

The Influence of Current Ratio, Debt To Equity Ratio, And Total Asset Turnover Toward The Return On Assets On Animal Feed Company

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Abstract: *This study aims to analyze the effect of Current Ratio, Total Asset Turnover, and Debt on Equity Ratio towards Return on Assets in Animal Feed Companies. The sample for this study were four animal feed companies registered on the Indonesia Stock Exchange from 2018 to 2022. Data were analyzed using multiple linear regression using SPSS software. The results indicates that the first hypothesis was accepted: Current Ratio (CR) has an effect towards the Return on Assets (ROA). Conversely, the second hypothesis is rejected, Total Asset Turnover (TATO) has no effect towards the Return on Assets (ROA). Moreover, the third hypothesis is accepted: Debt to Equity Ratio (DER) has an effect towards the Return on Assets (ROA). Finally, the fourth hypothesis is accepted. Simultaneously, the current ratio, total asset turnover ratio, and Debt to Equity ratio have a significant effect towards the Return on Assets (ROA).*

Keywords: *Return On Assets, Current Ratio, Debt to Equity Ratio, Total Asset Turnover*

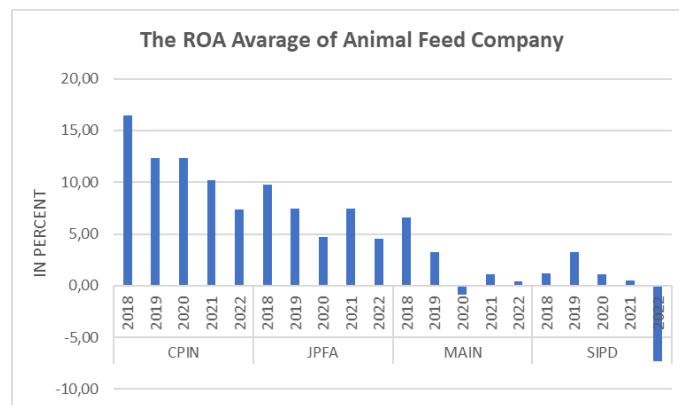
INTRODUCTION

The animal feed industry is one of the most important industries in Indonesia. This is said to be important because this industry has strong forward linkages with livestock farming. Animals cannot survive without food. This is a reality. Feed plays an important role in animal husbandry, both for the growth of young livestock, as well as for survival and production of products (milk, eggs, meat). Another function of feed is to maintain stamina and health. In order for livestock to grow as expected, the type of feed given to livestock must be of good quality and in sufficient quantities. This has prompted many feed mills to start setting up factories in several areas to meet the demand for feed which continues to increase in line with the increasing number of livestock. (<https://ditjenpkh.pertanian.go.id/berita/282-produksi-pakan-ternak>)

The rapid development of the economy and business has encouraged the animal feed companies to improve their company's performance in order to be able to compete with other similar companies. The growth of animal feed companies can be seen from the revenue generated. If the company's income increases from year to year, it can be said that the company's growth is quite good. However, if revenues are stagnant or even declining, it indicates that there must be something wrong with the company's growth. According to Payaman Simanjuntak (2005) in Fajaryani and Suryani (2018) performance is the attainment of results for the implementation of certain tasks. Company performance can be seen from the company's financial performance in earning profits. This can reflect the profitability of the company.

Profitability plays an important role in business activities to maintain the viability of the company in the future. It can indicate that the company has good prospects in the future. Company profitability can be measured in several ways, for instance is through the use of the Return on Assets. The ratio is obtained by comparing the company's overall ability to generate profit before tax to the total assets available. The higher the ratio, the better the company's performance and generate better profits (Rusdin, 2006). The profitability ratio in this study is Return on Assets (ROA), which is a ratio that shows how much the contribution of assets is in creating net profit (Hery 2016: 106).

Figure 1. The ROA average of animal feed company



A company basically wants to know the level of profitability and also the level of company health, so an analysis of the financial statements is carried out. Ratio analysis is one of the analytical tools used by financial managers to describe the relationship and comparison between the amount of one item and the number of other items in the financial statements.

