

**THE INFLUENCE OF COMPANY SIZE,  
PROFITABILITY AND LIQUIDITY ON CAPITAL  
STRUCTURE IN MINING COMPANIES REGISTERED  
IN INDONESIA STOCK EXCHANGE 2013-2018**

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***Abstract-**This study aims to determine the effect of company size, profitability and liquidity of the capital structure of mining companies listed on the Indonesia Stock Exchange for the period 2013-2018. Company size is proxied by Natural Logarithm of Total Asset, Profitability is proxied by Return On Asset (ROA), liquidity is proxied by Current Ratio (CR), and the Capital Structure is proxied by Debt to Equity Ratio (DER). The samples in this research are mining companies listed on the Indonesia Stock Exchange in the 2013-2018 period. The number of samples was 12 companies taken through purposive sampling, with a total of all samples is 72 samples. The method of analysis of this study uses panel data regression with Eviews ver-10. The results of this study indicate that the company size has a negative and significant effect on capital structure. Profitability has a negative and significant effect on capital structure. Liquidity has a negative and significant effect on capital structure. Simultaneously, company size, profitability and liquidity have a significant effect on the capital structure.*

***Keywords:** Company Size, Profitability, Liquidity, Capital Structure*

***Abstract-Abstrak-** Penelitian bertujuan untuk mengetahui pengaruh ukuran perusahaan, profitabilitas dan likuiditas terhadap struktur modal pada perusahaan pertambangan yang terdaftar di Bursa Efek Indonesia periode 2013-2018. Ukuran perusahaan diprosikan Logaritma Natural dari Total Asset, Profitabilitas diprosikan oleh Return On Asset (ROA), Likuiditas diprosikan Current Ratio (CR), dan Struktur Modal diprosikan Debt to Equity Ratio (DER). Sampel penelitian yaitu perusahaan pertambangan yang terdaftar di Bursa Efek Indonesia dalam periode 2013-2018. Jumlah sampel sebanyak 12 perusahaan yang diambil melalui purposive sampling, dengan total sampel adalah 72 sampel. Metode analisis dari penelitian menggunakan regresi data panel dengan Eviews versi 10. Hasil penelitian menunjukkan ukuran perusahaan berpengaruh negatif dan signifikan terhadap struktur modal. Profitabilitas berpengaruh negatif dan signifikan terhadap struktur modal. Likuiditas berpengaruh negatif dan signifikan terhadap struktur modal. Secara simultan ukuran perusahaan, profitabilitas dan likuiditas berpengaruh secara signifikan terhadap struktur modal.*

***Kata kunci:** Ukuran Perusahaan, Profitabilitas, Likuiditas, Struktur Modal*

## **I. Introduction**

### **Background**

One of the providers of energy resources and one of the pillars of economic growth in Indonesia is the mining sector business. Indonesia as a country that has very promising natural resources, makes it one of the ranks of the world's largest producers of mining commodities. With other sectors, the mining sector has different characteristics, the mining industry requires a very large investment cost, is long term, full of risk and high uncertainty makes the problem of funding a major issue related to company development. Therefore, what is interesting to study is how mining companies carry out their funding policies and what factors influence the company's capital structure decisions.

An illustration that shows the phenomenon that occurs in mining companies in Indonesia, including Maximilianus Nico Demus (2019), as Director of Research and Investment at Pilarmas Investindo Sekuritas, argues that mining is a sector that is sensitive to the world economy, including in Indonesia. In sectoral indexes, mining stocks are the main weight of the correction in the Jakarta Composite Index (IHSG). This sector was recorded down to 1.24%. Several stocks that fell from this sector, such as PT. Aneka Tambang Tbk (ANTM), which fell 2.82% to Rp 2,480 per share. Then, there is PT. Adaro Energy Tbk (ADRO), which fell 2.28% to Rp 1,070 per share. In addition, PT. Vale Indonesia Tbk (INCO) was corrected by 0.31% to Rp 3,240 per share. PT. Medco Energi Internasional Tbk (MEDC) fell 2.47% to Rp 790 per share. And PT Bukit Asam (PTBA) also fell 2.36% to Rp 2,480 per share. The decline in the mining sector stock price index shows that investor interest in investing in the mining sector has decreased. Stocks are a source of funding for companies.

