The effect of foreign ownership on liquidity in the food and beverage industry listed on the Indonesia stock exchange

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Abstract- Foreign institutional ownership is considered a favorable signal by the market, showing more transparency and a low level of asymmetric information that is expected to increase company liquidity and increase investor confidence. This study aims to provide empirical evidence about the effect of foreign share ownership on liquidity. the dependent variable of this study is Liquidity which is divided by four different sizes. The independent variable of this study is foreign ownership and the control variable consists of company size, stock price, trading volume and return volatility. the sample consists of 34 companies in the food and beverage sub-sector in Indonesia over a period of 3 years (2019-2021) and uses a panel data regression model in its testing. The results of the research conducted explained that foreign ownership has no significant effect on liquidity. Firm size has a significant positive effect on LR and LnDEPTH, but does not have a significant effect on RQS and ILLIQ. Stock prices have a significant positive effect on the relative quoted bid-ask spread (RQS). The implication for company managers is to increase firm size by increasing the fixed assets or current assets of a company, while investors can see the high total assets of a company before investing. Stock prices have a significant positive effect on the relative quoted bid-ask spread (RQS). The implication for company managers is to increase firm size by increasing the fixed assets or current assets of a company, while investors can see the high total assets of a company before investing. Stock prices have a significant positive effect on the relative quoted bid-ask spread (RQS). The implication for company managers is to increase firm size by increasing the fixed assets or current assets of a company, while investors can see the high total assets of a company before investing.

Index Terms- Share Price, ,Foreign Ownership, Liquidity, Company Size, , Trading Volume

1. Introduction

Liquidity is one of the most important things for a company. Companies that are not liquid are prone to bankruptcy because of the company's difficulties in fulfilling its obligations. Although liquidity is very important for companies in trading, it is quite difficult to define and predict. Therefore, an understanding of liquidity is very important because it is a reflection of corporate information asymmetry (Vo, 2022).

Liquidity is one of the most important factors for investors to consider when making investment decisions. At the beginning of 2020, there was a covid-19 outbreak which had a major impact on the capital market. Indonesia is one of the countries whose domestic sphere has been shaken by the co-19 outbreak. The Central Bureau of Statistics (2020) explains that the GDP gain for almost all business sectors has decreased. This was caused by the government's implementation of Large-Scale Social Restrictions (PSBB), which resulted in a decrease in people's purchasing power.

In light of the Covid-19 outbreak, measuring stock market liquidity is an important tool to provide a comprehensive evaluation of financial stability and economic growth. According to (Priscilla et al., 2022), stock market liquidity will definitely be driven by the Covid-19 variable. this indicator allows various stakeholders to hold and trade stock market securities safely, especially against the volatility of this worldwide index. Investors may respond to shifts in financial needs as an important part of a firm's cost of capital, which influences portfolio decisions because lower transaction costs imply higher liquidity and vice versa (Bousnina et al., 2022).

Studies have shown that foreign investors as information traders can increase stock liquidity. Foreign investors have more resources, experience in international capital markets and strategies effective investment. According to (Tran, 2020), whose work is based on the emerging market of Vietnam, shows how foreign investors are risk averse in the context of an uncertain capital market. Foreign investors have been considered a common feature of modern capital markets during increased globalization. The importance of foreign ownership is supported by many studies which show it is very important in improving and developing corporate governance because of the role of these investors in monitoring managerial actions as part of the internal corporate governance mechanism (Shubita & Shubita, 2019).

Ownership of foreign institutions is perceived as a favorable signal by the market, showing more transparency and a lower degree of asymmetric information, which increases liquidity and increases investor confidence. (Sezgin Alp et al., 2022) said that foreign ownership helps reduce adverse selection costs and encourage trading activity, thereby increasing market liquidity on the Korea Stock Exchange. When foreign investors invest in domestic stocks, they have stronger and more professional abilities to oversee the company. This will improve corporate governance, corporate quality and the quality of information disclosure.

The food and beverage sub-sector in Indonesia is one of the sub-sectors that has survived during this Covid-19. there is a pandemiccovid-19in Indonesia until entering the second quarter of 2020, the manufacturing industry contributed 19.87% to GDP with a sub-sector that responded positively, namelyconsumer goodscovering food and beverages by 0.22%, traditional medicines and pharmaceutical chemicals by 8.65% (Bayu & Kamim, 2020). The increase in public consumption of food and beverage needs in the era of the Covid-19 outbreak has made the food and beverage sub-sector in Indonesia survive. This increase in growth can be attributed to foreign institutional ownership because foreign investors can be a source of external funds that can be used as an alternative to companies.

