

# Effect of Liquidity, Leverage, Company Size and Working Capital on Profitability (On Manufacturing Companies Listed on the Indonesia Stock Exchange (IDX) Year 2015-2019)

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## ABSTRACT

This study aims to find out the influence of liquidity, leverage, company size, and working capital on profitability in manufacturing companies listed on the Indonesia Stock Exchange. The research period used was 2015-2019. The population includes all manufacturing companies on the Indonesia Stock Exchange of 184 companies. Samples were determined using purposive sampling, with certain criteria and obtained samples of a number of 29 companies. The analytical techniques used in this study were multiple linear regressions. The results showed that: liquidity affects profitability, leverage has no effect on profitability, company size has no effect on profitability, working capital affects profitability, while leverage, company size and working capital affect profitability in manufacturing companies listed on the Indonesia Stock Exchange.

## Keywords

Liquidity, leverage, company size, working capital, profitability

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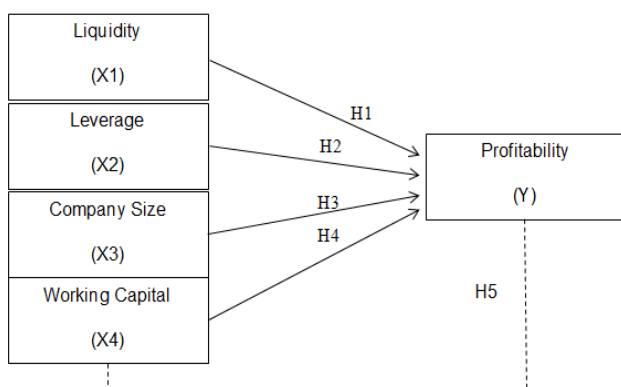
## Introduction

Manufacturing is a process of forming one item from raw materials through a technological process (Dwi Hadi et al., 2018). In a narrow sense, manufacturing is the process of converting raw materials into physical products through a series of activities that require energy that each creates a change in the physical or chemical characteristics of the material. Manufacturing company (manufacturing business) is a company whose activities are buying raw materials and then processing raw materials by spending other costs into finished goods that are ready to be sold.

On the Indonesia Stock Exchange, the manufacturing industry consists of three sectors, namely the basic chemical industry sector, various industries and the consumer goods industry with a total of 182 companies. To survive business competition, the only way is to make a sustainable profit, profit is an indication if the business is doing well financially. Profitability is the company's ability to generate net profit from activities carried out in the company (Hery, 2017).

## Literature Review

Based on the description above, it can be described a theoretical frame of mind stating that the structure of capital, company scale and liquidity are factors that influence the profitability of the company which in this study is represented by the ratio of Return On Assets (ROA). Therefore, the theoretical frame of mind of this research is as follows:



**Figure 1.** Variable X and Y relationship

Hypothesis Development:

H1 = Liquidity has a positive effect on profitability.

H2 = Leverage has a positive effect on profitability.

H3 = The size of the company has a positive effect on profitability.

H4 = Capital Structure has a positive impact on profitability

H5 = Based on the journal model feasibility test results show that the model is declared feasible so that hypothesis testing can be done. The results of hypothesis testing show that liquidity has a significant effect on profitability, leverage has a significant effect on profitability, firm size has a significant effect on profitability, and working capital has a significant effect on profitability.

## Methodology

### • Variables

#### Profitability

Companies that make a profit are healthy companies from the financial side. Profitability is the end result of a number of policies and decisions made by the company. Profitability means the company's ability to make a profit. The ratios used to calculate profitability are ratios that indicate a combination of securities of liquidity, asset management, debt, on the company's operating results (Sumiati & Nur Khusniyah Indrawati, 2019).

Return On Asset (ROA) shows the company's ability to generate profit from the assets used. ROA is the most important ratio among existing profitability ratios. Mathematically ROA can be formulated as follows:

Return On Assets = Net income after tax / Total assets

#### Liquidity Understanding

Corporate liquidity is a major consideration in many dividend decisions, as dividends indicate cash outflows, the greater the company's cash position and overall liquidity, the greater the company's ability to pay dividends. Growing and profitable companies may not be liquid because

the funds are used for fixed assets and permanent working capital. Therefore, the management in this kind of company usually wants to maintain (James & John, 2012).

