

## **COMPREHENSIVE EXAMINATION OF DETERMINANTS INFLUENCING CAPITAL STRUCTURE AND STOCK RETURNS IN MINING COMPANIES**

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### **ABSTRACT**

The capital market functions as an intermediary institution connecting entities in need of funds with those having surplus capital; therefore, the role of the capital market is crucial in supporting the economy of a country. In Indonesia, the mining sector is perceived to offer high returns for investors due to its competitive financial performance. Despite the decline in oil and coal prices from mid-2014 to 2016, the mining sector continued to be a key pillar of Indonesia's economy. In 2016, this industry notably contributed the largest non-tax revenue to the country. The population in this study consisted of 47 mining companies listed on the Indonesia Stock Exchange during the period 2013-2018. Sample selection was conducted using purposive sampling, resulting in 38 companies meeting the criteria from the initial 47. The data analysis technique employed in this study utilized path analysis. The research findings indicate that asset structure and profitability positively influence capital structure, while capital structure and company size negatively influence capital structure. Asset structure and company size positively influence stock returns, whereas capital structure negatively influences stock returns.

**Keywords:** Capital Structure, Stock Returns, Capital Market

### **INTRODUCTION**

The capital market functions as an intermediary institution connecting entities in need of funds with those having surplus capital; therefore, the role of the capital market is crucial in supporting a country's economy. Companies require funds to finance and expand their business units, indirectly contributing to the overall economic activities of the country and enhancing the well-being of the society. On the other hand, investors with surplus funds can choose investment alternatives with the hope of obtaining optimal returns, such as profits from capital gains and stock dividends.

Stock returns are influenced by micro-level fundamental factors that can be grouped into company policy factors and company performance factors. Company performance factors are reflected in financial statements that depict a company's financial performance. Financial ratios, cash flows, and other performance indicators associated with stock returns can be gleaned from financial statements.

However, recently, there has been a significant decline in the financial performance of the mining sector, affecting a substantial number of mining companies in Indonesia. Examination of stock prices for mining companies on the Indonesia Stock Exchange reveals that these prices consistently remained below the IHSG (Jakarta Composite Index) from 2013 to 2018.



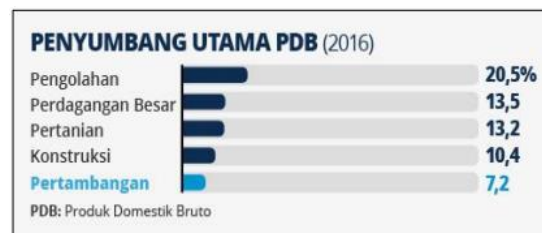
**Figure 1:** Comparison of Mining Stock Prices with IHSG Over the Last 5 Years

In Indonesia, the mining sector is considered a business segment capable of providing high returns for investors due to its competitive financial performance. This is evident from released data indicating that the mining sector is a significant contributor to the country's revenue. Despite the decline in oil and coal prices from mid-2014 to 2016, the mining sector remained a pillar of Indonesia's economy. In 2016, this industry notably became the largest contributor to Non-Tax State Revenue (PNBP) from natural resources. The contributions from crude oil, natural gas, minerals, and coal amounted to Rp 90 trillion, encompassing 95 percent of natural resource revenue.



**Figure 2:** Amount of Non-Tax State Revenue Deposit (PNBP) in 2016

With a share reaching 7.2 percent, the oil and gas mining (migas) and mining and minerals (minerba) sectors also significantly contribute to the Gross Domestic Product (GDP) in 2016, following trade, agriculture, and construction services.



**Figure 3:** Percentage of Gross Domestic Product (PDB) in 2016

Furthermore, in addition to its significant contributions to revenue, the extractive industry, known for its extractive activities, also made the largest contribution to the Land and Building Tax (PBB) in 2015, reaching Rp. 27 trillion.

