

# Effect of Liquidity on Profitability

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**Keywords:** Liquidity, Profitability, Current Ratio, Quick Ratio, Liquid Ratio, Net Profit Margin, Return on Equity, Return on Capital Employed.

**Abstract:** This study aims to determine the effect of liquidity and profitability on 20 companies listed on the Indonesia Stock Exchange in the infrastructure, utilities and transportation sectors for 5 years from 2013 -2017. This study uses regression analysis to test 3 indicators of liquidity ratio (current ratio, quick ratio, and liquid ratio) and 3 indicators of profitability ratio (net profit margin, return on equity, and return on capital employed). The results of this study found that 2 liquidity indicators affect profitability indicators and 7 liquidity indicators do not affect profitability indicators. Liquidity indicators that affect profitability indicators are the Current Ratio significantly influence Return on Equity and, Quick ratio significantly influence to Return on Capital Employed.

## 1 INTRODUCTION

Company management has an important task in deciding and managing the company's economy in order to maximize value and optimize profits. Financial statements have the main focus of earnings, financial statement information should have the ability to predict future earnings with reference to earnings in previous years. The optimal level of profit can be calculated and analysed using profitability ratios. Profitability ratios calculate the level of company profitability in relation to the sale of total assets, as well as own capital (Sartono, 2001). The amount of profit is often compared to financial conditions, this is to assess whether a company tends to focus on profit or focus on company liquidity.

According to Hanafi & Halim (2012) Liquidity is a measure of a company to meet short-term obligations by considering current assets. Liquidity refers to the company's ability to meet its short-term obligations. Liquidity management ensures that the company has the ability to meet current obligations. Companies with high liquidity have a low profitability risk, therefore companies must accept low profits.

The company will be faced with a condition when the company must determine the decision between liquidity and profitability. If the company prefers to increase the level of profit (profitability) will reduce the level of liquidity. Conversely, if the company

prefers to increase liquidity, the company will reduce the level of profitability. This needs to be considered by the company, considering the liquidity and profitability are two important things to guarantee and develop the company's survival in the future. A high level of liquidity allows the company to pay obligations, but if the level of liquidity is low then the company will experience insolvency and if this problem continues to drag on, the company will likely experience bankruptcy.

Previous research was conducted by Darmawan (2010) in Indonesia using financial statements, with the result that the liquidity ratio increased, but in reality, the company was unable to pay the company's obligations. The value of liabilities is higher than the value of a guarantor owned by the company. The company's profitability ratio generates significant profits. Subsequent research in Sri Lanka by (Ajanthan, 2013) found a significant relationship between liquidity and profitability. Olerewaju & Adeyemi (2015) investigated the existence and direction of the interconnection between liquidity and profitability for the period 2004-2013. They found no causal relationship between liquidity and profitability for 11 banks and unidirectional causality for 4 banks. Similar research was also conducted by Hamid & Akhi (2016) in Bangladesh, they suggest that there is no significance between profitability and liquidity in chemical companies in Bangladesh except Current Ratio. Suryaningsih (2018) conducted a study in

Indonesia on construction and building sub-sector companies, the results of which liquidity and solvency affected profitability.

Throughout 2017 the realization of investment has increased especially in the infrastructure, utilities, and transportation sectors reaching 51.42%. Investment worth IDR 708.9 billion is recorded in domestic investment in the transportation equipment business. The Central Statistics Agency (BPS) informs the public that in 2017 Indonesia's economic growth reached 5.07% and stated that the transportation and warehousing sector had the fastest growth.

Chairman of the Indonesian Supply Chain, Setijadi predicts that in 2019 Indonesia's transportation sector will grow to reach 11.15% to Rp740.4 trillion. On the other hand, the telecommunications industry in 2018 experienced the worst conditions in its growth. According to Ririk Adriansyah as chairman of the Telecommunications Association said that the growth of Indonesian telecommunications - 6.4%, this is the worst history during the growth of the Indonesian telecommunications industry. The telecommunications industry experienced a decline, but at the same time in the era of President Jokowi's administration, within 5 years the government accelerated the construction of infrastructure into the National Strategic Project (PSN). Until now the National Strategic Project is recorded in the process of working as many as 245 PSN at a cost of up to Rp4,197 trillion rupiah. The current condition of industry growth, especially in the infrastructure, utilities and transportation sectors, requires management's attention and management at every company. It is important to consider the economic growth promoted by the infrastructure, utilities and transportation sectors.

