

## Stock Liquidity And Stock Return

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### ABSTRACT

*This study aims to examine and analyze the effect of stock liquidity on stock returns on manufacturing companies listed on the Indonesia Stock Exchange. This study uses two control variables namely size and age and the study period from 2013 to 2017. The type of research used is quantitative, while the sample of this study are all manufacturing companies listed on the Indonesia Stock Exchange from 2013 to 2017. The method of determining the sample used is used is purposive sampling. The procedure of data collection in this research is the documentation method. The intended documentation method is collecting secondary data from the company's financial statements. Data analysis techniques used in this study were multiple linear regression, t test, and the coefficient of determination. The results showed that stock liquidity had a positive and significant effect on stock returns. While growth opportunity have a significant positive effect on stock returns.*

**Keywords:** *stock liquidity, size, growth opportunity, stock return.*

### INTRODUCTION

Investment is investing money or capital in a company or project that aims to obtain benefits in the future (Bodie et al., 2009). This can be seen as a form of sacrifice made by an investor with the aim of obtaining greater returns from investments made in the future. Investors want financial security in the future by maximizing the current financial surplus. When investors have determined their investment objectives, it can be determined the type of investment that will be chosen to determine these objectives. Investments can be in the form of fixed investments such as buildings, machinery or factories, and monetary investments such as stocks and bonds (Virlics, 2013). Monetary investment through the purchase of shares is a form of investment made in the capital market. Investors will buy shares when the stock price is undervalued and sell shares when the stock price is overvalued. Buying shares when the price is low and selling shares when the price increases causes investors to make a profit. In the modern era, stock investment has become one of a variety of investment options that are quite attractive to foreign and local investors. With certain regulations, as well as ease in accessing the capital market, shares as an investment instrument are not only attractive for upper-class investors but also small-scale investors.

The motive that drives investors to invest funds in shares is a higher rate of return or acquisition of a company. In the context of investing in stocks, this profit expectation is often

called return. Return is the level of profits enjoyed by investors for an investment made (Ang, 1997: 97). Stock returns are income earned by shareholders as a result of their investment in certain companies. Without the return that is enjoyed from an investment, investors (investors) will not make investments. Stocks that have a high rate of return will encourage investors to invest and increase capital flows, while stocks whose returns are uncertain and difficult to predict will cause investors' reluctance to invest. High and low stock returns, one of which is influenced by stock liquidity. Stock liquidity is an important characteristic in financial markets in determining investment plans. Stocks that have a high rate of return will encourage investors to invest and increase capital flows, while stocks whose returns are uncertain and difficult to predict will cause investors reluctance to invest. An investor who buys shares will expect returns in the form of dividend and capital gain payments (rising stock prices) (Acheampong, et al, 2014). Meanwhile, according to Jogiyanto (2000), stock returns are the results obtained from the current stock price minus the previous share price divided by the previous stock price. Liquidity is the ability of shares to be traded in the market with lower price spreads and in minimum time (Akram, 2014).

The more liquid a stock is, the higher the investor's interest in buying, a high level of stock liquidity shows the stock can be more quickly converted into cash by trading mechanisms on the capital market. Investors who are interested in buying shares cause the value of the company's shares to rise. Rising stock prices can provide increased stock returns. Companies that are not liquid have an impact on the decline in share prices, causing stock returns to decrease. High stock liquidity will also provide high stock returns. Stock liquidity and company stock prices are seen by the public and investors to measure the effectiveness of the company's performance. If a company's shares are more liquid than other company's shares, the company's performance is said to be better and vice versa. If the company has a high share price, it can increase investor interest to invest their capital. If the shares are attractive to investors, then investors will conduct transactions in the capital market, so as to increase the liquidity of their shares. Stock liquidity can be formed due to the mechanism of demand and supply for shares. More and more market participants who are interested in the market will encourage an increase in share prices.

The level of stock liquidity reflects the level of activity of shares traded with the volume or value of shares traded on the stock exchange. The more active a stock is traded, this indicates that the demand level of the stock is high. The increasing volume of stock trading is an increase in stock trading activity by investors. If the demand and supply of a stock increases, it will cause fluctuations in the price of the stock so that it will affect the rising stock prices and rising stock returns. Non-liquid assets will be difficult to trade when companies need funds. This has an impact on shares of companies that are not liquid and tends to reduce the price of assets, so that stock returns will be reduced. Assets with high stock liquidity will also provide high expected returns.