Throughout 2019 mining companies in Indonesia are also preparing larger capital expenditures to support their business plans. Yulius Gozali (2019), as the Director of Finance of PT. Indo Tambangraya Megah Tbk stated that the capex was used for infrastructure improvements and increasing the capacity of mining machines and equipment.

Bambang Gatot Ariyono (2019), as Director General of Mineral and Coal at the Ministry of Energy and Mineral Resources, stated that Indonesia's exports in the mining sector experienced another decline in 2019. The decline was actually caused by the dynamics of demand and supply from the market, the demand for coal and mineral imports from global to Indonesia decreased. The decline in exports had occurred in 2014 and 2015, which amounted to 16.72% and 26.94%.

Ignatius Jonan (2018), as Minister of Mineral Resources, urges mining companies in Indonesia to build a processing and refining plant for mining products or what is called a smelter. This is in accordance with the Revised Government Regulation No. 1 of 2014, in which this Government Regulation consistently implements Law No. 4 of 2009 concerning Minerals and Coal. The construction of a smelter certainly requires a large amount of funding, both in terms of additional investment in fixed assets and for operational activities that will have an impact on the company's capital structure.

From the phenomenon of falling share prices, greater preparation of capital to increase machine capacity, the decline in mining exports, and the construction of smelters, capital is very important for every company. The rate of capital turnover is the basis for the estimated capital required. The lower the rate of capital turnover, the lower the activity, so that the greater the profit it generates. Vice versa. Therefore, companies must estimate the size or size of obtaining a fair profit before allocating capital. Based on the description above, companies need to maintain optimal stability. Companies need to plan, manage and supervise all financing. Due to the limitations of researchers, the problem will be limited to only the problem of "The Effect of Company Size, Profitability and Liquidity on Capital Structure in Mining Companies Listed on the Indonesia Stock Exchange for the 2013-2018 Period".

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## **Formulation of the problem**

Based on the above background, the research questions are formulated as follows:

1. Is there any influence on company size on the capital structure of mining companies in Indonesia?
2. Is there an effect of profitability on the capital structure of mining companies in Indonesia?
3. Is there an effect of liquidity on the capital structure of mining companies in Indonesia?
4. Is there a simultaneous influence of company size, profitability and liquidity on the capital structure of mining companies in Indonesia?

## **Research purposes**

Based on the formulation of the problem that has been described, the objectives of this study are:

1. This is to find out whether there is an effect of company size on the capital structure of mining companies in Indonesia.
2. To find out whether there is an effect of profitability on the capital structure of mining companies in Indonesia.
3. This is to determine whether there is an effect of liquidity on the capital structure of mining companies in Indonesia.
4. To find out whether there is an effect of company size, profitability and liquidity simultaneously on the capital structure of mining companies in Indonesia.

## **Benefits of Research**

This research is expected to contribute to several parties, namely:

1. For the Development of Accounting Disciplines
  - a. This research can be used as a reference for academics who are interested in conducting further research in the same field by providing empirical evidence for previous theories that have been studied.
  - b. It is expected to be able to contribute to theory development, especially theories related to accounting and to enrich library materials.
2. For the Community
  - a. As information material that can broaden public perceptions regarding the effect of company size, profitability and liquidity on the capital structure, as well as adding insight to the public.
  - b. As information, input and suggestions for company development as well as management decision making related to the benchmark of thought in compiling an optimal capital structure with the hope that through optimal capital formation as well. So that it can maximize company value and can reduce business risks that occur.
  - c. As material for consideration and information for investor managers in determining alternative funding and aspects that influence it. In addition, it is also an input regarding the company's performance so that it considers the policies of potential investors in investing their capital in the company.