Asset structure reflects the proportion between total assets and the fixed assets of a company. The larger the amount of fixed assets a company possesses, the higher the external funding it can obtain because the company uses fixed assets as collateral to secure loans from external parties. Previous research by Armelia (2016) resulted in the finding that asset structure does not affect capital structure, while researchers Deviani and Sudjarni (2018) found that asset structure has a negative impact on capital structure.

Company size is determined by several indicators, including the company's equity value, sales value, or the total assets held by the company. Larger companies have the advantage of easier access to loans or capital from both financial institutions and individual investors. Company size has a positive relationship with Debt to Equity Ratio (DER), meaning that the larger the company, the higher the DER. Research by Borhan et al., (2014) stated that company size has a significant positive impact on capital structure, while research by Luthfiyanti & Dahlia, (2020) (Bhaskaran et al., 2021; Chandra et al., 2019) found that company size does not significantly affect capital structure.

As commonly understood in stock investment, the principle of "low risk, low return; high risk, high return" prevails. Prospective investors are advised to thoroughly understand stock prices and the factors influencing their fluctuations, with the expectation that each invested fund will yield returns in line with the investor's expectations. The fluctuations or fluctuations in the stock prices of mining companies in the capital market become an intriguing phenomenon to discuss in relation to the ups and downs of financial performance, as reflected in the financial statements of these mining companies.



**Figure 4:** Fluctuations in the Stock Index of the Mining Sector from 2013 to 2018

Investors must also be aware that the high fluctuations in mining stock prices, on one hand, may result in price differentials that have the potential for stock returns in the form of capital gains, but on the other hand, there is also the possibility of incurring capital losses. This is where the expertise of investors is crucial in analyzing the stock prices of a mining company. There are two popular stock analysis techniques used to assess financial performance: fundamental analysis and technical analysis. Fundamental analysis is used to understand the issuer's condition, industry growth, and macro aspects of a country (Malik & Shim, 2019). Technical analysis is a technique used to predict the direction of stock price movements and other stock market indicators based on historical market data such as price and volume information (Central Bank Policy, 2019). This research focuses only on fundamental analysis as a tool for evaluating a stock. The reason for the emphasis on fundamental analysis is that stock index movements are highly influenced by changes in economic fundamentals and expectations about future prospects (Iin Nulpiana et al 2022). Fundamental analysis provides information to investors regarding the prospects of the capital market and the future performance of a company. Financial ratios reflecting a company's financial performance can be found in the company's financial statements. Therefore, financial statements are used as the object of fundamental analysis because they provide specific information that can assist investors in deciding whether to invest in a company's stock or not (Holmoy, 2010). The

financial condition or position of a company can be examined in five aspects: liquidity, solvency, profitability, business activity, and valuation/market aspects (Vihar et al., 1997).

### ***Problem Statement***

1. Does Profitability influence the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
2. Does Asset Structure influence the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
3. Does Company Size influence the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
4. Does Profitability influence the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
5. Does Asset Structure influence the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
6. Does Company Size influence the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?
7. Does Capital Structure influence the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018?

### ***Research Objective***

1. To understand and analyze the influence of Profitability on the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
2. To understand and analyze the influence of Asset Structure on the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
3. To understand and analyze the influence of Company Size on the Capital Structure of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
4. To understand and analyze the influence of Profitability on the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
5. To understand and analyze the influence of Asset Structure on the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
6. To understand and analyze the influence of Company Size on the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.
7. To understand and analyze the influence of Capital Structure on the Stock Returns of Mining Companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018.

### ***Literature Review***

#### ***Financial Performance***

The concept of a company's financial performance is closely related to the assessment of whether a company is healthy or not. Therefore, if its performance is good, the health level of the company is also considered good. According to Mulyadi, (2016), financial performance is periodically determining the operational effectiveness of an organization and its employees based on pre-established goals, standards, and criteria. A similar opinion is expressed by, stating that financial performance reflects the financial condition of a company based on set goals, standards, and criteria (Reddy et al., 2016).

#### ***Capital Market***

The capital market involves activities related to public offerings and trading of securities, public companies related to their issued securities, and institutions and professions related to securities. The

capital market provides various investment alternatives for investors, including alternatives such as saving in banks, buying gold, insurance, land, and buildings, among others.

