

## The Effect of Leverage and Profitability on Stock Liquidity

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**Abstract.** To measure the financial performance of a company is required an analysis of financial statements of the company using a solvency ratio and a profitability ratio. This study used multiple linear regression in IBM SPSS Statistic 25 software. The variables used in this study were Return on Assets (ROA), Debt to Equity Ratio (DER), and stock liquidity. The results of this study are that both solvency and profitability have a positive and significant effect on stock liquidity.

**Keywords:** return on assets; debt to equity ratio; stock liquidity; solvency; profitability

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### INTRODUCTION

One of the ways to invest money is through capital markets. Capital markets contribute to the economic development of a country because capital markets carry out two functions that are the economic and financial function (Erkol & Sherif, 2017). One of securities that are traded on capital markets is stock and one of parties in capital markets is investors. Investors buy stock with the hope of getting a high return during their investment (Sutriani, 2014). The level of stock prices can determine how much investors get a capital gain on their stock transactions (Gursida et al., 2016). The ups and downs of stock returns can be influenced by stock liquidity. To measure the financial performance of a company, an analysis of financial statements of the company is needed using a solvency ratio and a profitability ratio (Kasmir, 2015).

A Debt to Equity Ratio (DER) is a solvency ratio. If a company's DER is high, the trading volume of the company will be decreased. On the other hand, a Return On Assets (ROA) is a profitability ratio. If a company's ROA is high, the trading volume of the company will increased.

In previous studies, there were inconsistent research findings about the effect of solvency and profitability on stock liquidity, the effect of solvency and profitability on stock returns, and the effect of stock liquidity on stock returns. Wira (2012) states that a DER has a positive effect on stock liquidity. On the other hand, Lirda (2014) states that a DER has a negative effect on stock liquidity. Zahoor et al (2017) state that an ROA has a positive effect on stock liquidity. On the other hand, Saputra (2018) states that an ROA has a negative effect on stock liquidity. Uluupi (2016) states that a DER has a positive effect on stock returns. On the other hand, Sugiarto (2011) states that a DER has a negative effect on stock returns. Uluupi (2016) states that an ROA has a positive effect on stock returns. On the other hand, Taslim and Nidianti (2013) state that an ROA has a negative effect on stock returns. Sukhemi (2015) states that stock liquidity has a positive effect on stock returns. On the other hand, Taslim and Wijayanto (2015) state that stock liquidity has a negative effect on stock returns.

Because of the inconsistent research findings above, the researcher is interested in investigating *The Effect of Leverage and Profitability on Stock Liquidity (a Research on LQ45 Companies Listed on the Indonesia Stock Exchange in the Period of 2016-2018)*"

### **Stock Returns**

A return is the benefit that companies, individuals, and institutions get from the results of their investment policies (Fahmi, 2015). Every investor who wants to do investment has the same goal that is to get a profit (return). Some investors want to get a short-term profit, and some investors want to get a long-term profit. Every investment, both short-term and long-term, has a main goal that is to get a profit called a return directly or indirectly. Fahmi (2015) states that a return is categorized into 2 that are the realized return and the expected return (1) The realized return is a return that has earned; (2) The expected return is a return that the investors expect in future.

According to Alwi Z. Iskandar (2003), there are several factors that affect the stock returns or the rate of return that are categorized into internal factors and eksternal factors.

Internal factors (1) Announcements regarding marketing, production, sales such as advertising, contract details, price changes, new product recalls, production reports, product safety reports, and sales reports; (2) Financing announcements such as announcements related to equity or debt; (3) Management-board of director announcements such as changes in managing directors and organizational structure; (4) Diversification takeover announcements such as merger reports, equity investments, takeover reports by acquisitions, divestment reports, etc; (5) Investment announcements such as factory expansions, research development, and other business closings; (6) Labor announcements such as new negotiations, new contracts, strikes, etc; (7) Announcements of company financial reports such as forecasting earnings before the end of a fiscal year and after the end of a fiscal year, Earnings Per Share (EPS) and Dividend Per Share (DPS), Price Earnings Ratio (PER), Net Profit Margin (NPM), Return On Assets (ROA), Return On Equity (ROE), Price to Book Value (PBV), and Economic Value Added (EVA), and Market Value Added (MPV) whose values are not listed in financial reports, etc.