2. Literature Review

Foreign Ownership

It is widely accepted that foreign investors are key players in emerging market stock markets. Over the past few years, the level of ownership and the volume of shares traded by foreign investors in emerging markets, has increased dramatically. Foreign investors trade their portfolios more frequently, which reduces transaction costs and thus increases liquidity. foreign investors have a positive relationship with liquidity which is supported by research (Online et al., 2017). this is due to higher portfolio turnover from a broad range of foreign investors.

foreign investors tend to adopt long-term investment strategies followed by domestic investors. In addition, they are usually skilled institutions with more sophisticated investment knowledge, which will encourage domestic investors to trade more, thereby reducing the real cost of friction and increasing market liquidity. (Abbassi et al., 2021) found that a larger board size helps reduce and monitor adverse selection and information asymmetry problems, thereby having a positive impact on stock liquidity.

Liquidity

Stock market liquidity attracts the attention of researchers especially in emerging markets because market liquidity helps allocate financial resources efficiently (Hunjra et al., 2020). Increased stock market liquidity increases the efficiency of stock valuation, and therefore can help increase company value. Therefore, to achieve this goal, companies need to implement a better corporate governance system. (Chung et al., 2012) concluded that the shares of companies with effective corporate governance are more liquid than those of companies with poor corporate governance, regardless of the legal origins in which the companies work. Given the importance of stock liquidity to companies and investors, it is important to evaluate stock liquidity.

Firm Size, Share Price, Trading Volume and Return Volatility

Control variables besides foreign ownership are considered to affect liquidity. Refers to research (Bousnina et al., 2022), the control variable used isFirm Size, Share Price, Trading Volume and Return Volatility. firm sizeused to control for the effect of firm size on liquidity because larger companies tend to have higher stock liquidity than smaller ones.Share Priceused to capture the extent to which higher stock prices tend to have wider bid-ask spreads.

Trading volume used to see the market reaction to an information through parameters movement of trading volume activity in the capital market. The higher the value of the stock trading volume as the meaning that a share can be sold easily because many are willing to buy shares. Return volatility, the standard deviation of daily returns over the year, is included because stocks that are more volatile tend to have wider bid-ask spreads and higher price impact.

Conceptual Framework

Previous research by (Bousnina et al., 2022) saw a positive effect of foreign ownership on liquidity. stock price control variables and return volatility have a positive relationship to liquidity, while trading volume and company size have a negative relationship to liquidity. According to (Choi et al., 2013) predicts a negative relationship between foreign share ownership and liquidity. (Utami et al., 2020) Information asymmetry and foreign ownership have a significant effect on stock liquidity, based on a sample of companies listed on the Indonesia Stock Exchange, foreign ownership has a negative and significant relationship with ILLIQ and a positive and significant relationship with LnDepth (Ng et al. , 2016).

The results of research from (Lee & Chung, 2018) show that company size and trading volume have a negative relationship to liquidity, while stock prices and return volatility have a positive relationship to liquidity. Therefore, based on the explanation above, the conceptual framework in this study is described as follows:
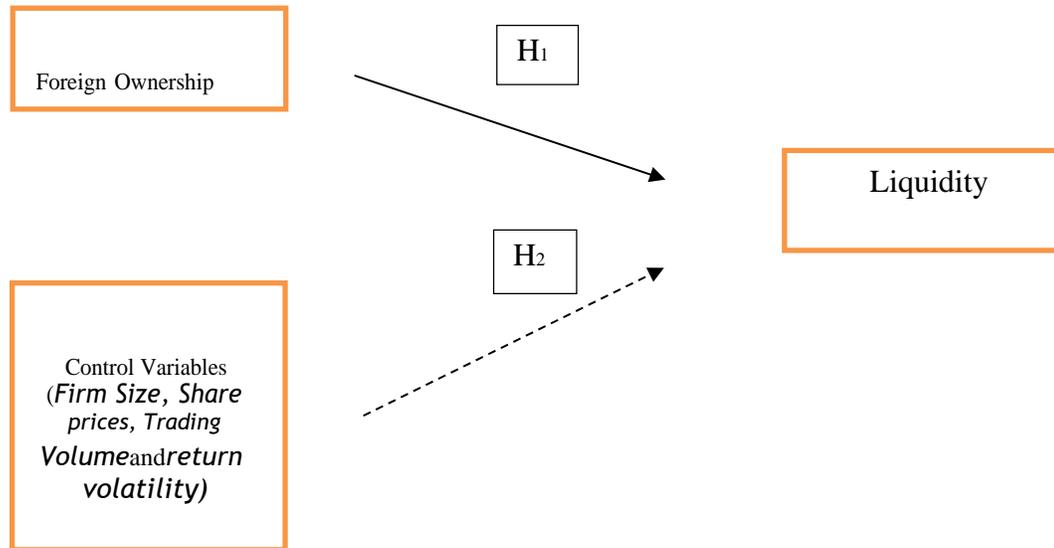