Return on Assets (ROA)

According to Brigham and Houston (2021), profitability is the ability of a company to generate profit or profit from selling the products or services offered. Meanwhile, according to Home and Wachowicz (2021), profitability is the ability of a company to obtain a sizable profit within a certain period of time from its operational activities. In addition, profitability is also the ability of a company to obtain adequate profits from the use of its resources. (Mulyani; 2021). Profitability can be measured by various financial ratios, such as the ratio of net profit to sales, the ratio of gross profit to sales, the ratio of operating profit to sales, and the ratio of net profit after tax to total assets (ROA). In this study, the profitability ratio used is Return on Assets (ROA). Return on Assets (ROA) is a ratio that measures a company's ability to generate net profit from all of its assets. According to Sudana (2011; 22), Return on Assets shows the company's ability to use all of its assets to generate profit after tax. The formula used to calculate ROA is:

$$Return\ On\ Assets = \left(\frac{Earning\ After\ Tax}{Total\ Asset} \right) \times 100\% \tag{1}$$

Current Ratio (CR)

According to Brigham and Houston (2017), the liquidity ratio is the ratio used to measure a company's ability to meet its short-term obligations using current assets. Meanwhile, according to Mulyadi (2017), the liquidity ratio is a ratio that measures a company's ability to meet its short-term financial obligations by using current assets that can be converted into cash easily. The higher the value of the liquidity ratio, the greater the company's ability to meet its short-term obligations in a timely manner. However, too high can also indicate that the company is not utilizing current assets effectively to generate greater profits. There are several types of liquidity ratios that are often used, including Current Ratio, Quick Ratio, Cash Ratio.

In this study, the liquidity ratio used was the current ratio (CR). According to Brigham and Ehrhardt (2018), the current ratio is a ratio that measures a company's ability to fulfill its short-term obligations by using current assets. This ratio is calculated by dividing current assets by current liabilities. A high current ratio indicates that the company has enough current assets to pay its short-term liabilities, while a low current ratio indicates that the company may have difficulty paying its obligations. The current ratio is also an important measure in credit assessments made by creditors or investors. Creditors and investors tend to pay attention to the company's current ratio to find out whether the company is liquid enough or not. The higher the company's current ratio, the more likely it is that the company will be considered safe and credible by creditors and investors. Therefore, companies should pay attention to their current ratio and strive to maintain a healthy current ratio in order to meet their short-term obligations easily and earn the trust of creditors and investors. The formula used to calculate the current ratio. The current ratio can be calculated using the formula (Horn & Watchowic, 2012) which is:

$$Current\ Raito\ (CR) = \frac{Current\ Asset}{Current\ Debt} \tag{2}$$

Total Assets Turnover (TATO)

The activity ratio is the ratio used to measure a company's effectiveness in using its assets (Kasmir; 2018). This ratio is also known as the rev ratio or operational ratio. This ratio helps companies to measure how well they are utilizing their operational assets to generate income. There are several types of activity ratios that are generally used by companies, Accounts Receivable Turnover Ratio, Inventory Turnover Ratio, Fixed Assets Turnover Ratio, Total Assets Turnover Ratio, Creditor Turnover Ratio, Accounts Payable Turnover Ratio, Cash Turnover Ratio and Working Capital Turnover Ratio.

In this study, the activity ratio used was the total asset turnover ratio. According to Kasmir (2016: 185), the ratio is used to measure the turnover of all assets owned by the company and measures the amount of sales obtained from each rupiah of assets. This ratio is calculated by dividing total sales by total assets. The higher this ratio, the better the company's asset management in generating income. Conversely, if the company's total asset turnover ratio is low, this may indicate that the company is not utilizing its assets efficiently and may need to make changes in its operational strategy to increase the use of its assets in generating income. The formula used to calculate TATO (Kasmir, 2016: 286) is:

$$\text{Total Asset turnover ratio (TATO)} = \frac{\text{Sales}}{\text{Total Asset}} \quad (3)$$

Debt to Equity Ratio (DER)