## 2 LITERATURE REVIEW

Several studies on the relationship between liquidity and profitability have been carried out, including Konadu (2009) who examined the effects of liquidity on profitability for banks listed on the Ghana Stock Exchange for the period 2002-2006. Konadu includes Current Ratio, Quick ratio, cash ratio, and net operating cash flow ratio as indicators of liquidity. Meanwhile, net profit margin, Return on Equity (ROE), Return on Assets (ROA) and net asset turnover ratios as indicators of profitability. The results identified a negative relationship between liquidity and profitability in the Ghana banking

sector. Research conducted by Vieria (2010) examined the relationship between liquidity and profitability of airlines for 2005-2008 between short and medium term found a positive relationship in both cases.

Subsequent research by Saleem & Rehman (2011) examined 26 oil and gas companies from Pakistan for 2004-2009 to identify the interdependence of liquidity and profitability. They find that Current Ratio, Quick ratio and liquidity ratio have a significant impact on Return on Investment (ROI) while only liquidity ratios affect ROA and have no impact on ROE. A similar study conducted by Niresh (2012) examined the cause and effect relationship between liquidity and profitability for 31 manufacturing companies listed in 2007-2011 in Sri Lanka found no significant relationship between liquidity (Current ratio, Quick ratio, and Liquid ratio) and profitability (net profit, return on capital used, and ROE).

Saluju & Kumar (2012) in their research on the liquidity and profitability trade off from Airtel Bharti Limited for 5 years found a negative relationship between liquidity and profitability. Siame (2012) analyzes the effect of liquidity on profitability for 120 companies registered from different industries of South Africa between 2000-2009 and concludes that for all industries namely the consumer goods industry, the resource industry, and the service sector, there is a negative relationship between profitability and liquidity measured by the cash conversion cycle.

Further research conducted by Bolek & Wilinski (2012) studied the relationship between liquidity and profitability of construction companies listed on the Warsaw Stock Exchange index for the quarter period in 2000-2010 and concluded that the possible influence of the Quick ratio on ROA was around 98.24% which was 80.77% for the cash conversion cycle. The results of research by Ibe (2013) which explored the impact of liquidity management on profitability for Afribank Plc, United Bank for Africa, and Diamond Bank Plc. Nigeria from 1995-2010 and found a significant relationship between bank liquidity and profitability. In addition, this study also identified liquidity management as a major problem for the Nigerian banking industry.

Zygmunt (2013) tried to find out the impact of liquidity on profitability for 10 IT companies registered from Poland for 2003-2011 and concluded a statistically significant correlation. He found a positive relationship between the receivable conversion period and the inventory conversion period with profitability (ROA, ROE and return on sales).

A similar study was carried out in Bangladesh by Akter & Mahmud (2014) that identified the relationship between liquidity and profitability of the banking sector in Bangladesh. They examined 12 banks from 4 different sectors namely government, Islamic, multinational, and private commercial banks for 2006-2011 and found no significant relationship. Olerewaju & Adeyemi (2015) investigated the existence and direction of the interconnection between liquidity and profitability of 15 quoted bank deposit money in Nigeria for the period 2004-2013. They found no causal relationship between liquidity and profitability for 11 banks and unidirectional causality for 4 banks.

Mahardika (2015) uses the 2012-2014 quarterly financial statements of the company. The sample used was 10 property companies registered with ISSI. The results of the study explained that jointly and simultaneously (F test) liquidity affects profitability (ROI and ROE). Suryaningsih (2018) tested the effect of liquidity ratios and solvency ratios on profitability in the construction and building subsector companies on the Indonesia Stock Exchange for the period 2012-2016, using a sample of 10 companies and periods during the year. The result is liquidity and solvency affect profitability.

Based on the results of research on 26 oil and gas companies from Pakistan for 2004-2009 to identify the interdependence of liquidity and profitability. They find that Current Ratio, Quick ratio and Liquid Ratio have a significant impact on Return on Investment (ROI) while only liquidity ratios affect ROA and have no impact on ROE (Saleem & Rehman 2011). The financial statements report how the condition and financial position of a company in the period and operational activities for several periods. The condition and position of financial statements can be studied and analysed using financial ratios. Financial ratios are designed to assist and evaluate financial statements (Brigham & Houston, 2014).