## **II. LITERATURE REVIEW**

### **Review of Previous Research Results**

1. Research conducted by Sawega and Deannes (2019: 17) in mining and coal companies listed on the Indonesia Stock Exchange for the period 2013-2016. The results of this study are

- company size, business risk, and profitability have a negative and significant effect on the capital structure of coal mining companies listed on the Indonesia Stock Exchange.
2. Research conducted by Danarwati et al., (2019: 13) on property and real estate companies listed on the Indonesia Stock Exchange shows that company size and leverage have a positive and significant effect on capital structure. Meanwhile, liquidity and profitability have a negative and significant effect on capital structure.
  3. Research conducted by Deviani and Komang (2018: 23) on mining companies listed on the Indonesia Stock Exchange for the period 2012-2015. The results show that the sales growth rate has a negative and significant effect on the capital structure, the asset structure has a negative but insignificant effect on the capital structure, and profitability and liquidity have a negative and significant effect on the capital structure.
  4. Research conducted by Hardanti and Barbara (2016: 11) on manufacturing companies listed on the Indonesia Stock Exchange for the period 2005-2008. The results show that company size has a positive and significant effect on capital structure. Meanwhile, liquidity, profitability, business risk have a negative and significant effect on the capital structure.
  5. Research conducted by Bhawa and Made (2015: 15) on pharmaceutical companies listed on the Indonesia Stock Exchange 2009-2012 period. The results show that company size has a negative and insignificant effect on capital structure, liquidity has a significant positive effect on capital structure, profitability has a significant negative effect on capital structure, and business risk has a positive effect.
  6. Research conducted by Sari et al., (2018: 9) on manufacturing companies listed on the Indonesia Stock Exchange for the period 2014-2015. The results show that the asset structure has a negative effect on the capital structure, but not significantly. Liquidity and profitability have a negative and significant effect on capital structure. Meanwhile, company size has a positive but not significant effect on capital structure.
  7. Maudhotin et al., (2018: 4) in mining companies listed on the Indonesia Stock Exchange for the period 2012-2016. Suggests that sales growth, profitability and liquidity have a negative and significant effect on capital structure, but asset structure has no and significant effect on capital structure.
  8. Research conducted by Rehan et al., (2018: 5), suggests that company size profitability (ROE) and Earning Per Share (EPS) have a negative and significant effect on capital structure (DER).

## Theoretical basis

### Definition of Capital Structure

According to Husnan (2014: 275) states that the capital structure is a comparison between long-term sources of loans with own capital, while according to Riyanto (2013: 296) capital structure is defined as the ratio between long-term debt and equity. Capital structure measurement methods, namely:

$$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Hutang}}{\text{Total Ekuitas}}$$

### Definition of Company Size

According to Brigham & Houston (2001: 117) company size is the average total net sales for the year concerned to several years. Company size represents the size of a company as indicated by assets, total sales, average total sales and average total assets. Then the size of the company is the size or size

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of the assets owned by the company. As for the method of measuring company size, namely:

$$\text{Ukuran Perusahaan} = \text{Ln. Total Asset}$$

## **Definition of Profitability**

According to Riyanto (2013: 35) profitability is the company's ability to generate profits for a certain period. Meanwhile, according to Munawir (2014: 86) profitability is the ratio to measure the profit obtained from the capital used for the operation or to measure the company's ability to gain profits at the level of sales, assets, and capital. The methods of measuring profitability are:

$$\text{Return On Asset (ROA)} = \frac{\text{Laba Setelah Pajak}}{\text{Total Asset}} \times 100 \%$$