### *Stock Returns*

Stock returns, also known as stock income, represent the change in the value of stock prices from period  $t$  to  $t-1$ . The higher the change in stock prices, the higher the resulting stock return.

To invest in stocks, analysis is required to measure the stock value, namely fundamental and technical analysis. The purpose of fundamental analysis is to determine whether the stock value is undervalued or overvalued. A stock is considered undervalued when the stock return in the stock market is smaller than the fair price or the value it should be, and vice versa. It can be said that to estimate stock return, fundamental analysis can be used, which analyzes the financial and economic conditions of the company issuing the stock.

With this analysis, analysts try to estimate future stock returns by estimating the value of fundamental factors influencing stock prices in the future and applying the relationship of these factors to obtain estimated stock returns. According to Tandellin, stock return is one of the factors that motivates investors to invest and is also a reward for the investor's courage to bear the risk of their investment. The systematic calculation of the return on investment can be written as follows:

$$\text{Total Return} = \text{Yield} + \text{Capital Gain (Loss)}$$

The calculation of the realized/actual return on stock is by calculating the difference in the individual stock price for the current period compared to the previous period, disregarding dividends (Hartono, 2013), and can be written in the formula:

$$R_i = P_t - P_{t-1} / P_{t-1}$$

### *Capital Structure*

A company's capital structure refers to the ratio between equity and debt in the company, representing the composition or percentage of debt to equity. The capital structure is utilized by companies to finance operational activities, business development, or other corporate investments. The capital structure can also be referred to as the debt-to-equity ratio (DER)

According to Flosbach & Fellow, (2013), the debt-to-equity ratio is a ratio used to assess debt with equity. This ratio is determined by comparing total debt, including current liabilities, with total equity. The debt-to-equity ratio varies for each company, depending on business characteristics and the diversity of its cash flows. Companies with stable cash flows typically have higher ratios. The Debt to Equity Ratio (DER) can be calculated using the formula (Harmono, 2017:112):

$$\text{DER} = \frac{\text{Total debt}}{\text{Total Equity}} \times 100\%$$

### *Return On Asset (ROA)*

ROA is a ratio that measures a company's ability to generate net income based on a certain level of assets. It is often referred to as Return On Investment (ROI). ROA serves as a comprehensive measure of a company's profitability. The better the ROA, the better the performance of the company. This ratio is broader than the return on common stockholders' equity because it compares the returns to both shareholders and creditors with the total assets:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

### *Fixed Asset Ratio (FAR) - Asset Structure*

The Fixed Asset Ratio (FAR), also known as the asset structure, illustrates the proportion between total assets and fixed assets within a company. The presence of substantial fixed assets facilitates the company in acquiring funds from external sources. The larger the value of fixed assets held by a company, the greater the potential funding that can be obtained from outside the company, as a significant amount of assets can serve as collateral. According to Salehi (2018), companies with a significant amount of fixed assets have the capability to utilize debt extensively. This is attributed to the large scale of the company, making it easier to access financial resources compared to smaller enterprises. The asset structure, measured by the ratio of fixed assets to total assets, is employed as a proxy or representation of the asset structure.

$$\text{Assets Structure} = \frac{\text{fixed assets}}{\text{Total Assets}} \times 100\%$$

## **METHOD, DATA, AND ANALYSIS**

### *Research Location and Time*

This research was conducted on mining companies listed on the Indonesia Stock Exchange (IDX), utilizing publicly available financial report data from 2013 to 2018. The data was obtained from the official website of the Indonesia Stock Exchange (<http://www.idx.id>) and the official websites of each mining company. The research period ranged from April to August 2019.

### *Population*

The population in this study comprises all mining sector companies (sub-sectors: coal mining, crude oil and natural gas mining, metal and mineral mining, soil and stone excavation) listed on the Indonesia Stock Exchange until the year 2018, totaling 47 companies.