Based on this explanation, the hypothesis can be formulated as follows:

H1: Current Ratio significantly influences the Net Profit Margin.

H2: Current Ratio significantly influences Return on Equity.

H3: Current Ratio significantly influences the Return on Capital Employed.

H4: Quick ratio significantly influences the Net Profit Margin.

H5: Quick ratio significantly influences Return on Equity.

H6: Quick ratio significantly influences Return on Capital Employed.

H7: Liquid Ratio significantly influences the Net Profit Margin.

H8: Liquid Ratio significantly influences Return on Equity.

H9: Liquid Ratio significantly influences Return on Equity Capital Employed.

### 3 RESEARCH METHOD

The technique used in sampling is non-probability sampling, namely purposive sampling, the sample is based on special provisions. In determining the sample, it is required that only infrastructure, utilities, and transportation companies have financial statements listed on the Indonesia Stock Exchange for the period 2013-2017. The company must also report profitability and liquidity during the observation year. If the sample does not meet these requirements, the sample cannot be used.

Data analysis techniques are used to answer the research hypothesis. The analytical tool used is simple linear regression using the help of a programs PSS 20.

According to Ghazali (2013), to measure the strength of the relationship between variables using regression analysis. Simple linear regression is a method to determine the effect of two variables that are divided into dependent and independent variables and show the direction of the relationship. Regression can be calculated with the following formula:

$$Y = \alpha + \beta x \quad (1)$$

Information:

Y : Dependent Variable

$\alpha$  : Constant

$\beta x$  : Variable Coefficient x

The basis for decision making in the regression analysis can be seen from the significance value, i.e. if the significance value > 0.05 then there is no influence of the independent variables on the dependent variable. Conversely, if the significance value < 0.05 then there is the influence of the independent variable on the dependent variable.

The object of research used in this study is infrastructure, utilities, and transportation companies which publish their financial statements and are listed on the Indonesia Stock Exchange. The sample taken is a sample selected using predetermined criteria.

74 companies are listed as population companies listed on the Indonesia Stock Exchange, because this research uses purposive sampling where the sample must be based on certain criteria when used in research. There were 54 companies that did not meet the criteria for the study sample. Then, researchers found 20 companies that fit the research criteria to be used as research samples. Furthermore, the 20 companies multiplied by 5 years, the researchers get a total of 100 samples.

#### 4 RESULT AND DISCUSSION

The results of testing Hypothesis 1 regarding the effect of Current Ratio on Net Profit Margin can be seen in table 1.

Table 1: Result of the simple linear regression testing hypothesis 1.

Model	Coefficients <sup>a</sup>				t	Sig.
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta			
1	(Constant)	0.213	0.025		8.519	0
	Current Ratio	-0.006	0.015	-0.044	-0.435	0.665

a. Dependent Variable: Net Profit Margin

Based on the test results above, it can be seen that the significance level of 0.665 is greater than 0.05, so hypothesis 1 that is the current ratio significantly influences the unsupported net profit margin. This means that the net profit margin is not influenced by the current ratio as an indicator of the liquidity ratio. The results of this study are in line with research conducted by Niresh (2012) who examined the cause and effect of the relationship between liquidity and profitability for 31 manufacturing companies registered in 2007-2011 in Sri Lanka found no significant relationship between liquidity (Current ratio, Quick ratio, and Liquid ratio) to net profit margin as an indicator of profitability.

Hypothesis 2 test results about the effect of the current ratio on return on equity can be seen in table 2.

Table 2: Result of the simple linear regression testing hypothesis 2.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
			Beta			
	B	Std. Error				
1	(Constant)	.139	.013		10.359	.000
	Current Ratio	-.017	.008	-.212	-2.161	.033

a. Dependent Variable: Return On Equity

Based on the test results above it can be seen that the significance level of 0.033 is smaller than 0.05 so that the 2 current ratio hypothesis has a significant effect on return on equity, so this hypothesis is supported. It can be concluded that the return on equity is influenced by the current ratio as an indicator of liquidity ratios. The results of this study contradict the previous research conducted by Saleem & Rehman (2011) examined 26 oil and gas companies from Pakistan for 2004-2009 to identify interdependencies of liquidity and profitability. They find that Current Ratio, Quick ratio and liquidity ratio have a significant impact on Return on Investment (ROI) while only liquidity ratios affect ROA and have no impact on ROE.