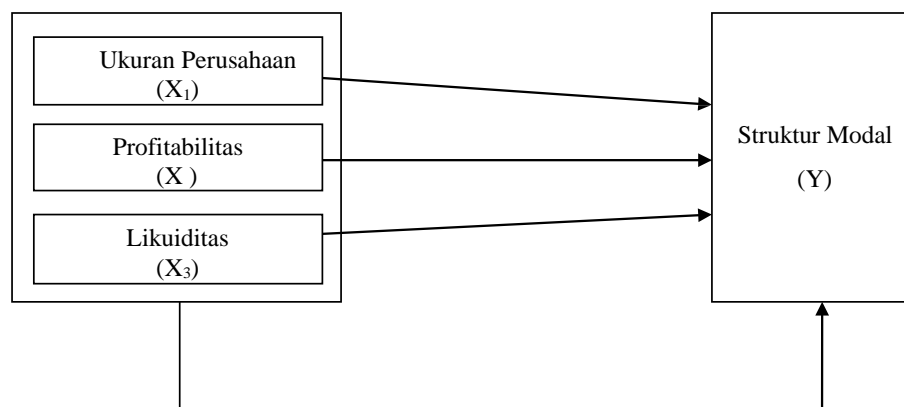
## **Definition of Liquidity**

According to Kasmir (2014: 131) liquidity is a ratio that measures a company's ability to meet its maturing obligations, both obligations to parties outside the company and inside the company.

So it can be concluded, if liquidity is the company's ability to pay off its obligations in the short term. If the company uses a lot of current assets, it means that the company can generate cash flow to finance its operational activities and company investments. The liquidity measurement methods are:

$$\text{Current Ratio (CR)} = \frac{\text{Asset Lancar}}{\text{Kewajiban Lancar}} \times 100 \%$$

## **Conceptual framework**



Conceptual model based on literature review and the phenomena studied. This research is an associative problem, where the formulation of the research problem is the relationship between the independent variable and the dependent variable. Where in this study, testing the effect of three independent variables consisting of company size ( $X_1$ ), profitability ( $X_2$ ) and liquidity ( $X_3$ ) on the dependent variable, namely capital structure ( $Y$ ). Through scientific research, the hypothesis will be



declared rejected or accepted. Based on the influence between variables previously described, the hypotheses in this study are as follows:

H1 = Firm size has a positive effect on capital structure.

H2 = Profitability has a negative effect on capital structure.

H3 = Liabilities have a negative effect on capital structure.

H4 = Company size, profitability and liquidity have a simultaneous influence on capital structure.

### **III. RESEARCH METHOD**

The research strategy used is causal research with a quantitative approach. Causal research is used because there is an influence or relationship between two or more variables (Sugiyono, 2016: 21). The relationship between variables is analyzed and the purpose is to provide a structured, factual and accurate description of the facts of the relationship between variables. Meanwhile, the quantitative approach is a type of research that results in meetings obtained using statistical procedures or other means of quantification (measurement). In accordance with this research, namely looking at the financial statements of mining companies listed on the Indonesia Stock Exchange which are processed through certain statistical methods.

The population used in this research is all mining companies listed on the Indonesia Stock Exchange during the period 2013 to 2018, where there are 49 mining companies divided into the coal mining sub-sector, the oil and gas mining sub-sector, the metal mining sub-sector, and the metal mining sub-sector. the rock mining sector.

The sampling technique used in this study was purposive sampling. Purposive sampling is taking a sample that has been determined previously based on certain criteria. The criteria for sampling this research are as follows:

1. Mining companies listed on the Indonesia Stock Exchange during the 2013-2018 period.
2. Mining companies that publish complete financial reports for the 2013-2018 period.
3. Mining companies that issue financial reports in rupiah currency.
4. Have complete data with respect to the variables used in this study.

#### **Operationalization of Variables**

Variable operationalization is defined as a description relating to the research structure, which describes the variables or sub-variables to the concepts, dimensions, indicators and measures that are directed to obtain variable values. The variables used in this study include:

#### **Bound Variables (Dependent Variable):**

The dependent variable used in this study is the capital structure. Capital structure, namely the comparison between long-term debt and equity. In this study, the capital structure is proxied by the Debt to Equity Ratio (DER). DER is used because it can assess debt to equity, which can compare between debt owned and capital owned. DER can be formulated as follows:

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$$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Hutang}}{\text{Total Ekuitas}}$$