### *Sample*

The sampling process, the researcher used purposive sampling with the following criteria:

1. Mining companies listed on the Indonesia Stock Exchange.
2. Mining companies that published annual financial reports for the period 2014 to 2018.
3. Companies that remained in the mining sector during the research period, without exiting or moving out.

The sample selection process using purposive sampling is outlined in the following table:

**Table 1:** Sampling Technique

Sample Selection Criteria	Number of Companies
Mining companies listed on the Indonesia Stock Exchange	47
Mining companies that did not publish annual financial reports after the period 2013-2018	(9)
Companies that exited or moved out of the mining sector	(0)
Mining companies meeting the sample criteria for 2014-2018	38

*Source: IDX 2019 (processed data)*

Based on the table above, the total number of mining companies listed on the Indonesia Stock Exchange during the years 2013 to 2018 is 47. There are 9 companies that did not publish financial reports for the

period 2013-2018, and no companies exited or moved out of the mining sector. Therefore, the sample consists of 38 companies that meet the specified criteria.

### ***Type and Source of Data***

The data sources for this study are obtained from the internet, specifically the official website of the Indonesia Stock Exchange ([www.idx.go.id](http://www.idx.go.id)). The data includes annual financial reports of mining companies listed on the Indonesia Stock Exchange for the period from 2013 to 2018.

### ***Data Analysis Technique***

The data analysis technique employed for data processing in this research is path analysis. The assumptions that need to be fulfilled are as follows:

**Table 2:** Assumptions Criteria for Path Analysis

<b>Goodness of Fit Index</b>	<b>Suggested Criteria</b>
Chi-Square Probability	> 0.01
Chi-Square/DF	< 5
G F I	> 0.90
A G F I	> 0.90
C F I	> 0.90
<b>Goodness of Fit Index</b>	
N F I	> 0.90
RMSEA	< 0.10

From the path diagram in the table above, it can be translated into functional or equation forms as follows:

$$Y1 = a + b1(X1) + b2(X2) + b3(X3) + e1$$

$$Y2 = a + b4(X4) + b5(X5) + b6(X6) + b7(X7) + e2$$

Where:

Y1 = Dependent variable of capital structure

Y2 = Dependent variable of stock return

$\alpha$  = Constant

$\beta1 - \beta7$  = Regression coefficients

X1 = Profitability

X2 = Asset structure

X3 = Company size

X4 = Profitability

X5 = Asset structure

X6 = Company size

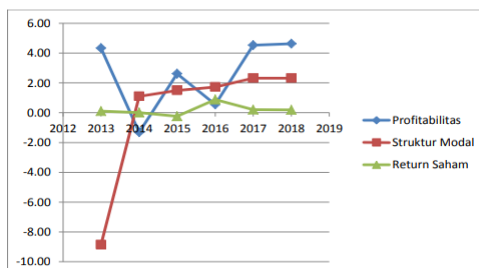
X7 = Capital structure

e = Error / Residuals

## RESULT AND DISCUSSION

### *Profitability*

Profitability in this study is measured using the Return on Asset (ROA) ratio. ROA serves as a metric for evaluating top-level management performance, as it reflects how effectively management can leverage assets to generate company profits. The significance of a high ROA lies in its indication of superior company performance, promising a high level of return on investment.

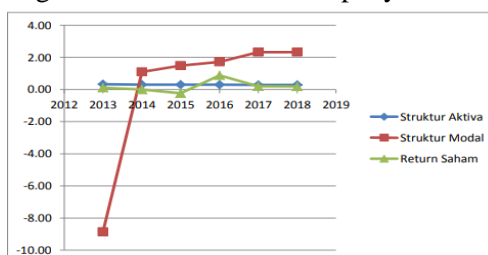


**Figure 5:** Profitability in Relation to Capital Structure and Stock Returns

Based on the results of the descriptive analysis, profitability has a positive influence on the capital structure. As seen in Figure 5, in the last two years, profitability has shown an increase, as well as the capital structure, which has also increased. However, the Profitability graph differs from the Return on Equity (ROE), which tends toward a negative influence. When profitability decreases, the return on equity increases, and vice versa. Contrary to the descriptive findings, the hypothesis testing results indicate that profitability does not significantly influence the capital structure. The fluctuation in the Return on Asset (ROA) ratio does not affect the Debt to Equity Ratio (DER). In other words, the profit obtained can be entirely distributed to shareholders, so the magnitude of ROA does not impact the DER ratio.