Based on the description above, it is necessary to conduct research on the effect of stock liquidity on stock returns on manufacturing companies listed on the Indonesia Stock Exchange. The scope of this research was made to make it easier to understand this research. This research is a quantitative study that examines the effect of stock liquidity on stock returns. The

dependent variable used is stock returns while the independent variable used in this study is stock liquidity. The period in this study uses a 5 years period of 2013-2017 in manufacture companies listed on the Indonesia Stock Exchange.

**Research question:**

Does stock liquidity affect stock returns on manufacturing companies listed on the Indonesia Stock Exchange?

**Research purposes:**

The purpose of this study is to examine and analyze the effect of stock liquidity on stock returns on manufacturing companies listed on the Indonesia Stock Exchange.

## **THEORETICAL FRAMEWORK AND FORMULATION OF HYPOTHESES**

### **Effect of Stock Liquidity on Stock Returns**

There is a significant relationship between stock liquidity with stock returns. The liquidity of a stock varies systemically to market liquidity which will ultimately determine the company's stock return (Jones, 2002 and Amihud, 2002). Research conducted by Bekaert et al (2006) also shows that liquidity is significantly related to return. High liquidity is defined as a measure of an investor's ability to sell an asset. An illiquid asset will be difficult for the seller to carry out so that it will have an impact on the decline in asset prices which causes the low rate of return obtained by investors.

### **Effect of Size on Stock Returns**

Research by Keim in Elton, et al. (2003) mentioned that small companies have relatively higher growth rates, so that they have more influence on fundamental changes. This is because the earnings obtained at small companies tend to be lower so that the increase in earnings in the following year is easier to do. Whereas in large companies with large earnings, growth is relatively lower because earnings in the previous period tend to be already high. In general, smaller company shares tend to have greater returns compared to larger company shares, this phenomenon is commonly called the size effect. From the research conducted by Barbee (1996) also shows the results that company size has a negative effect on stock returns. Barbee (1996) measures company size through market value equity. In the study of Fama and French (1995) it was found that firm size is related to profitability. Fama and French (1995) states that partially firm size has a significant effect on return. Small company shares have a tendency to earnings (earnings) which is lower than the shares of large companies.

### **Effect of Growth Opportunity on Stock Returns**

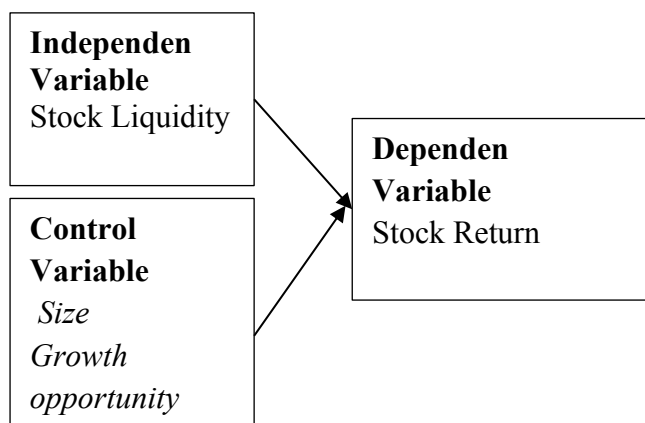
Growth opportunity is a growth opportunity for a company in the future (Mai, 2006). Companies that have fast growth often have to increase their fixed assets. Thus, companies with high growth rates require more funds in the future and also hold more profits. Retained earnings from companies with high growth rates will increase, and these companies will use more debt to maintain the targeted debt ratio (Mai, 2006). Companies that predict high growth

in the future tend to prefer to use shares to fund the company's operations. Conversely, if companies expect to experience low growth, they will try to share the risk of low growth with creditors through debt issuance which is generally in the form of long-term debt (Mai, 2006). One of the fundamental reasons for this pattern is that floating costs on common stock issues are higher than bonds. With the high value of growth opportunity, companies are expected to be able to achieve and produce high profits in the future. High growth opportunity can be used as a factor to achieve the prosperity of shareholders.