## **Independent Variable (Independent Variable):**

### **1. Company Size**

Company size is described as the size of a company. Company size can be formulated as follows:

$$\text{Ukuran Perusahaan} = \text{Ln. Total Asset}$$

### **2. Profitability**

Profitability is the measurement of profits that can be obtained from the level of sales, assets, and capital. In this study, profitability is proxied by Return On Assets (ROA). ROA can be formulated as follows:

$$\text{Return On Asset (ROA)} = \frac{\text{Laba Setelah Pajak}}{\text{Total Asset}} \times 100 \%$$

### **3. Liquidity**

Liquidity is the company's ability to meet its short-term financial obligations. In this research, liquidity is proxied by the Current Ratio (Current Ratio). CR can be formulated as follows:

$$\text{Current Ratio (CR)} = \frac{\text{Asset Lancar}}{\text{Kewajiban Lancar}} \times 100 \%$$

## **Data Analysis Methods**

The data analysis technique used to test the research hypothesis is descriptive statistics, panel data regression. As well as hypothesis testing which includes the coefficient of determination, simultaneous significance test, partial significance test.

Furthermore, for data analysis on the variables that have been determined using linear regression analysis of panel data with descriptive statistical testing assisted by the Economic Views (Eviews) program version 10. The equation for the panel data model used is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Information:

Y = Capital Structure

$\alpha$  = Constant

$\beta_1, \beta_2, \beta_3$  = Numbers Coefficient

- $X_1$  = Company Size  
 $X_2$  = Profitability  
 $X_3$  = Liquidity  
 $\varepsilon$  = Error

#### IV. RESEARCH RESULTS AND DISCUSSION

##### Descriptive Statistics Test Results

**Table 4.2** Descriptive Analysis of the Variable Statistics Under Study

	Y	X1	X2	X3
Mean	1.042069	28,26944	-5.181681	384,4055
Median	0.833500	28.01950	1.866500	159.6225
Maximum	3.880000	31.13700	25.41300	11131.26
Minimum	0.042000	25.57400	-393.3240	21.37000
Std. Dev.	0.738321	1.598274	48,70729	1327,876
Skewness	1.873410	0.175800	-7.219883	7.561047
Kurtosis	7,236125	1.985630	57.69449	61.33305
Sum	75.02900	2035,400	-373.0810	27677.19
Observations	72	72	72	72

Source [www.idx.co.id](http://www.idx.co.id) Data is processed with E views

Table 4.2 shows the company size variable ( $X_1$ ) shows a minimum value of 25.574 and a maximum value of 31.137. The average value of the company size is 28,26944. Meanwhile, the standard deviation of 1.598274 is smaller than the mean value.

Profitability variable ( $X_2$ ) with a minimum value of -393,324 and a maximum value of 25,413. The average value of profitability is -5.181681. Meanwhile, the standard deviation of 48.70729 is greater than the mean value.

The liquidity variable ( $X_3$ ) shows a minimum value of 21.37 and a maximum value of 25.413. The average liquidity value is 384.4055 with a standard deviation of 1327.876, greater than the mean value.

The capital structure variable (Y) shows a minimum value of 0.042 and a maximum value of 3.88. The average value of the capital structure is 1.042069. Meanwhile, the standard deviation of 0.738321 is smaller than the mean value.

##### Result of Model Estimation Method Test

###### Chow test

- $H_0$  : *Common Effect Model*  
 $H_1$  : *Fixed Effect Model*



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**Tabel 4.6.** Uji Chow

Redundant Fixed Effects Tests  
Pool: POOL01  
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.750586	(11,57)	0.0000
Cross-section Chi-square	46.846552	11	0.0000

Sumber : Data diolah dengan E views

The results of the Chow Test in the table above can be concluded that  $H_0$  is rejected because the results of the Chi Square Cross-section Probability are smaller than alpha ( $0.000 < 0.05$ ), so the model used in this study is the **Fixed Effect Model (FEM)**.