According to Kasmir (2018: 110) the leverage ratio is the ratio used to measure the extent to which a company's assets are financed with debt. This ratio measures the relationship between the amount of debt a company uses and the amount of its own capital or equity it has. Leverage ratio can help investors to evaluate the risks and potential benefits of their investment in the company. A high leverage ratio indicates that a company relies more on debt than its own capital, which means a higher bankruptcy risk, while a low leverage ratio indicates that a company relies more on its own capital, which means a lower bankruptcy risk. Leverage ratios can be measured by various financial ratios, such as Debt-to-Equity Ratio (DER), Debt-to-Assets Ratio (DAR), Interest Coverage Ratio (ICR), Fixed Charge Coverage Ratio (FCCR) and Total Debt Ratio (TDR).

In this study, the leverage ratio used is the Debt-to-Equity Ratio (DER). According to Kasmir (2018: 157) the debt-to-equity ratio is the ratio used to assess debt to equity. In general, a high DER ratio indicates that a company uses more debt than its own capital to finance its operations. This can indicate that the company is at high risk because large debt will increase interest costs and affect free cash flow. However, a high DER ratio is not always negative, especially if the company is able to pay interest and repay its debts on time. Conversely, a low DER ratio indicates that a company is more dependent on its own capital to finance its operations, which can indicate financial stability and low risk of bankruptcy. However, a low DER ratio may also indicate that the company is not utilizing financial resources effectively and is sacrificing growth opportunities. According to Kasmir (2018: 158) the formula for finding DER is:

$$\text{Debt to Equity Ratio (DER)} = \left(\frac{\text{Total Debt}}{\text{Equity}} \right) \times 100\% \quad (4)$$

According to Sugiyono (2018: 63) hypothesis is a temporary answer to the formulation of the research problem, it is said to be temporary because the answers given are only based on theory. The hypothesis is formulated on the basis of a framework which is a temporary answer to the problem being formulated. Based on the relationship between variables, the hypothesis can be formulated as follows:

- H1: Current Ratio (CR) has a significant effect towards the Return on Assets (ROA) in animal feed companies
- H2: Total Assets Turnover (TATO) has a significant effect towards the Return on Assets (ROA) in animal feed companies.
- H3: Debt to Equity Ratio (DER) has a significant effect towards the Return on Assets (ROA) in animal feed companies.
- H4: Current Ratio (CR), Total Assets Turnover (TATO), Debt to Equity Ratio (DER) simultaneously have a significant effect towards the Return on Assets (ROA) in animal feed companies.

RESEARCH METHODOLOGY

Population and Sample

In this study, research data was taken from companies of the animal feed industry sub-sector that were registered on the Indonesia Stock Exchange for the period 2018–2022 and obtained a sample of 4 companies. The companies are PT. Charoen Pokphan Indonesia Tbk (CPIN), JAPFA Comfeed Indonesia Tbk(JPFA), Malindo Feedmill Tbk (MAIN), and PT. Sreeya Sewu Indonesia Tbk (SIPD). The financial reports used in this study are for 5 years from 2018-2022. Therefore, the total sample used in this study were 20 samples (4 x 5 = 20).

Method of data collection

In this study, the data collection method used to obtain the data is the documentation technique. The documentation technique in this report is the financial statements of animal feed sub-sector companies registered on the Indonesia Stock Exchange for the 2018-2022 period.

Method of data analyzing

The data analysis technique used in this study is multiple linear regression analysis. In this multiple linear regression analysis, in order for the regression equation to be called feasible, it must meet the classic assumption test, namely the normality test, multicollinearity test, heteroscedasticity test and autocorrelation test. The data analysis techniques used in this study are as follows.

Classic assumption test

The assumption test is used to test the feasibility of the regression model which consists of:

1. Normality Test

The normality test aims to test whether in the regression model the dependent variable and independent variable both have a normal distribution or not (Ghozali, 2011).

2. Autocorrelation Test

Autocorrelation test aims to test whether in a linear regression model there is a correlation between confounding errors on t-period and errors on t-1 period (Ghozali, 2011).

3. Multicollinearity Test

Multicollinearity test aims to test whether the regression model found a correlation between the independent variables (Ghozali, 2011).

4. Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one residual observation to another. A good regression model is that there is no heteroscedasticity (Ghozali, 2011).

Multiple Regression Analysis

Multiple linear regression is used to determine the effect of the independent variables on the dependent variable with the following equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e \quad (5)$$

Where:

Y =Return on Assets (ROA)

X_1 =Current Ratio (CR)

X_2 =Total Assets Turnover (TATO)

X_3 =Debt to Equity Ratio (DER)

a = Constant

$b_{1,2,3}$ = regression coefficient variable

e =error

Partial Test (t-test)

The statistical t-test basically shows how far the influence of one independent variable individually explains the dependent variable (Ghozali, 2011) In this study, the t-count value will be compared with the t-table at a significant level(α) = 5%.

Simultaneous Test (F-Test)

The statistical F-test basically shows whether all the independent variables included in the model have a joint effect on the dependent variable (Ghozali, 2011). In this study, the F-count value will be compared with the F-table at a significant level(α) = 5%.

Determination Coefficient Test (R^2)

The coefficient of determination (R^2) aims to measure how far the model's ability to explain the variation of the dependent variable (Ghozali, 2011). The higher the *Adjusted R Square* value means the better the regression model used because due to it indicates that the ability of the independent variable to explain the dependent variable is also getting bigger.

RESULTS TEST

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Classic assumption test

Normality test

The normality test was carried out by the Kolmogorov-Smirnov test and the results are obtained in table 1.

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		20
Normal Parameters ^a	Mean	.0000000
	Std. Deviation	1.63311143
Most Extreme Differences	Absolute	.142
	Positive	.142
	Negative	-.094
Kolmogorov-Smirnov Z		.634
Asymp. Sig. (2-tailed)		.816

a. Test distribution is Normal.

Based on the results of the normality test it is known that the significant value is $0.816 > 0.05$, it can be concluded that the residual values are normally distributed. This means that the dependent variable and independent variable are both normally distributed.

Autocorrelation Test

Autocorrelation testing was carried out using Durbin-Watson and the results obtained are shown in table 2.

Table 2. Autocorrelation Test Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.956 ^a	.913	.897	1.77964	1.879

a. Predictors: (Constant), DER, TATO, CR

b. Dependent Variable: ROA

Based on the results of the autocorrelation test, it can be seen that the D-W number is $+1.879$. This means that the regression model has no autocorrelation because it lies between -2 and $+2$.

Multicollinearity Test

The multicollinearity test was carried out using the VIF value and the results are obtained in table 3.

Table 3. Multicollinearity Test Results

Coefficients^a

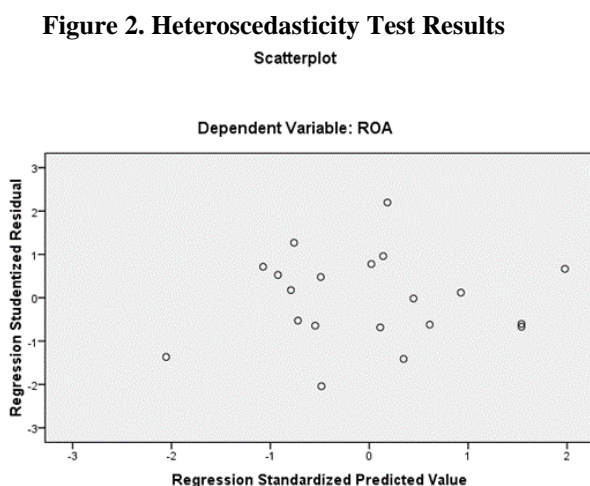
Model		Collinearity Statistics	
		Tolerance	VIF
1	CR	.306	3.273
	TATO	.744	1.344
	DER	.267	3.751

a. Dependent Variable: ROA

Based on the results of the multicollinearity test, it can be seen that the Tolerance value indicates that there is no independent variable that has a Tolerance value of less than 0.10 , which means there is no correlation between the independent variables. This can also be seen in the VIF value calculation results, which show that there is not one independent variable that has a VIF value greater than 10 . So it can be concluded that there is no multicollinearity between the independent variables.