### Previous research

Research Yakov Amihud (2002), Jones (2002), Malkiel and Xu (2004), Martinez, et al. (2005), and Bekaert, et al. (2006) states that stock liquidity affects stock returns. Non-liquid stocks will be difficult to trade when companies need funds. Companies that are not liquid have an impact on the decline in share prices, causing stock returns to decrease. High stock liquidity will also provide high stock returns.

The conceptual framework used in this study is described as follows:



In accordance with previous research and the conceptual framework, the analysis model used in this study is as follows:

$$\text{RETURN}_{it} = \beta_1 \text{LIQ}_{it-1} + \beta_2 \text{SIZE}_{it-1} + \beta_3 \text{GROWTH}_{it-1}$$

Based on the analysis model and research hypothesis, the method used in this study is multiple linear regression analysis techniques, the steps that can be taken to conduct data analysis after the data is collected and hypothesis testing are as follows:

1. Financial statement data in the form of: balance sheet, L/R report, stock returns from the Indonesia Stock Exchange in 2013-2017.
2. Perform calculations on research variables (stock returns, stock liquidity, firm size, growth opportunity) in each manufacture industry company that is sampled during the study period.
3. Test the symptoms of deviations through classical assumptions in the regression model consisting of normality test, multicollinearity test, autocorrelation test, and

heteroscedasticity test.

4. Doing a test which is a parametric test that aims to determine the effect of independent variables on the dependent variable.
5. Interpretation goodness of fit or the coefficient of determination notated by  $R^2$  that reflects how much change or variation of the dependent variable can be explained by the independent variable. If the value of  $R^2$  is equal to 0, it means that the variation of the dependent variable cannot be explained by the independent variables at all. If the value of  $R^2$  equals 1, it means that the variation of the dependent variable as a whole can be explained by the independent variables. The closer to 1, the better the regression model in which the dependent variable is able to explain the variability of the independent variables.

## RESEARCH METHODS

This study uses a quantitative research approach where researchers take measurements of variables, test hypotheses, and draw conclusions from findings so that they can be generalized. Consideration using this approach is data that can be identified and measured. This approach uses multiple linear regression statistical analysis tools using the t test and the classic assumption test to find out the relationship between the independent variables and the dependent variable.

The samples of this study are all manufacturing companies listed on the Indonesia Stock Exchange from 2013 to 2017. The method of determining the sample is purposive sampling, with the following characteristics:

1. Listed on the Indonesia Stock Exchange during the study period, 2013-2017
2. Possess and publish annual financial reports in a row during the 2013-2017 period.
3. The banking and financial sectors are not used in research

The type of data used in this study is secondary data consisting of time series data and cross section data. Data sources came from the Indonesia Capital Market Directory (ICMD), the Indonesian Central Securities Depository (KSEI), the Indonesia Stock Exchange (IDX), and the Company's Financial Statements. The procedure of data collection in this research is the documentation method. The intended documentation method is to collect secondary data from the company's financial statements (balance sheet, income statement, and other records) during the period 2013 to 2017.

Measurement of the variables used in this study are stock returns, stock liquidity, size, growth opportunity and as follows:

**Table 1**  
**Operational Definition of Variable**

Dependent Variable	
Stock Return	Stock return is the level of profit or income enjoyed by investors for an investment in shares of securities it does. Stock returns used in this study are annual stock returns in manufacturing companies 2013-2017.

	<p>Stock returns will be calculated using the following formula:</p> $R_t = \frac{P_t - P_{t-1}}{P_{t-1}}$
<b>Independent Variable</b>	
Stock Liquidity	<p>Stock liquidity is a measure of the number of transactions of a stock in the capital market in a given period.</p> <p>Stock liquidity will be calculated using the following formula:</p> $ILLIQ_{it} = \frac{1}{D_{iy}} \sum_{t=1}^{D_{iy}}  R_{iyd} / VOLD_{iyd} $
<b>Control Variable</b>	
Firm Size	<p>Size is the size of the company measured by the size or size of the company's total assets. Size will be calculated using the following formula:</p> $Size_{i,t} = \ln (\text{Total Assets})_{i,t}$
Growth Opportunity	<p>Growth opportunity is a growth opportunity for a company in the future.</p> <p>Growth opportunity will be calculated using the following formula:</p> $Growth\ Opportunity_{i,t} = \frac{market\ value\ equity_{i,t}}{book\ value\ equity_{i,t}}$

### Data Analysis Technique

Based on the analysis model and research hypothesis, the method used in this study is multiple linear regression analysis techniques, the steps that can be taken to conduct data analysis after the data is collected and hypothesis testing are as follows:

1. Financial statement data in the form of: balance sheet, L / R report, stock returns from the Indonesia Stock Exchange in 2013-2017.
2. Calculating the research variables (stock returns, stock liquidity, firm size and growth opportunity) in each sample company during the study period.