**Hausman Test**

$H_0$  : *Random Effect Model*

$H_1$  : *Fixed Effect Model*

**Tabel 4.7.** Uji Hausman

Correlated Random Effects - Hausman Test  
Pool: POOL01  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.125368	3	0.5468

Sumber : Data diolah dengan E views

Based on the Hausman test, it can be concluded that  $H_0$  is accepted because the result of the Prob Cross-section Random is greater than alpha ( $0.5468 > 0.05$ ), so the model used in this study is the **Random Effect Model (REM)**.

**Lagrange Multiplier test**

$H_0$  : *Common Effect Model*

$H_1$  : *Random Effect Model*

**Tabel 4.8** Uji *Lagrange Multiplier*

Lagrange Multiplier Tests for Random Effects  
Null hypotheses: No effects  
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	5.161093 (0.0002)	3.53160 (0.1040)	65.74478 (0.0000)

Sumber : Data diolah dengan E views

Based on table 4.8 the value of Prob. Breusch-Pagan (BP) of 0.0002 indicates that  $H_0$  is accepted  $H_1$  is rejected. This means that the Random Effect Model is selected in the Lagrange Multiplier test. Meanwhile, based on the Chow-test model test, it shows that the Fixed Model is chosen. On the other hand, the results of the Hausman model test indicate that the Random Effect Model is selected and the results from the Lagrange Multiplier model test indicate that the Random Effect Model is selected. From these results, it is evident that the panel model chosen is the Random Effect Model

**Random Effect Model (REM)**

**Tabel 4.5.** Regresi Model *Random effect Model* (REM)

Dependent Variable: Y?  
 Method: Pooled EGLS (Cross-section random effects)  
 Date: 12/16/19 Time: 02:22  
 Sample: 2013 2018  
 Included observations: 6  
 Cross-sections included: 12  
 Total pool (balanced) observations: 72  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.026980	2.719644	2.216091	0.0300
X1?	-0.175973	0.095833	-2.836240	0.0007
X2?	-0.000397	0.001543	-2.257324	0.0077
X3?	-3.20E-05	5.55E-05	-2.576241	0.0064

Effects Specification

	S.D.	Rho
Cross-section random	0.493186	0.4346
Idiosyncratic random	0.562472	0.5654

Weighted Statistics

R-squared	0.555896	Mean dependent var	0.439850
Adjusted R-squared	0.309020	S.D. dependent var	0.562866
S.E. of regression	0.558843	Sum squared resid	21.23678
F-statistic	4.341988	Durbin-Watson stat	0.734995
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.097047	Mean dependent var	1.042069
Sum squared resid	34.94731	Durbin-Watson stat	0.446642

Sumber : Data diolah dengan E views

Based on the regression results using the Random Effect Model (REM) above, it shows a constant regression coefficient of 6.175973, the t-statistic value is 2.216091 with a probability of 0.0300 <0.05; The regression coefficient of company size ( $X_1$ ) is -0.175973, the t-statistic value is -2.836240 with a probability of 0.0007 <0.05, which means that the firm size variable has a significant effect on capital structure at the level of  $\alpha = 5\%$ ; for the profitability variable ( $X_2$ ) it has a regression coefficient of -0.000397, the t-statistic value is -2.257324 with a probability of 0.0077 <0.05 which means that the profitability variable has a significant effect on the capital structure at the level of  $\alpha = 5\%$ ; The liquidity variable ( $X_3$ ) has a regression coefficient of -3.20E-05, the t-statistic value is -2.576241 with a probability of 0.