Liquidity is the company's ability to pay off debts with its current assets at the same time. The company's inability to pay debts with its current assets will result in the operation of the company's activities as usual.

Riyanto (1995) stated that for non-credit companies, the current ratio of less than 2:1 is considered less good, because if current assets fall for example to more than 50% then the current asset amount will no longer be enough to cover the current debt. Current ratio guidelines 2: 1, actually based only on the principle of "be careful". The current ratio of 200% is not an absolute guideline. According to Sawir (2001) that the formulation of the current ratio (CR) is as follows.

Current Ratio = Current Assets / Current debt

### Leverage

Leverage is the use of assets and sources of funds by companies that have fixed costs with a view to increasing shareholder profits (Musthafa, 2017). The purpose of leverage is the profit obtained greater than the cost of assets and their source of funds, thereby increasing shareholder profits.

If the company has no debt, the value of the company will rise, because there is no risk of interest to be paid. Then the value of the company will fall, due to limited funds, so the company must be owed for the operation of the company.

Leverage ratio = Total debt / Total assets

### Company Size

Many companies are both large and small, whether profit orientation or not will have very large attention in the financial sector. Even if the failure of the company's business is almost largely influenced by financial quality decisions. In other words, problems that usually arise in every

organization have an impact on the financial field (Kariyoto, 2018).

The size of a company, in general, can be interpreted as a scale that classifies the size or smallness of a company in various ways, among others expressed in total assets, total sales, stock market value, and others.

The greater the assets are owned by a company, the company can make investments for both current and fixed assets and also meet the demand for products. This will further expand the market share to be achieved which will then affect the profitability of the company.

Company Size = LnTotal Asset

### Working Capital

Working capital is the company's investment in short-term assets. Current assets according to accounting are assets that can be converted into cash in a short period of time, usually at most 1 (one) year. Working capital management is the regulation of short-term assets such as cash, receivables, inventory of goods and securities, including debt arrangements or short-term debt (Yuniningsih, 2020).

The purpose of working capital management is to manage each current asset account and current debt in such a way so that the networking capital amount of current assets minus the desired current debt can be maintained.

WCT = Sales / Current Assets – Current debt

### Analysis Unit

This research was conducted on manufacturing companies listed on the Indonesia Stock Exchange (IDX) obtained from the [www.idx.co.id](http://www.idx.co.id). The data source of this research is data obtained historically from audited financial statements and annual reports published by manufacturing companies that have gone public and are listed on the Indonesia Stock Exchange for the period 2015-2019. Data collection in this study was conducted in October 2020.

## Population

A population is a group of individuals in a particular area or region at any given time in the amount of more than 1 or as low as not one (Acep, 2020). The population studied in this study is a manufacturing company listed on the Indonesia Stock Exchange for the period 2015-2019 with a population of 96.

## Sampling

According to Acep (2020) suggested that the sample is a small group that can represent the characteristics, traits, characters of large groups (population). Sampling techniques in this study were carried out using purposive sampling techniques, which means the selection of samples based on certain criteria. Sample selection using purposive sampling techniques aims to obtain representative samples based on certain criteria".

The sample criteria categorized in this study are:

No.	Criteria	Number of Companies
1.	Manufacturing companies listed on the Indonesia Stock Exchange during the period 2015-201	96
2.	Manufacturing companies that do not have complete data during the period 2015-2019	(32)
3	Manufacturing companies with complete data during the period	64
4	Manufacturing companies that do not declare financial statements in Rupiah (Rp) during the period 2015-2017	(35)
5	Manufacturing companies declaring financial statements in rupiah (Rp) during the period 2015-2017	29

Based on observations during the period 2015-2019, 29 companies were obtained that met the research criteria.

## Data Analysis

The proposed hypothesis will be proven using a classic assumption test. In the study, the hypothesis proposed is the alleged influence of Liquidity, Leverage, Company Size, and Working Capital on Profitability in Manufacturing Companies listed on the Indonesia Stock Exchange in 2015-2019. The method carried out in the study to test the hypothesis is multiple linear regression.