Hypothesis 3 testing results about the effect of Current Ratio on Return on Capital Employed can be seen in the following table 3.

Table 3: Result of the simple linear regression testing hypothesis 3.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
			Beta			
	B	Std. Error				
1	(Constant)	.110	.009		12.938	.000
	Current Ratio	-.009	.005	-.188	-1.908	.059

a. Dependent Variable: Return On Capital Employed

Based on the results, can be seen that the significance level of 0.059 is greater than 0.05, it can be concluded that the hypothesis 3 Current Ratio significantly influence Return on Capital Employed can be stated hypothesis test results 3 are not supported. This means that the return on employed capital is not influenced by the current ratio as an indicator of the liquidity ratio. The results of this study are in line with previous studies conducted by Saleem & Rehman (2011) and Niresh (2012).

The results of testing the hypothesis about the effect of Quick Ratio on Net Profit Margin can be seen in table 4.

Table 4: Result of the simple linear regression testing hypothesis 4.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error				
1	(Constant)	.211	.024	8,779	.000	
	Quick Ratio	-.006	.016	-.035	-.349	.728

a. Dependent Variable: Net Profit Margin

Based on results the above test can be seen that the significance level of 0.728 is greater than 0.05, it can be concluded that Hypothesis 4 Quick Ratio significantly affects the Net Profit Margin it can be stated that the results of hypothesis 4 test are not supported. It can be concluded that the net profit margin is not affected by the quick ratio as an indicator of liquidity ratios. This results is in line with research conducted by Niresh (2012) who examined the cause and effect of the relationship between liquidity and profitability for 31 manufacturing companies registered in 2007-2011 in Sri Lanka did not find a significant relationship between liquidity (Current ratio, Quick ratio, and Liquid ratio) to the net profit margin as an indicator profitability.

The results of testing the hypothesis about the effect of Quick Ratio on Return on Equity can be seen in table 5.

Table 5: Result of the simple linear regression testing hypothesis 5.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error				
1	(Constant)	.132	.013	10,076	.000	
	Quick Ratio	-.013	.009	-.147	-1,478	.143

a. Dependent Variable: Return On Equity

Based on the results of the above test it can be seen that the significance level of 0.143 is greater than 0.05, it can be concluded that the 5 Quick Ratio hypothesis has a significant effect on Return on Equity, it can be stated that the results of hypothesis test 5 are not supported. It can be concluded that return on equity is not influenced by quick ratio as an indicator of liquidity ratios. The results are in line with the results of previous studies conducted by Saleem & Rehman (2011) examined 26 oil and gas companies from Pakistan for 2004-2009 to identify interdependencies of liquidity and profitability. They

found that the quick ratio had a significant impact on Return on Investment (ROI) while only the liquidity ratio affected ROA and had no impact on return on equity (ROE).

The results of testing the hypothesis about the effect of Quick Ratio on Return on Capital Employed can be seen in table 6.

Table 6: Result of the simple linear regression testing hypothesis 6.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error				
1	(Constant)	.111	.008	13718	.000	
	Quick Ratio	-.012	.005	-.225	-2,296	.024

a. Dependent Variable: Return On Capital Employed

Based on the results of the above test it can be seen that the significance level of 0.024 is less than 0.05, it can be concluded that the hypothesis 6 Quick Ratio significantly influences Return on Capital Employed can be stated that the results of the hypothesis test 6 are supported. It can be concluded that the return on capital employed is influenced by the quick ratios an indicator of liquidity ratios. The results of the research in hypothesis 6 (H6) are in line with the results of previous studies conducted by Viera (2010) found a positive effect on quick ratio as an indicator of liquidity on return on capital employed as an indicator of profitability. The results of the three hypothesis tests state that there is a negative influence which means that if there is an increase in the quick ratio liquidity indicator it will reduce the profitability indicator of net profit margin, return on equity and return on capital employed. Conversely, if there is a decrease in the liquidity indicator quick ratio will increase the profitability indicator of net profit margin, return on equity and return on capital employed.