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**Multiple Linear Regression Analysis Test**

Multiple linear regression analysis is intended to test the extent and direction of the influence of the independent variables on the dependent variable. The independent variables in this study are company size, profitability, and liquidity, while the dependent variable is the capital structure using the Random Effect Model. The multiple linear regression equation is as follows:

$$DER = 6,026980 - 0,175973Ukper - 0.000397ROA - 3,20E-05CR + e$$

Information :

- Y = Capital structure
- X1 = Company size
- X2 = Profitability
- X3 = Liquidity
- $\alpha$  = Constant
- e = Error, error rate

**Tabel 4.11 Uji Persamaan Regresi Linier Berganda**

Dependent Variable: Y?  
 Method: Pooled EGLS (Cross-section random effects)  
 Date: 12/16/19 Time: 02:22  
 Sample: 2013 2018  
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 Total pool (balanced) observations: 72  
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Variable	Coefficient	Std. Error	t-Statistic	Prob.
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X3?	-3.20E-05	5.55E-05	-2.576241	0.0064

Effects Specification		S.D.	Rho
Cross-section random		0.493186	0.4346
Idiosyncratic random		0.562472	0.5654

Weighted Statistics			
R-squared	0.555896	Mean dependent var	0.439850
Adjusted R-squared	0.309020	S.D. dependent var	0.562866
S.E. of regression	0.558843	Sum squared resid	21.23678
F-statistic	4.341988	Durbin-Watson stat	0.734995
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.097047	Mean dependent var	1.042069
Sum squared resid	34.94731	Durbin-Watson stat	0.446642

Sumber : Data diolah dengan E views

The results of the analysis of the effect of each independent variable on the dependent variable, namely:

1. The  $\alpha$  constant value is 6,026980, which states that if the value of company size ( $X_1$ ), profitability ( $X_2$ ), liquidity ( $X_3$ ) profitability ( $X_4$ ) is cost (0), then the size of the capital structure is 6.026980%
2. The regression coefficient value  $X_1$  has a negative effect of 0.175973 for company size, meaning that every 1 change in the value of company size, the capital structure will experience a decrease of 0.175973.
3. The regression coefficient value  $X_2$  has a negative effect of 0.000397 for profitability, meaning that every 1 change in the value of profitability, the capital structure will experience a decrease of 0.000397.
4. The regression coefficient value  $X_3$  has a negative effect of 3.20E-05 for liquidity, meaning that every 1 change in liquidity value, the capital structure will decrease by 3.20E-05.

### Hypothesis testing

Based on the Chow-test model test, it shows that the chosen Fixed Effect Model. On the other hand, the results of the Hausman model test indicate that a Random Effect Model is chosen. These results prove that the panel model chosen is the Random Effect Model.

**Tabel 4.12 Uji Hipotesis**

Dependent Variable: Y?  
 Method: Pooled EGLS (Cross-section random effects)  
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Effects Specification		S.D.	Rho
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Weighted Statistics			
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Prob(F-statistic)	0.000000		

Unweighted Statistics			
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Sum squared resid	34.94731	Durbin-Watson stat	0.446642

Sumber : Data diolah dengan E views

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## **Simultaneous Test (Test F)**

The F test can be seen from the results of simultaneous regression significance testing. The results can be seen in table 4.12 that the F-statistic value is 4.341988 with a significance value of 0.000000 <0.05. Based on these results, the hypothesis which states that firm size, profitability, and liquidity simultaneously affect the capital structure is accepted. Then the hypothesis is proven influential.

## **Partial Test (t test)**

### **1. First Hypothesis (H<sub>1</sub>)**

The t test can be seen from the results of the partial regression significance test. The results can be seen from table 4:12 that the probability significance value is 0.0007 <0.05. Then these results indicate that H<sub>1</sub> is accepted, meaning that company size (X<sub>1</sub>) partially affects the capital structure (Y). Then the hypothesis H<sub>1</sub> is proven.

### **2. Second Hypothesis (H<sub>2</sub>)**

The t test can be seen from the results of the partial regression significance test. The results can be seen from table 4:12 that the probability significance value is 0.0070 <0.05. Then these results state that H<sub>2</sub> is accepted, meaning that profitability (X<sub>2</sub>) partially affects the capital structure (Y). Then the H<sub>2</sub> hypothesis is proven.

### **3. Third Hypothesis (H<sub>3</sub>)**

The t test can be seen from the results of the partial regression significance test. The results can be seen from table 4:12 that the probability significance value is 0.0064 <0.05. Then these results indicate that H<sub>3</sub> is accepted, meaning that liquidity (X<sub>3</sub>) partially affects the capital structure (Y). Then the hypothesis H<sub>3</sub> is proven.