### *Asset Structure*

Asset structure represents the proportion between total assets and fixed assets of a company. Asset structure holds significant benefits for a company because the larger the fixed assets owned by a company, the higher the potential funding it can obtain from external sources. This is due to the substantial amount of assets serving as collateral for the company.



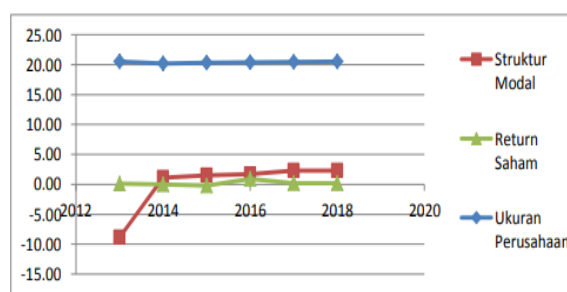
**Figure 6:** Asset Structure in Relation to Capital Structure and Stock Returns

Asset Structure From the results of the descriptive analysis, the data presented in the graph indicates that Asset Structure does not influence Capital Structure or stock returns. The values of the Asset Structure ratio for mining companies listed on the Indonesia Stock Exchange (BEI) from 2013 to 2018 tend to exhibit stability in their movements. In contrast, the Capital Structure values show an upward trend over the years, unlike the more fluctuating pattern observed in stock returns. Based on the hypothesis testing results, it is shown that the Asset Structure variable for mining companies listed on the BEI from 2013 to

2018 does not affect the Capital Structure variable of these companies. This suggests that companies with substantial fixed assets may not always utilize them as collateral to obtain loans from external sources. This finding aligns with the research conducted by Maryati (2017) and Armelia (2016), both of which state that Asset Structure does not significantly influence Capital Structure. It contradicts the study by (Mertzanis et al., 2023), which indicates a significant negative effect of Asset Structure on Capital Structure.

### ***Firm Size***

Firm size refers to the magnitude of a company, and it can be measured by total assets or the wealth of the company using the natural logarithm of total assets. From this definition, it can be inferred that firm size represents the scale of a company indicated by total assets, total sales, profit amount, thereby influencing the social performance of the company and contributing to achieving the company's goal of enriching shareholders.

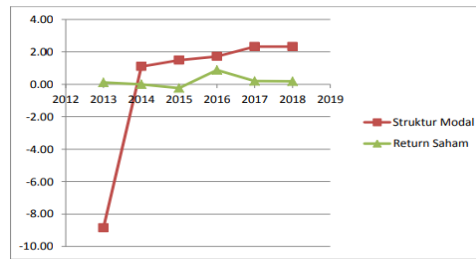


**Figure 7:** Company Size in Relation to Capital Structure and Stock Returns

From the results of descriptive analysis, the data presented in the graph indicates that Firm Size does not affect Capital Structure or Stock Return. Over the last 6 years, the average firm size in the mining sector has remained relatively stable, with no significant increases or decreases. Thus, it can be inferred that firm size does not influence Capital Structure or Stock Return. Hypothesis testing results align with the descriptive analysis, showing that Firm Size does not affect Capital Structure or Stock Return. These findings differ from studies by Pratama and Wiksuana (2016), which state that Firm Size has a positive effect on Capital Structure, as well as studies by Nopiyanti and Darmayanti (2016) and Pramana and Mustanda (2016), which suggest that Firm Size significantly influences Capital Structure. The conclusion from the hypothesis testing is that Firm Size does not affect Stock Return. This aligns with the research by (Takamatsu & Lopes Fávero, 2019), indicating that Firm Size does not significantly impact Stock Return. The results of this study differ from Mar'ati's research (2013), which states that Firm Size has a negative effect on Stock Return. In other words, Stock Return is not dependent on firm size; whether a company is large or small, firm size cannot be an indicator for achieving returns.