External Factors (1) Announcements from the government such as changes in the interest rate of savings deposit, foreign exchange rates, inflation, and various economic regulations and deregulations issued by the government; (2) Legal announcements such as employee claims against the company or the manager and company claims against the manager; (3) Securities announcements such as annual meeting reports, insider trading, volume trading or trading stock price, trading restrictions or trading delays; (4) Foreign policy turmoil and exchange rate fluctuations are also factors that have a significant effect on stock price movements on a country's stock exchange (5) Various issues both domestic and foreign.

### **Return on Assets (ROA)**

An ROA describes the extent to which a company's assets can generate profits. The higher the ROA, the more efficient and effective the management of the company assets, and the higher the company's profitability (Tandelilin, 2010).

An ROA is a measure of the company's ability to generate profits (return) by utilizing its assets. Investors like a company that performs well. If a company has a good performance, its trading volume will increase which then it will effect on increasing stock returns obtained by the investors. Thus, the higher the ROA, the higher the trading volume.

The higher the ROA, the more effective the company in using its assets to generate net income. This will attract investors to invest their funds in the company. The more investors interested in investing their funds in the company, the more demand for the company's stock. It will effect on the increasing stock prices Uluupi (2016), Sunarto (2001), Nurhakim, Yunita, Iradianty (2016), Budialim (2013).

### **Debt to Equity Ratio (DER)**

A Debt to Equity Ratio (DER) is a solvency ratio that reflects a company's ability to fulfill all of its obligations which is indicated by some of its own capital used to pay debts (Kasmir, 2015)

### **Stock Liquidity**

The Indonesia Stock Exchange explains that stock liquidity is the smoothness which shows the level of ease in disbursing investment capital. According to Koentin (1994), stock liquidity is the ease with that someone's stock can be converted into cash through a capital market mechanism. Madura (2003) explains that stock liquidity is the degree to which securities can easily be liquidated (sold) without a loss of value. It can be concluded that stock liquidity is the ability of stock to be converted into cash without losing its fair value. Stock liquidity is a measure of the number of stock transactions in a capital market in a certain period.

### **The Effect of a Return On Assets (ROA) on Stock Liquidity**

Zahoor, Saeed, and Hashmi (2017) and Sudana and Intan (2008) state that an ROA has a positive effect on stock liquidity. The rate of an ROA determines the return on profits in a form of a dividend which then the shareholders can reinvest it in the same company or other companies. The higher the level of profitability, the higher the dividend distribution to the shareholders. The reasonable profits that will be distributed to the shareholders are the profits after the company has fulfilled its fixed obligations that are interest and taxes. The bigger the profits a company has, the bigger the portion of revenue as dividends the company will pay. Therefore, the bigger the profits generated by a company, the more investors will be interested to transact the company's stock. This will increase the trading volume of the company. An increase in trading volume can indicate that the level of the stock liquidity increases.

Saputra (2018) states that an ROA has a negative effect on stock liquidity. This occurs because investors think that a high ROA value can sometimes endanger the condition of a company. A high ROA value is not necessarily caused by the company obtaining high profits, but it can be caused by a relatively high total receivables of the company compared to the current cash. If the company has small cash compared to the receivables it has, it will effect on the company's inability to pay debts that are too large. A debt that is too large can endanger the owner of the capital if the company is unable to pay back the debt and the interest. Investors do not like this condition.

### **The Effect of a Debt To Equity Ratio (DER) on Stock Liquidity**

Yusifera, Sudarto, Sulistyandari (2017) state that a DER has a positive effect on stock liquidity. The theory of capital structure states that the value of a company will increase with the increase in corporate debt at a certain level. If a company management is very disciplined to control the amount of debt properly or to maintain the liquidity value properly for the

development of the company activities to increase profits, it will be a positive signal for the shareholders. Investors believe that a company that has a bigger debt will provide better value so that the trading volume of stock is bigger, and then the company's stock turnover is also bigger. With an increase in the trading volume, it shows that the level of stock liquidity has increased.

Lirda, N. (2014) and Almilian and Retrinasari (2011) state that a DER has a negative effect on stock liquidity. A high value of a DER raises an indication or concern from the shareholders because the risk of the company's management not being able to control the amount of its debt and its obligations to creditors is bigger. As a results, the shareholders often ignore a company that has a high value of a DER. This will effect on the level of stock liquidity. The level of stock liquidity will decline due to investor disinterest in stock that has a large debt ratio which is indicated by a decrease in trading volume.