Heteroscedasticity Test

The results of the heteroscedasticity test can be seen in Figure 2 below.



From the statistic plots, it can be seen that the points spread randomly and are scattered both above and below the number 0 on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model.

Multiple Linear Regression

From the results of multiple linear regression testing, it can be seen in table 4 below:

Table 4. Multiple Linear Regression Test Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.361	3.687		-.098	.923
	CR	5.801	1.274	.606	4.554	.000
	TATO	.024	2.171	.001	.011	.991
	DER	-.032	.011	-.399	-2.798	.013

a. Dependent Variable: ROA

Based on the results of multiple linear regression calculations, the regression equation is obtained as follows:

$$Y = -0.361 + 5.801 X1 + 0.24 X2 - 0.32 X3 + e$$

From the regression equation above, it can be concluded that:

1. The constant value is -0.361. This means that if the variable current ratio (X1) and total Assets turnover (X2) and the Debt to equity ratio is 0 (zero), then the value of return on Assets (Y) is -0.361.
2. The regression coefficient of 5.801 says that the current ratio has a positive effect on return on assets. It means that each addition of each current ratio of 1 unit will add a return on assets of 5.801.
3. The regression coefficient of 0.024 says that Total Assets Turnover has a positive effect towards the return on Assets. This means that each addition of each total Asset turnover ratio of 1 unit will add a Return on Assets of 0.024.
4. The coefficient - 0.32 says that the Debt to Equity Ratio has a negative effect towards the Return on Assets. This means that each additional debt to equity ratio of 1 unit will reduce the Return on Assets by 0.32.

Hypothesis testing

Partial Test Results (T-Test)

Based on the calculation results in table 4, it can be indicated that partially the current ratio (CR) with t count is 4.554 and a significant level of 0.00 is less than 0.05, which means that the current ratio variable has a positive and significant effect towards the Return on Assets. Therefore the first hypothesis is accepted, namely the Current Ratio has a significant effect towards the Return on Assets (ROA). Moreover, the Total Asset Turnover, with t-count of 0.11 and a significant level of 0.991 greater than 0.05 indicates that the Total Asset Turnover variable partially has a positive and insignificant effect towards the Return on Assets variable.

In the other words, the second hypothesis is rejected, namely the Total Asset Turnover has no effect towards the Return on Assets. Meanwhile, the Debt to Equity Ratio has t-count -2.798 with a significant level of 0.013 which is less than 0.05 indicates that partially the Debt to Equity Ratio has a negative and significant effect towards the Return on Assets. In sum, the third hypothesis is accepted, namely the Debt to Equity Ratio has a significant effect toward the Return on Assets.

Simultaneous Test Results (F-Test)

The F-test was conducted to determine whether the independent variables simultaneously have a significant influence on the dependent variable. This means whether the Current Ratio, Total Asset Turnover and Debt to Equity Ratio simultaneously have a significant effect towards the Return on Assets. Table 5 shows the results of the F test.

Table 5. Simultaneous Test Results (F-Test)

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	534.840	3	178.280	56.291	.000 ^a
	Residual	50.674	16	3.167		
	Total	585.514	19			

a. Predictors: (Constant), DER, TATO, CR

b. Dependent Variable: ROA

Based on the results of the F-test, it shows that the current ratio, total asset turnover and debt to equity ratio simultaneously affect the return on assets. Where the calculated F-value is 56.291 > from the F-table of 3.239 with a significant value of 0.000 < 0.05 indicates that the fourth hypothesis is accepted. The results of this test state that the current ratio, Total Assets Turnover, and debt to equity ratio simultaneously have a significant effect toward the Return on Assets.

Determinant Coefficient Test Results (R²)

The test results for the coefficient of determination can be seen in the value of *Adjusted R Square* which shows how much the independent variable can explain the independent variable. The test results are shown in table 6.

Table 6. Determinant Coefficient Test Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 ^a	.913	.897	1.77964

a. Predictors: (Constant), DER, TATO, CR

b. Dependent Variable: ROA

From the test results obtained a coefficient of determination of 0.913 or 91.3%. This shows that the value of 91.3% return on assets can be explained by the three independent variables, namely Current Ratio, Total Assets Turnover and Debt to Equity Return. While the value of 8.7% (100-91.3 = 8.7%) is explained by other factors outside the model.