### ***Capital Structure***

Capital structure refers to the comparison between debt and equity in a company. If the debt outweighs equity, it results in the company incurring significant costs to repay debts, leading to a decrease in profits. This, in turn, affects the stock return that investors will receive. In other words, the capital structure of a company plays a crucial role in its financial health. A higher proportion of debt relative to equity can lead to increased financial burden through interest payments, potentially impacting the company's profitability. This, in turn, influences the return on stock, affecting the returns investors can expect. Investors often pay close attention to a company's capital structure when making investment decisions. Understanding the balance between debt and equity helps assess the financial risk associated with the company and its potential impact on returns.



**Figure 8:** Capital Structure in Relation to Capital Structure and Stock Returns

When correlated with stock return, the value of capital structure seems to be contradictory. In the past three years, while the capital structure tends to increase, the stock return, on the contrary, tends to decrease. This implies a negative relationship between capital structure and stock return. However, based on the results of hypothesis testing, it is found that capital structure does not significantly influence stock return. Therefore, it can be inferred that investors do not heavily consider the capital structure factor when deciding to invest in the mining sector of the Indonesia Stock Exchange (BEI) during the period of 2013-2019. This might be because a high Debt-to-Equity Ratio (DER) is accompanied by good financial performance, leading to an increase in the company's stock price, and investors have the potential to achieve returns. This is also supported by research conducted by (Flosbach & Fellow, 2013). However, it contrasts with the findings of Hermuningsin (2013), who states that capital structure has a positive effect on stock return.

## CONCLUSION

### Summary of Research Findings:

1. Profitability does not influence Capital Structure: The research suggests that profitability does not have a significant impact on capital structure. High profitability values may not necessarily indicate a signal for changes in the company's capital structure, as these values could be influenced by various fundamental factors specific to each company.
2. Fixed Asset Structure does not influence Capital Structure: The study finds that the fixed asset structure of mining companies listed on the Indonesia Stock Exchange (BEI) from 2013-2018 does not affect the capital structure variable. Companies with substantial fixed assets may not always utilize them as collateral to obtain external debt.
3. Company Size does not influence Capital Structure: The research concludes that company size does not impact capital structure significantly. Investors may not heavily consider the size of the company when deciding to invest. The magnitude of the company size may not serve as a benchmark for the extent of the company's capital structure, as there could be other larger factors influencing it.
4. Profitability significantly influences Stock Return: The findings indicate a positive and significant influence of profitability on stock returns. Higher profits resulting from good company performance signal a potential for high returns.
5. Fixed Asset Structure significantly influences Stock Return: The study reveals a significant positive influence of fixed asset structure on stock returns. If a company can leverage its substantial capital structure to achieve profits, it positively impacts the stock returns. In other words, higher fixed asset values can trigger an increase in stock prices, potentially leading to higher returns.

6. Company Size does not influence Stock Return: The tendency is that investors do not consider company size when deciding to invest in mining stocks. The size of the company may not be an indicator of the potential return on investment.
7. Capital Structure does not influence Stock Return: The research suggests that investors do not heavily consider capital structure factors when deciding to invest in the mining sector of the Indonesia Stock Exchange from 2013-2018. A low Debt-to-Equity Ratio (DER) does not guarantee that investors will receive returns on their investment, and vice versa. Stocks with a high capital structure potential may still offer returns to investors.

### **Research Limitations:**

This study has limitations, both in content and results, and is confined to a specific period. Future researchers are encouraged to address these limitations and expand the research by introducing additional factors, both internal and external, that may have a more significant impact on stock returns.

Additionally, expanding the scope of the research by including more companies is recommended. This study focuses only on companies listed on the BEI from 2013-2018. The hope is that future research outcomes will address the raised issues and provide valuable insights for all stakeholders seeking in-depth information related to the dependent variables discussed in this study.

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