### Hypothesis

H<sub>1</sub> =Solvency and profitability have an effect on stock liquidity.

H<sub>2</sub> =Solvency has a negative effect on stock liquidity.

H<sub>3</sub> =Profitability has a positive effect on stock liquidity.

### METHOD

This research used a verification method. A verification method basically aims to test the truth of a hypothesis which is carried out through data collection using a descriptive method to explain the phenomenon in more detail and clearly (Gulo, 2002).

### Independent Variable

1. Solvency (X1) is the ratio used to measure the extent to which the company's assets are financed with debt (Kasmir, 2015). The solvency was calculated by the following formula:

*DER*

$$= \frac{\text{Total Debt}}{\text{Equity}}$$

2. Profitability is (X2) is the ratio used to measure the company's ability to generate profits (Kasmir (2015). The profitability was calculated by the following formula:

$$ROA = \frac{EAT}{Asset}$$

### Intervening Variable

Stock liquidity (Y) is the ease with that someone's stock can be converted into cash through a capital market mechanism Koentin (1994). The stock liquidity was calculated using the following formula:

$$TVA = \frac{\sum \text{traded stock}}{\sum \text{outstanding stock}}$$

(Ong, 2011)

### Dependent Variable

Stock return (Z) is the profit obtained by companies, individuals, and institutions from the results of their investment policies (Fahmi, 2015). The stock return was calculated by the following formula:

$$\text{Stock return} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

(Taslim & Wijayanto, 2016)

The population in this study was 59 companies that included in the LQ45 index in the period of 2016-2018 and were listed on the Indonesia Stock Exchange. The sampling technique was non-probability sampling that was quota sampling. The criteria for sample in this study were:

1. Companies that included in the LQ45 index in the period of 2016-2018;
2. Companies that had complete the financial data and reports;
3. Companies that included in the LQ45 index for 6 consecutive periods or for 3 consecutive years.

Based on the above criteria, the sample of this study comprised 34 LQ45 companies in the period of 2016-2018 which were listed on the Indonesia Stock Exchange.

### Data analysis technique

The data of this study were analyzed using a statistical tool, IBM SPSS Statistic 25 software, to do verification analysis, classical assumption test, normality test, path analysis, hypothesis testing, and multiple linear regression analysis.

## RESULT AND DISCUSSION

### F-test

- If  $F_{\text{count}} \geq F_{\text{table}}$  then  $H_0$  is rejected (significant).
- If  $F_{\text{count}} < F_{\text{table}}$  then  $H_0$  is accepted (not significant).

#### a. Hypothesis 1

$$H_{01} : \beta = 0$$

Solvency and profitability have no effect on stock liquidity.

$$H_{a1} : \beta > 0$$

Solvency and profitability have an effect on stock liquidity.

### F-test for the Hypothesis 1

#### ANOVA<sup>a</sup>

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	3,620	2	1,810	8,357	,000 <sup>b</sup>
Residual	21,441	99	,217		
Total	25,061	101			

a. Dependent Variable: stock liquidity

b. Predictors: (Constant), profitability, solvency

Based on the above table, the F-value was 8,357 with significance 0,000. This indicated that  $F_{\text{count}}$  was bigger than  $F_{\text{table}}$  ( $8,357 > 3,088$ ). As a result,  $H_0$  was rejected and  $H_a$  was accepted. The results indicate that both solvency variable and profitability variable have a positive and significance effect on stock liquidity.

### T-test

- If  $-t_{count} < -t_{table}$  atau  $t_{count} > t_{table}$ ,  $H_0$  was in the rejection region. It meant that  $H_a$  was accepted.
- If  $-t_{count} > -t_{table}$  atau  $t_{count} \leq t_{table}$ ,  $H_0$  was in the acceptance region. It meant that  $H_a$  was rejected.

**T-test**

Model	T <sub>count</sub>	t <sub>table</sub>	Sig.	Alpha
<b>Sub struktural 1 :</b>				
<b>Dependent variable: Stock Liquidity</b>				
Solvency	3,663	1,984217	0,000	0,05
Profitability	2,286	1,984217	0,024	0,05
<b>Sub struktural 2 :</b>				
<b>Dependent variable: Stock Returns</b>				
Stock Liquidity	3,514	1,984467	0,001	0,05
Solvency	0,525	1,984467	0,601	0,05
Profitability	-1,473	-1,984467	0,144	0,05

**Hypothesis 2**

$H_{02} : \beta \geq 0$  : Solvency has no negative effect on stock liquidity.

