is rejected, which means: Variable Size (SIZE) affects Firm Value (PBV)
- Calculated t value. Z 1.993 < t table (2.012), and the probability value Z 0.0256 < t table (2.012), then H_a is accepted and H_0 is rejected, which means: Capital Structure Variable (DER) has an effect on Firm Value (PBV)
- The results of the F test show a probability value of 0.0154 < 0.05, then H_a is accepted and H_0 is rejected, which means: Liquidity Variables (CR), Profitability (ROA), and size (SIZE), and Capital Structure (DER) have an effect on Corporate Value (PBV)

Testing the variables that have an effect as intervening is done by doing one of the partial T tests, namely the Sobel Test.

- The test results obtained are T count 2.8 > t table (2.02), which means that H_a is accepted and H_0 is rejected. This explains that the Liquidity Variable (CR) has an effect on Firm Value (PBV) through Capital Structure (DER) as an intervening factor. This explains that capital structure can positively influence liquidity on firm value
- The test results obtained are T arithmetic 2.5 > t table (2.02), meaning that H_a is accepted and H_0 is rejected. This explains that the Profitability Variable (DER) has an effect on Firm Value (PBV) through Capital Structure

(DER) as intervening factor. This explains that capital structure can positively influence profitability on firm value

- The test results obtained are T arithmetic 2.13 > t table (2.02), which means that H_a is accepted and H_0 is rejected. Size Variable (SIZE) has an effect on Firm Value (PBV) through Capital Structure (DER) as an intervening factor (influence negatively). This explains that capital structure can positively influence the size of the company's value.

Based on the results of the calculations and analysis performed, the results can be described as follows:

➤ *Liquidity has a negative effect on capital structure*

These findings are consistent with the Pecking Order theory, which states that businesses with abundant liquidity typically employ internal resources to finance their day-to-day operations. In order to obtain extra capital costs, it is necessary to maintain steady liquidity in order to win the confidence of both internal and external parties. This will also have an impact on lowering the usage of debt, resulting in a decrease in corporate debt as current debt is repaid. Companies that have a higher percentage of current assets can invest these money. The company's poor liquidity will ultimately result in a smaller capital structure. The study's findings are consistent with those of Mufidah (2018), Salim (2021), Nurwulandari (2021), and Panjaitan (2023), according to which the capital structure is negatively impacted by liquidity outcomes.

➤ *Profitability has a negative effect on capital structure.*

The results of the study explain that companies with high levels of profitability tend to choose to use internal funds as a source of capital. This can be seen from the external funding required by the company which will be issued in the form of securities. Companies with high profits will use internal funds for financing purposes so that debt levels can be reduced which can minimize future risks. The prospect of a high profit company will make investors more interested in investing funds in the form of share ownership. Based on this study, the selected sample companies were able to increase profitability which was used to reduce debt so that the results of the analysis had a negative and significant effect, meaning that the results of company profits were used to reduce debt ratios. The results of this study are in accordance with the research of Mubyarto (2020) and Nurwulandari (2021), which states that the results of the profitability analysis have a negative effect on capital structure.

➤ *Company size has a negative effect on capital structure.*

The results of the study explain the Due to the asymmetry of the information and the impact on large enterprises, there is a negative correlation between company size and debt ratio. This explains why large businesses will have a lower relative cost of capital than small businesses. The interest of investors and creditors to invest money in the firm is not guaranteed by the size of the company because neither its continuation nor the advancement of its operational operations are guaranteed. These results do not provide a guarantee that the larger the company, the easier it will be to

obtain loans and access to the capital market. Creditors tend to give large debts to large companies with the assumption that small companies are threatened with bankruptcy. The results of the research are in line with research conducted by Salim (2019) and Nurwulandari (2021) which state that company size has a negative effect on company value.

➤ *Liquidity has a negative effect on firm value*

The results of this study indicate that high liquidity indicates a greater ability of the company to pay its immediate financial obligations. High liquidity ratio businesses can set aside money to pay off short-term debt. As a result, dividend payments to shareholders may be reduced. Investor reaction to this scenario is anticipated to be unfavorable, which could lower the company's value. Companies have a history of producing dividends as a portion of their net earnings. Because distributing dividends could limit internal funding, the corporation is understood to choose to retain profits as dividends. Although the amount of dividends paid has little impact on the company's earnings. This explains why the divine payout ratio is not a factor in determining a company's value (Pramudena, 2020). The study's findings are consistent with those made by Salim (2018) and Maneerattanarungrot & Donkwa (2018), who found that liquidity or the current ratio has a detrimental impact on business value.

➤ *Profitability has a positive effect on firm value.*

The results of this study indicate that there is a relationship where high profitability reflects a good company position and gives a good company value in the market. The value of profitability is directly proportional to the company's market value. High profitability numbers demonstrate the business's capacity for profit. Companies that consistently generate large profits tend to draw investors. Investors will evaluate the company based on its profitability, which may be observed from the size.

V. CONCLUSIONS

The conclusions that can be drawn from this research are:

- Liquidity (CR) has a negative effect on the Capital Structure (DER) of coal companies for the 2017-2022 period
- Profitability (ROA) has a negative effect on the Capital Structure (DER) of coal companies for the 2017-2022 period
- Size has a negative effect on the Capital Structure (DER) of coal companies for the 2017-2022 period
- Liquidity (CR) has a negative effect on the Company Value (PBV) of coal for the 2017-2022 period
- Profitability (ROA) has a positive effect on the Company Value (PBV) of coal for the 2017-2022 period
- Size has a negative effect on the Company Value (PBV) of coal for the 2017-2022 period
- Capital Structure (DER) has a positive effect on the Company Value (PBV) of coal for the 2017-2022 period
- Liquidity, Profitability, Size affect Firm Value through Capital Structure as an intervening factor.

Suggestions that the author can give based on this research are:

- The management of coal companies listed on the Indonesia Stock Exchange should improve their ability to earn profits by taking into account the determinants of financial performance. This will have an impact on the interest of investors to invest in order to increase the value of the company. Creditors will see how big the company is in generating profits because it will be difficult or not for the company to obtain loan funds. For this reason, companies should be able to carry out cost efficiencies so as to generate sufficient profits to repay loans.
- Further research should use other factors or variables because financial performance can still be known more deeply. In addition, research can be expanded again by using more samples to get maximum results.

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