DISCUSSION AND CONCLUSION

Effect of current ratio towards the Return on Assets

The first hypothesis states that the Current Ratio has a significant effect towards the Return on Assets. This is supported by the results of this study. Where the test results show that the Current Ratio has a significant effect toward the Return on Assets in animal feed companies. This means that increasing the Current ratio will increase the Return on Assets. Vice versa, if the Current Ratio decreases, the Return on Assets will also decrease. The results of this study are in line with the results of research by Irman, et al., 2020; Damayanti & Chaerudin., 2021 where the Current Ratio has a positive and significant effect toward the Return on Assets.

Effect of Total Assets Turnover toward the Return on Assets

The second hypothesis states that Total Asset Turnover has a significant effect toward the Return on Assets. From the results of this study it can be concluded that the total asset turnover has no effect toward the ROA of animal feed sub-sector companies. The results of this study are in line with the results of research from Gulton, et al, 2020; Agustina and Pratiwi, 2021.

However, this is not in line with previous research conducted by Damayanti & Chaerudin., 2021; Nurdin, Tandirerung & Hurairah, 2020 where the research results show that partially there is a significant effect between Total Asset Turnover toward the Return on Assets.

Effect of Total Debt to equity ratio toward the Return on Assets

The third hypothesis states that the Debt to Equity Ratio has a significant effect towards the Return on Assets Ratio. From the results of the study, it can be concluded that the debt to equity ratio has a significant negative effect towards the return on assets ratio of companies in the animal feed subsector. If a company has a high DER, it means that the company has a large interest expense, which can affect the resulting net profit. As a result, the company's ROA can decrease because interest expenses eat up a large part of the company's income. The results of this study are not in line with the results of research from Gulston, et al, 2020; where the results of their research show that the Debt To Equity ratio has a significant positive effect toward the Return On Assets.

Effect of Current Ratio, Total Asset Turnover Ratio, and Debt To Equity Ratio toward the Return On Assets

The fourth hypothesis states that Current Ratio (CR), Total Assets Turnover (TATO), Debt to Equity Ratio (DER) together (simultaneously) have a significant effect on profitability in animal feed companies. In this study, the test results indicated that simultaneously Current Ratio, Debt to Equity Ratio, Total Assets Turn Over affect the Return on Assets in animal feed subsector companies. In conclusion, the current ratio has a positive influence on company return on assets (ROA). A healthy current ratio can help a company maintain a good reputation in the eyes of creditors and investors, so that it can gain easier access to the sources of funds it needs. As a result, companies can increase their ROA because they have greater access to capital. However, as previously mentioned, the effect of the current ratio on ROA can vary depending on the business conditions and industry in which the company operates. Therefore, companies must consider these factors in evaluating the effect of the current ratio on its ROA.

Total asset turnover measures a company's efficiency in using its total assets to generate sales. The higher the total asset turnover, the more efficient the company is in using its assets to generate income. This can help increase ROA as the company to generate greater revenue using existing assets. In addition, the effect of total asset turnover on ROA also depends on the industry and market conditions in which the company operates. Some industries may have naturally higher total asset turnover due to the nature of their business, such as the retail industry, while other industries may have lower total asset turnover due to the nature of their business, such as the manufacturing industry.

A high DER does not always have a negative impact on ROA. If a company can use debt to finance profitable investments and generate profits that are higher than the cost of debt, then ROA can increase. However, the risk is higher when the DER is higher, so companies must consider the risks and benefits of using debt in their financial decisions.

IMPLICATIONS, LIMITATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

The results of this study are also expected to provide an overview for companies on how to increase profitability and how the current ratio, total assets turnover, and debt to equity ratio can increase this effect, but the effect must be seen together and in the context of market and industry conditions in where the company operates. In the future, it is hoped that similar research can be carried out with a wider variety of samples and companies that are sampled from sub-sectors and even different sub-sectors so that the research results can be more generalized.

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