### Classic Assumption Test

This study aims to analyze the influence of liquidity, leverage, company size, and working capital on profitability in manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019. Before done the regression analysis will be done classic assumption test. Classical assumption testing is the main requirement in regression equations, so it must be tested against the following 4 classic

assumptions: (1) normal distributed data, (2) no autocorrelation, (3) no multicollinearity between independent variables, and (4) no heterosexuality. Classic assumption test results are presented as follows:

### Normality Test

A normality test is done to determine the distribution of research variable data distributed normally or not. Normality testing uses Kolmogorov-Smirnov analysis techniques and for its calculations using SPSS 26 for windows programs. Normality test results in this study are presented as follows:

The results of the research variable normality test showed that all research variables have a significance value greater than 0.05 in (0.200>0.05), so it can be concluded that residual distribution is normal.

**Table 1.** Normality test results

Unstandardized Residual	Conclusion
N	145
Asymp. Sig. (2-Tailed)	0,087 Normal Distributed

Source: Processed Data

### Multicollinearity Test

Multicollinearity testing is conducted to find out if there is a correlation between free (independent) variables. For this test, the variance inflation factor (VIF) test facility is used in SPSS program version 26. Multiple regression analysis can be continued if the VIF value  $\leq 10$  and the tolerance value  $\geq 0.1$ . Multicollinearity test results with SPSS 17.0 program are presented in the following Table 4.

**Table 2.** Multicollinearity test results

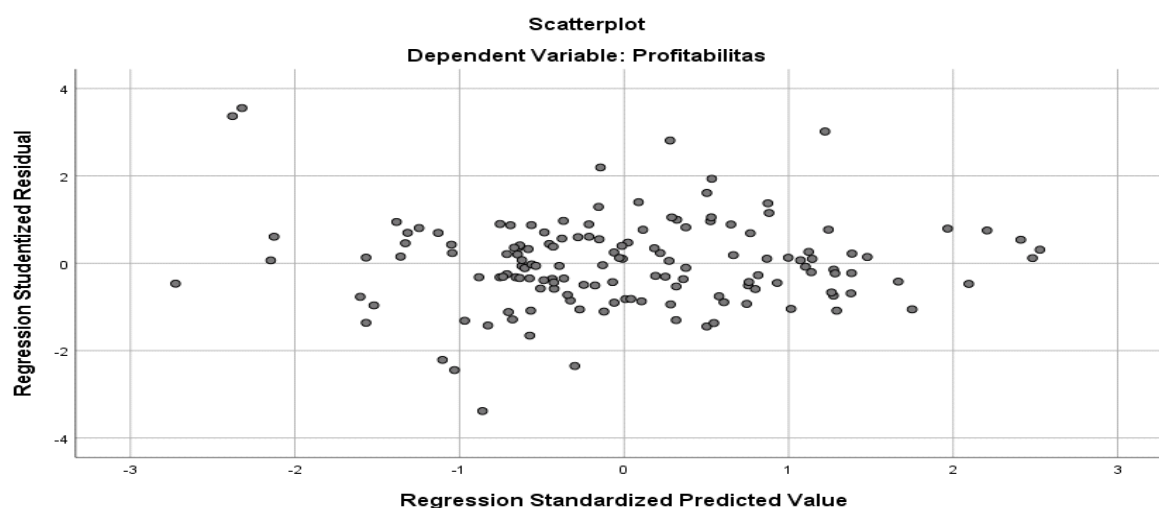
Variable	Colinearity Statistic		Conclusion
	Tolerance	VIF	
Liquidity	0,948	1,055	not exposed to

Leverage	0,983	1,017	multicollinierity not exposed to multicollinierity
Company size	0,972	1,029	not exposed to multicollinierity
Working Capital	0,976	1,025	not exposed to multicollinierity

Source: Processed Data

### Heteroscedasticity Test

The heteroscedasticity test aims to test whether in a multiple linear regression model there is an inequality of residual variants from one observation to another. To detect heteroscedasticity can be used test Plot Graphics. The results of the heteroscedasticity test in this study are presented in the following figure:



**Figure 2.** Heterodastisity test

Source: Processed Data

From

the scatterplot chart, it can be concluded that there is no heteroscedasticity in the regression model, so that the regression model is feasible to predict profitability, based on variable inputs Liquidity, Leverage, Company Size, and Working Capital.