Figure 1. Conceptual Framework Chart

Hypothesis Development

Effect of Foreign Ownership on Liquidity

Based on the results of research (Alfarisyi et al., 2022) showing that foreign institutional ownership is perceived as a favorable signal by the market, showing more transparency and a low level of asymmetric information, which increases liquidity and increases investor confidence. Lee and Chung (2018) provide evidence that foreign investors, even though they increase the risk of adverse selection, can reduce trading costs by increasing competition in the price discovery process and thereby increasing market liquidity. Recently (Musembi et al., 2017) found a one-way causality relationship of inflows to liquidity and observed that foreign investors promoted rather than hindered local liquidity in Kenya. Therefore,

H1: Foreign ownership affects stock liquidity.

Effect of Control Variables (Firm Size, Share Price, Trading VolumeandReturn Volatility)Against Liquidity

Based on research (Bousnina et al., 2022) Firm size has an effect on liquidity. According to the results of research (Hadya STIE, 2013) stock prices have an influence on liquidity, because if a company's stock price is too high, investors will switch to other companies, causing a decrease in liquidity levels due to reduced trading volume.

Stock liquidity is strongly influenced by the number of outstanding shares, the more outstanding shares, the higher the company's liquidity level. Based on the results of research (Wijaya Kusuma, 2015) Trading volume has a significant and significant effect on

Liquidity. Return Volatility based on research results (Zulfikar, 2013) Has no effect on Liquidity. Therefore the second hypothesis that can be tested can be formulated as follows:

H2: Control Variable (Firm Size, Share Price, Trading VolumeandReturn Volatility)effect on Liquidity.

RESEARCH METHODS

Variables and Measurements

Variables and measurements used in this study are included to determine the relationship between independent variables and control variables on the dependent variable, each measurement is described as follows:

Table 1. variable identification and measurement

Type of variable	Name of variable	Proxy	Symbol	Variable definition
Dependent variable	Liquidity	The relative quoted bid-ask spread	RQS	$RQS\tau = ASKt - Bidt \Big/ \frac{ASKt+BIDt}{2}$
		The liquidity measure	ILLIQ	$ILLIQi.d = \lvert Ri,d \rvert / VOL\ I,d$ • $\lvert R \rvert$ = Number of daily returns / total trading days • VOL I,d = number of stock volume / total trading days
		The liquidity ratio	LR	$Lri.t = \sum\tau \{VOLi,d\}/\sum t \{\lvert Ri,d \rvert\}$ • $\lvert R \rvert = \frac{Pt-Pt-1}{Pt-1}$
		The market depth	LnDEPTH	$LnDEPTH\tau = Ln\ ((Ask\tau*Qask\tau + Bid\tau*Qbid\tau)\ /\ 2)$
Independent variable	Foreign Ownership	-	FO	Proportion of shares by foreign investors
Control variabe	Firm Size	-	LnTA	Natural logarithm of total asset
	Share Price	-	PRICE	Stock price
	Trading Volume	-	TVOL	VOLi.d / trading days
	Return Volatility	-	VOLAT	Standard deviation daily return throughout the year

Source : (Bousnina et al., 2022)

Sampling Method

The sampling method used in this study is byPurposive Sampling. The sample of this research includes companies in the food and beverage sub-sector that are listed on the Indonesia Stock Exchange for 3 years (2019-2021). The data collection method used in this study is a secondary data collection method obtained from published financial reports. The data source of the research was obtained from the Indonesian Stock Exchange website (https://www.idx.co.id/) and website each company that was sampled.