The results of testing the hypothesis of the effect of Liquid Ratio on Net Profit Margin can be seen in table 7.

Based on the results of the above test it can be seen that the significance level of 0.639 is greater than 0.05, it can be concluded that the 7 Liquid Ratio hypothesis significantly influences the Net Profit Margin, it can be stated that the results of the hypothesis 7 test are not supported. It can be concluded that the net profit margin is not affected by liquid ratio as an indicator of liquidity ratios.

Table 7: Result of the simple linear regression testing hypothesis 7.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	.214	.026	8,373	.000
	Liquid Ratio	-.008	.018	-.047	.639

a. Dependent Variable: Net Profit Margin

The results of testing the hypothesis of the effect of Liquid Ratio on Return on Equity can be seen in table 8.

Table 8: Result of the simple linear regression testing hypothesis 8.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	.136	.014	9,767	.000
	Liquid Ratio	-.016	.010	-.166	.96

a. Dependent Variable: Return On Equity

Based on the results of the above test it can be seen that the significance level of 0.096 is greater than 0.05, then the hypothesis 8 Liquid Ratio significantly influences Return on Equity can be concluded that hypothesis 8 is not supported. This means that return on equity is not influenced by liquid ratio as an indicator of liquidity.

The results of testing the hypothesis of the effect of Liquid Ratio on Return on Capital Employed can be seen in table 9.

Table 9: Result of the simple linear regression testing hypothesis 9.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	109	.009	12,508	.000
	Liquid Ratio	-1010	.006	-.167	.94

a. Dependent Variable: Return On Capital Employed

Based on the results of the above test it can be seen that the significance level of 0.094 is greater than

0.05, then Dehypnotises 9 Liquid Ratio significantly influences Return on Capital Employed it can be concluded that Hypothesis 9 is not supported. This means that return on employed capital is not affected by liquid ratio as an indicator of liquidity.

According to Duijm (2016) assets liquid contained in the balance sheet of financial statements covering all cash, securities, cash reserves in the central bank to capital. Good management and policies will lead to the calculation and measurement of the ability to get profitability of the company. In the three hypothesis tests that have been carried out in this study, finding that the liquid value of the company does not affect the profitability aspects of companies listed in the infrastructure, utilities, and transportation sectors, namely net profit margin, return on equity, and return on employed capital. The results of the three hypothesis tests state that there is a negative influence, which means that if there is an increase in the liquidity liquid ratio indicator, it will decrease the profitability indicator of net profit margin, return on equity and return on capital employed.

## 5 CONCLUSIONS

Based on the research that has been done, it can be concluded:

Current Ratio effect on Return on Equity can be interpreted that any change by the Current Ratio liquidity indicator will cause Return on Equity to increase or decrease. However, Current Ratio does not significantly influence Net Profit Margin and Return on Capital Employed. It can be concluded that the value of Net Profit Margin and Return on Capital Employed tends to be stable even though the Current Ratio liquidity indicator changes.

Quick Ratio does not affect Net Profit Margin and Return on Equity, meaning that any changes to Quick Ratio do not have an impact on Net Profit Margin and Return on Equity. However, Quick Ratio affects the Return on Capital Employed meaning that any changes to the Quick Ratio will cause the Return on Capital Employed to decrease or increase.

Liquid Ratio does not affect the three indicators of profitability, i.e. Net Profit Margin, Return on Equity, and Return on Capital Employed. then any changes that occur in Liquid Ratio will not affect all three profitability indicators.

Every company whether listed on the IDX or not must manage the company's liquidity as well as possible. With high liquidity, the company will be able to pay short obligations. High liquidity value also

has a high risk, so management must balance the opportunity and risk. An increase in current assets and current liabilities is one way to deal with low liquidity values, while minimizing current assets and current liabilities is one way to deal with if the liquidity value is too high.

Furthermore, profitability is the main goal of every company. High profit illustrates the high productivity of financial performance. High profitability is also not uncommon to attract investors to want to invest. Wise financial management will produce the right decisions for the future. Therefore, companies should also pay attention to the level of value of each profitability ratio indicator including Net Profit Margin, Return on Equity, and Return on Capital Employed.

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