### Hypothesis test

To prove the hypothesis that was built in the study, multiple linear regression models were used. A good multiple linear regression model is a model that is free from bias. Therefore, a classic assumption test is performed to minimize the bias generated in the regression model.

1. Testing classic assumptions

Statistically, the research must meet the classical assumption test consisting of normality



test, multicollinearity test, heteroscedasticity test and autocorrelation test. The following is an explanation of the results of each classic assumption test:

a. Normality test

Normality test aims to test whether the regression model has a normal distribution or not. Normality testing can use P-plot graph. If the data spreads around the diagonal line and follows the direction of the P-Plot line, it can be said that the regression model meets the normality test assumption. Based on the results of the normality test in Attachment 3, the normality test shows that the data points spread around the diagonal line and follow the direction of the normal P-Plot line. Therefore, the regression model in this study fulfills the normality test assumption.

b. Multicollinearity Test

The multicollinearity test aims to re-establish whether in a regression model there is a correlation between independent variables. A good regression model should not occur correlation between independent variables. The way to find out whether or not there is multicollinearity in the regression model can be seen from the results of the tolerance value and the value of the variance inflation factor (VIF). If the tolerance value is more than 0.10 and the VIF value is less than 10, then among the independent variables there is no multicollinearity. Based on the multicollinearity test results in attachment 3, it shows that the tolerance value of all independent variables is more than 0.10 and the VIF value of all independent variables is less than 10, which means that the regression model in this study does not have multicollinearity.

c. Heteroscedasticity Test

Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from residuals on one observation to another. A good regression model is expected not to occur heteroscedasticity can use scatterplot graphs. Based on the results of the heteroscedasticity test in appendix 3, the scatterplot graph shows that it does not form a certain pattern, which means that there is no relationship between the independent variables. This shows that there are no symptoms of heteroscedasticity in the regression model of this study.

d. Autocorrelation Test

Autocorrelation test aims to determine the correlation between residuals in the  $t$  period with residuals in the  $t-1$  period. To find out whether or not this autocorrelation was used the Durbin Watson test (D-W). The regression model does not have an autocorrelation if the Durbin Watson (DW) value is between -2 and 2. In the autocorrelation test table in attachment 3, the autocorrelation test shows that the Durbin Watson (DW) value is between -2 and 2. This indicates that it did not occur autocorrelation in the regression model.

## RESULTS AND DISCUSSION

Results of descriptive statistics for the period of observation shown in Table 2.

**Table 2.**  
**Descriptive Statistics of Indicators**  
**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Return	385	-.9867	2.1609	.021046	.4085412
LIQ	385	6.4402	25.9766	12.462833	4.1289430
SIZE	385	25.2149	33.3202	28.408596	1.6019251
GROWTH	385	.0109	19.3217	1.708045	2.4431069
Valid N (listwise)	385				

**Table Model Regression**  
**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.233	.376		.618	.537	
	LIQ	.012	.005	.117	2.126	.034	.842
	SIZE	-.014	.014	-.054	-.995	.320	.854
	GROWTH	.022	.009	.132	2.520	.012	.931

Dependent Variable: Return

Based on the table above shows that the value of the stock liquidity regression coefficient (LIQ) of 0.011 which means that if the stock liquidity (LIQ) increases by one unit will increase stock returns (RETURN) by 0.011 units. Regression coefficient values indicate a positive direction, it can be concluded that stock liquidity (LIQ) has a significant positive effect on stock returns (RETURN). Significance of 0.042 is below the determined significant level of 0.05, so H0 is rejected and H1 is accepted.