### Autocorrelation Test

Autocorrelation tests were conducted to test whether in the linear regression model there was a correlation between the fault of the gadfly in the t-period and the error of the gadfly in the t-1 (previous) period (Gozhali, 2016). If there is a

correlation, then there is an autocorrelation problem. A good regression model is a regression that is free of autocorrelation. To detect any autocorrelation problems, it is necessary to test using Durbin-Watson (DW) test. Autocorrelation test results can be seen in the following table:

**Table 3.** Multicollinearity test results

Du	DW	4-du	Conclusion
1,157	1,7856	2,843	Not Exposed to Autocorrelation

Source: Processed Data

Based on the Table, the autocorrelated test result with the Durbin-Watson value is 1.949. The value is compared with the Durbin-Watson table (k,n) where k is the number of independent variables used which is 4 variables and n is the amount of data used which is as much as 145 data. Furthermore, to prove that the absence of autocorrelation problems by  $du < d < 4-du$  or can be seen from the table is  $1.157 < 1.7856 < 2.843$ . The results can be concluded that the model used does not contain autocorrelation problems so the model is feasible to use.

### Data Analysis Techniques

This research uses multiple linear regression analysis techniques in data processing, where this technique is used to estimate the value of dependent variables by using more than one independent variable. The formulation of multiple linear regression equations is formulated as follows (Acep Eddison, 2019):

$$Y = \alpha + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4)$$

Description:

Y: Profitability (ROA)

$\alpha$ : Constant Number

$\beta_1$ - $\beta_3$ : Regression Coefficient of each independent variable

X1: Turnover of Working Capital

X2: Company Size

X3: Liquidity

X4: Leverage

e: error

## Results and Discussion

### Multiple Linear Regression Analysis Results

Multiple linear regression analyses were used to examine the factors that influenced independent variables on dependent variables, where the independent variables used in this study were more than one variable. The results of multiple linear regression analysis can be seen from the following table:

**Table 4.** Results of multiple linear regression analysis

Variables	Unstandardized Coefficients		t	Sig.	Conclusion
	B	Std. Error			
(Constant)	-0,499	0,124	-4,031	0,000	
Liquidity	0,011	0,003	4,046	0,000	Significant
Leverage	0.000	0.000	-0,590	0,556	Insignificant
Company size	0.000	0.000	-0,836	0,405	Insignificant
Working Capital	0.019	0.004	4,219	0,000	Significant

Source: Processed Data

Based on the table above, the regression analysis model is obtained as follows:

$$Y = -0.499 + 0.011X_1 + 0.000X_2 + 0.000X_3 + 0.019X_4 + e$$

### Hypothesis Test

#### • Test t (partially)

This t-test is a test to show the individual influence of free variables present in the model on bound variables. It is intended to know how far the influence of one variable freely explains the variation of bound variables. If the significance value is less than 0.05 (sig<0.05), it can be concluded that free variables partially affect

bound variables. Explanation of t-test results for each free variable is as follows:

#### • Liquidity

The result of t-test statistics for liquidity variables obtained a significant value of 0.000 less than the fault tolerance  $\alpha=0.05$ . Because the value is significantly less than 0.05 and the regression coefficient is positive at 0.011 then a hypothesis stating "Liquidity positively affects profitability" is accepted.

#### • Leverage

The result of t test statistics for liquidity variables obtained a significant value of 0.556 greater than the fault tolerance  $\alpha = 0.05$ . Because the value is



significantly greater than 0.05 and the regression coefficient value is positive at 0.000, the hypothesis stating "Leverage positively affects profitability" is rejected.

- Company Size

The result of t-test statistics for liquidity variables obtained a significant value of 0.405 greater than the fault tolerance  $\alpha = 0.05$ . Because the value is significantly greater than 0.05 and the regression coefficient value is positively valued at 0.000 then the hypothesis stating "Company size positively affects profitability" is rejected.

- Working Capital

The result of t-test statistics for liquidity variables obtained a significant value of 0.000 less than the fault tolerance  $\alpha = 0.05$ . Because the value is significantly less than 0.05 and the regression coefficient is positive at 0.019, the hypothesis stating "Negative Capital Structure to profitability" is rejected.

- Model Conformity Test Results (Test F)

The F test is performed to test the feasibility of the regression model; this test can be reflected in the F-test value. The F-test score in this study used a significance level of 0.05. If the value of  $F > 0.05$  significance then the regression model does not meet the needs of the goodness of fit model, on the contrary, if  $F < 0.05$  then the model meets the provisions of the goodness of fit model. The results of Test F in this study can be seen in the following table:

**Table 5.** Model conformity test (test F)

Model	F	Sig.	Conclusion
Regression	7.951	0,000	Significant

Source: Processed Data

The table above shows that the test results obtained a calculated F value of 7,951 with a significance of 0.000. Based on the significant value of more than 0.05, it can be concluded that Liquidity, Leverage, Company Size, and Working Capital affect Profitability (ROA).