$H_{a2} : \beta < 0$  : Solvency has a negative effect on stock liquidity.

The results of data analysis using IBM SPSS statistics 25 software on the T-test table show that the  $t_{count}$  was 3,663 or bigger than 1,984217 with probability 0,000 that was smaller than 0,05. As a result,  $H_{a2}$  was rejected and  $H_{02}$  was accepted. Therefore, solvency ( $X_1$ ) has a positive effect on stock liquidity (Y).

**Hypothesis 3**

$H_{03} : \beta \leq 0$  : Profitability has no positive effect on stock liquidity.

$H_{a3} : \beta > 0$  : Profitability has a positive effect on stock liquidity.

The results of data analysis using IBM SPSS statistics 25 software on the T-test table show that  $t_{count}$  was 2,286 or bigger than 1,984217 with probability 0,024 that was smaller than 0,05. As a result,  $H_{03}$  was rejected and  $H_{a3}$  was accepted. Therefore, profitability ( $X_2$ ) has a positive effect on stock liquidity (Y).

**The Effect of Profitability (Return on Assets) on Stock Liquidity**

The results of data analysis using IBM SPSS statistics 25 software on the T-test table show that  $t_{count}$  was 2,286 or bigger than 1,984217 with probability 0,024 that was smaller than 0,05. As a result,  $H_{03}$  was rejected and  $H_{a3}$  was accepted. Therefore, profitability ( $X_2$ ) has a positive effect on stock liquidity (Y).

The results of this study are supported by the research conducted by Zahoor, Saeed, and Hashmi (2017) and Sudana & Intan (2008) which state that an ROA has a positive effect on stock liquidity. On the other hand, the results of this study are not in line with the research conducted by Saputra (2018) which states that an ROA has a negative effect on stock liquidity.

An ROA determines the return on profits in a form of a dividend which then the shareholders can reinvest it in the same company or other companies. The higher the level of profitability, the higher the dividend distribution to the shareholders. The reasonable profits that will be distributed to the shareholders are the profits after the company has fulfilled its fixed obligations that are interest and taxes. The bigger the profits a company

has, the bigger the portion of revenue as dividends the company will pay. Therefore, the bigger the profits generated by a company, the more investors will be interested to transact the company's stock. This will increase the trading volume of the company. An increase in trading volume can indicate that the level of the stock liquidity increases.

### **The Effect of Solvency (Debt To Equity Ratio) on Stock Liquidity**

The results of data analysis using IBM SPSS statistics 25 software on the T-test table show that the tcount was 3,663 or bigger than 1,984217 with probability 0,000 that was smaller than 0,05. As a result, Ha2 was rejected and H02 was accepted. Therefore, solvency (X1) has a positive effect on stock liquidity (Y).

The results of this study are supported by the research conducted by Yusifera, Sudarto, Sulistyandari (2017) which states that a DER has a positive effect on stock liquidity. On the other hand, the results of this study are in line with the research conducted by Lirda, N. (2014) and Almilian & Retrinasari (2011) which state that a DER has a negative effect on stock liquidity.

Funding decisions taken by a company management indicate an increase in the use of debt which is indicated by an increased financial solvency. This is related to investment conditions in a country that is in good condition so that a company makes the decision to use debt in developing investment. The company is optimistic that using debt in developing its investment will have good prospects in the future. Increased financial solvency encourages managers to make the best investment decisions so it will reduce information asymmetry between managers and investors.

If the company management is very disciplined to control the amount of debt properly or to maintain the liquidity value properly for the development of company activities to increase profits, it will be a positive signal for the shareholders. This makes investors believe that companies that have a larger debt will provide good prospects in the future which will lead to an increase in the selling offer and buying demand for shares so that the trading volume of shares is greater and the turnover of the company's shares will also increase. With an increase in trading volume, it shows that the level of stock liquidity has increased.

## **CONCLUSION**

Based on the results of data analysis and hypothesis testing carried out in this study, it can be concluded that Both solvency and profitability have a positive and significant effect on stock liquidity. Solvency has a positive effect on stock liquidity. Profitability has a positive effect on stock liquidity.

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