Firm size regression coefficient (SIZE) of -0.006 which means that if the size of the company (SIZE) increases by one unit will reduce the value of stock returns (RETURN) by 0.006 units. The regression coefficient value indicates that the size of the company (SIZE) has no effect on stock returns (RETURN). The significance value of 0.680 is above the predetermined significant level of 0.1, H0 is accepted and H2 is rejected.

Regression coefficient of growth opportunity (GROWTH) of 0.019, which means that if the growth opportunity (GROWTH) increases by one unit will increase stock returns (RETURN) by 0.019. Regression coefficient values indicate a positive direction, it can be concluded that growth opportunity (GROWTH) has a significant positive effect on stock returns (RETURN), a significance value of 0.036 below the specified significant level of 0.05 then H0 is rejected and H3 is accepted.

### Results

1. Based on the results of this study it can be seen that stock liquidity (LIQ) has a significant positive effect on stock returns. The results of this study are consistent with the research



- hypothesis which states that stock liquidity has a positive effect on stock returns. This shows that the greater the buying activity by investors in stocks that have good prospects, the higher the liquidity of the shares. This will benefit investors if the shares are liquid because it is easy to trade shares. The results of this study are supported by research conducted by Yakov Amihud (2002), Jones (2002), Malkiel and Xu (2004), Martinez, et al. (2005), and Bekaert, et al. (2006) found that stock liquidity has a positive effect on stock returns.
2. Based on the results of this study it can be seen that the size of the company (SIZE) has no effect on stock returns. Shares in small and large companies are not a factor that affects the high and low stock returns on the company. This indicates that it is more important to prioritize company performance that can increase stock returns. Therefore, the size of the company (SIZE) does not affect the company's stock returns.
  3. Based on the results of this study, it can be seen that the growth opportunity (GROWTH) has a positive effect on stock returns. If the company's growth opportunity increases, investors will see this as a good indicator of the company's growth prospects in the future. Investment activities of the company through the selection of projects or other policies such as the creation of new products will make investors expect to get greater returns from time to time. This investment decision will affect the value of the company which is the result of the investment activity itself. An investment opportunity in a company gives a positive signal to the company's growth in the future. Companies with high growth opportunities have so many investment opportunities that will eventually attract investors to invest. This will trigger an increase in demand for company shares and cause share prices to rise so stock returns on companies increase. The higher growth opportunity (GROWTH) as measured through a comparison between market value equity (MVE) and book value equity (BE) in the company will have an impact on the increase in stock returns generated by the company. The results of this study are supported by research conducted by Berggren and Bergqvist (2014) that growth opportunity (GROWTH) has a positive effect on stock returns.

## **CONCLUSIONS, IMPLICATIONS, SUGGESTIONS AND LIMITATIONS OF RESEARCH**

### **Conclusion**

Based on the results of multiple linear regression analysis of research samples on manufacturing companies listed on the Indonesia Stock Exchange (IDX) in 2013-2017, the following conclusions are obtained:

1. Stock liquidity has a significant positive effect on stock returns. This shows that the greater the liquidity of the company's shares, the higher the stock returns to the company.
2. Company size (SIZE) hasn't significant effect on stock returns. This shows that the size of the company (SIZE) does not affect stock returns to the company.
3. Growth Opportunity has a significant positive effect on stock returns. It shows that the greater the company's growth opportunity, the higher the stock return of the company.

### Limitations

This study has limitations in measuring stock returns using annual data making the data less representative of the actual influence.

### Suggestions

Future studies are expected to add independent and moderating variables and add other non-financial company data in addition to the manufacturing sector.

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**ATTACHMENT**

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
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**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.233	.376		.618	.537		
1 LIQ	.012	.005	.117	2.126	.034	.842	1.187
1 SIZE	-.014	.014	-.054	-.995	.320	.854	1.170
1 GROWTH	.022	.009	.132	2.520	.012	.931	1.074

Dependent Variable: Return

**Collinearity Diagnostics<sup>a</sup>**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	LIQ	SIZE	GROWTH
1	1	3.370	1.000	.00	.01	.00	.03
1	2	.566	2.439	.00	.00	.00	.93
1	3	.062	7.363	.01	.92	.01	.03
1	4	.001	48.596	.99	.07	.99	.02

a. Dependent Variable: Return