### Result of Coefficient of Determination (Adjusted R<sup>2</sup>)

The deterrence coefficient is essentially used to measure how far the model can go in explaining variations of dependent variables. The coefficient value of the deterrent is between zero and one. The smaller the coefficient value of determination means that the ability of independent variables to explain dependent variables is very limited. Whereas the coefficient value of determination that is getting closer to one means that independent variables provide almost all the information needed to predict independent variable variations. The results of the coefficient of determination test are as follows:

**Table 6.** Result coefficient of determination (adjusted R<sup>2</sup>)

Predictors	Adjusted R Square
(Constant) Liquidity, Leverage, Company Size, Working Capital	0,162

Source: Processed Data

Adjusted R<sup>2</sup> test results in this study obtained a value of 0.162. This indicates that profitability is influenced by liquidity, leverage, company size, and working capital of 16.2%, while the rest is influenced by other factors not researched in this study.

### Discussion of Research Results

- The effect of liquidity on profitability

Based on the results of the analysis of the influence of liquidity on the profitability of manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2015 – 2019, the results of the fourth hypothesis test were obtained that liquidity has a significant effect on profitability. The proof that liquidity variables affect profitability is indicated by a degree of significance below 0.05. A significant positive influence identifies that the company's ability to meet its short-term obligations is higher, with the higher the current assets owned by the company, the more liquid the company can pay the long-term debt.

Agustin Priyantini et al. explained that liquidity affects profitability.

- Leverage effect on profitability

The results of the t-test statistics for leverage variables suggest a negative influence on profitability, proving that this variable negatively affects the degree of significance above 0.05. The leverage ratio emphasizes the important role of debt funding for companies by showing the percentage of corporate assets supported by debt funding. The greater the leverage ratio of the company, the greater the financial risk of the company. The increase in risk is the possibility of default because the company is funding too many assets from debt. Thus, the risk of default, the costs that must be incurred by the company to overcome this problem will be greater.

I Ketut Alit Sukadana and Nyoman Triaryati (2018) explained that Leverage partially negatively affects profitability.

- The effect of company size on profitability

The results of the second hypothesis were obtained that the size of the company has a positive effect on profitability, proving that this variable has no significant effect shown at the degree of significance above 0.05. In this study, it was found that the small size of assets has no effect on profitability. This insignificant influence is caused by the larger the size of a company, the company will require greater costs to carry out its operational activities such as labor costs, administrative and general costs as well as the cost of maintaining buildings, machinery, vehicles and equipment so that it will be able to reduce the profitability of the company (Sari & Budiasih, 2014).

Sari et al. (2014) explains that the size of the company has no significant effect on profitability.

- The effect of working capital on profitability

The statistical results of the t-test for working capital variables have a significant effect on profitability. Significant degree data below 0.05. The higher the turnover of working capital, it will increase the profitability of the company. The condition of working capital turnover in a company is influenced by working capital (current assets and current debt) in generating sales. The higher the sales volume generated, the faster the capital turnover, thus the capital will

quickly return to the company as well as the profit to be obtained.

Agustin Priyantini et al. explained that working capital has no effect on profitability.

## Conclusion

### Conclusion

Based on the results of the discussion that has been described before, it is concluded that:

1. Liquidity has a significant positive effect on profitability in manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019
2. Leverage has no cynical effect on profitability in manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019
3. The Company's profitability has no effect on profitability in manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019
4. Working capital has a significant effect on profitability in manufacturing companies listed on the Indonesia Stock Exchange for the period 2015-2019

### Suggestions

The expected benefits of the results of this study include:

- For readers, the results of this study are expected to add knowledge insights related to the Influence of Leverage, Liquidity, Company Size, and Working Capital on Profitability.
- For Investors should pay attention to the value of ROA before deciding to invest their capital in a company because the value of ROA and DER can show the amount of return and risk that will be received by the investor for his investment.
- For the next researcher

Researchers can further extend the research period in order to obtain better and accurate research results.

Researchers can then increase the number of samples studied at the Indonesia Stock Exchange.



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