## **Determination Coefficient (R<sup>2</sup>)**

Based on table 4.12, it states that the Adjusted R-square value is 0.309020, meaning that the coefficient of determination of this study is 0.309020, this means that the independent variable is able to explain the dependent variable only by 30.90%. The remaining 69.10% is influenced by other independent variables which were not examined in this study.

## **Discussion**

Firm size has a negative and significant effect on capital structure. Due to errors in making funding decisions, company management is not able to manage the company's capital structure optimally. The size of the company affects the company's capital, where the smaller the size of the company, the greater the capital structure the company needs

Profitability has a negative and significant effect on capital structure. This happens because if the level of profitability is getting smaller, the capital structure is getting bigger, and conversely, if the profitability is greater, the capital structure is getting smaller. This is because the company uses retained earnings and reduces debt. If the company has a high level of profitability, the company will use retained earnings and reduce debt. The higher the profit the company gets, the smaller the need for funds, especially from investors, both in the short and long term.

Liquidity has a negative and significant effect on capital structure. This is because if liquidity decreases, the capital structure will increase, and vice versa if liquidity increases, the capital structure

will decrease. A company must pay attention to its liquidity, the company must be able to maintain the availability of funds to emphasize the use of its debt. So that there are not too many idle funds in the company, the available internal funds should be maintained. So that the opportunity to invest can also be reduced. Emphasis on the use of debt can avoid the risks arising from the use of debt.

Company size, profitability, and liquidity simultaneously affect the capital structure. This variable has an influence on the capital structure of 30.90% so that it can be used as a guide for investors in making investment decisions. This means that the variables of company size, profitability and liquidity have not been able to represent perfectly (100%) to assess the funding decision. However, the research variables, theory and research results have been well presented in this study, and it does not rule out that there are other variables that are more powerful in measuring funding decisions than these independent variables. Weaknesses of correlation between independent variables that have not been able to represent absolutely the results of this study,

## **V. CONCLUSIONS AND SUGGESTIONS**

### **Conclusion**

1. Company size has a negative and significant effect on capital structure, meaning that the smaller the company size, the greater the capital structure the company needs. This is necessary to expand its business. Company size is a description of the company's financial capability in a certain period.
2. Profitability has a negative and significant effect on the capital structure of the company, meaning that if the level of profitability is getting smaller, the capital structure is getting bigger to be used for operational and investment purposes. On the other hand, if the greater the profitability, the smaller the capital structure. This is because if the company has a high level of profitability, the company will use retained earnings and reduce debt.
3. Liquidity has a negative and significant effect on the capital structure of the company, meaning that if liquidity decreases, the capital structure will increase, and vice versa if liquidity increases, the capital structure will decrease. A company must pay attention to its liquidity, the company must be able to maintain the availability of funds to emphasize the use of its debt.
4. Company size, profitability, and liquidity simultaneously have a significant effect on the capital structure of mining companies listed on the Indonesia Stock Exchange for the period 2013-2018.

### **Suggestion**

1. For Investors  
Investors should understand all the information by taking into account others related to the capital structure that will be used for making investment decisions.
2. For Further Researchers  
Future researchers should conduct research in different sectors with a larger number of samples so that the research results have a broader scope.

### **Limitations and further research development**

This research was conducted at mining companies in the period 2013-2018 where there were only 72 samples of companies studied, so that for further research it is expected that the number of companies studied is more than this research and increase the sample variation from each industry so that the results obtained are able to provide an overview. more comprehensive research results. We recommend that the



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observation period for further research uses an observation period that is longer than this research period, this aims to get stronger results.

For the next research, it is expected not only to use company size, profitability and liquidity but to use market ratios, such as Earning Per Share (EPS) and Price Earning Ratio (PER). may have an influence on funding decisions, such as inflation, SBI interest rates and other economic conditions

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