Table 2. Sampling Criteria

Information	Amount
Companies in the food and beverage sub-sector that are listed on the Indonesia Stock Exchange	72
Companies that do not have a complete annual report	(16)
Companies that do not have foreign ownership	(6)
Companies that do not have a bid-ask spread	(16)
	34

The stages in testing the regression model in this study are described as following :

Chow test The Chow test is a test to determine whether the model is Common Effect (CE) or Fixed Effect (FE) is the most appropriate to use in estimating panel data. Chow test is useful to determine what model is most appropriate to use.
The hypothesis in the chow test is stated as follows:

H_0: The correct model is common effect
H_a:The right model is the fixed effect

decision making criteria:
If the probability of cross-section of chi-square < 0.05, 0 rejected
If the cross–section probability of chi-square > 0.05, 0 accepted

Hausman test
The Hausman test is a statistical test to choose whether the Fixed Effect or Random Effect model is the most appropriate to use. Hausman test is useful to determine which model is better and more appropriate.
The hypothesis in the hausman test can be stated as follows:

H_0 : The right model is random effect
Ha :The right model is the fixed effect

decision making criteria:
If the cross-section probability of random < 0.05, 0 rejected If the cross-section probability of random > 0.05, 0 accepted

Langrange Multiple Test
The Lagrange Multiplier (LM) test is a test to find out whether the Random Effect model is better than the Common Effect (PLS) method used.In this study, the multiplier lagrange test is useful to determine which model is better and more appropriate.

The hypothesis in the Lagrange multiplier test is stated as follows:

H_0: The right model is common effect
Ha: The right model is a random effect Criteria for decision making:

If the probability of cross-section < 0.05, 0 rejected If the probability of cross-section > 0.05, 0 accepted

3. Research Result

The relative quoted bid-ask spread (RQS) has an average value of 2166.732, a median of 937.3500 and a standard deviation of 3017.974. The maximum value of the RQS is 16899.75 which is owned by PT Multi Bintang Indonesia Tbk and the minimum value is 64.75000 which is owned by PT Dharma Samudera Fishing Indonesia. The liquidity measure (ILLIQ) has an average value of 0.000000463, a median of 0.000000000385 and a standard deviation of 0.00000342. The maximum value of ILLIQ is 0.0000343 which is owned by PT Nippon Indosari Tbk and the minimum value is 0.000000 which is owned by PT Bakrie Sumatera Plantations Tbk.

The liquidity ratio (LR) has an average value of 251.00000 , a median of 262.0000000 and a standard deviation of 888.00000000 . The maximum value of LR is 837.000000000 which is owned by PT Indofood Sukses Makmur Tbk. And the minimum value is 29132.50 which is owned by PT Sekar Laut Tbk. The market depth (LnDEPTH) has an average value of 449.000000, a median of 31903600 and a standard deviation of 15.00000000 . The maximum value of LnDEPTH is 109.00000000 which is owned by PT Indofood CBP Sukses Makmur Tbk and the minimum value is 129140.0 which is owned by PT Provident Investasi Bersama Tbk.

Foreign Ownership (FO) has an average value of 29.69647, a median of 12.71000 and a standard deviation of 31.93085. The maximum value of FO is 94.17000 which is owned by PT Akasha Wira Internasional Tbk and the minimum value is 0.010000 which is owned by PT Sentra Food Indonesia Tbk. Firm Size (LnTA) has an average value of 17.23490, a median of 17.27500 and a standard deviation of 2.336961 . The maximum value of LnTA is 23.11000 which is owned by PT Indofood CBP Sukses Makmur Tbk and the minimum value is 11.76000 which is owned by PT Austindo Nusantara Jaya Tbk.

Share Price (PRICE) has an average value of 2053.389, the Median is 900.8450 and the standard deviation of 2727,013 . The maximum value of PRICE is 14067.52 which is owned by PT Multi Bintang Indonesia Tbk and the minimum value is 74.00000 which is owned by PT Eagle High Plantations Tbk. Trading Volume (TVOL) has an average value of 9906053, a median of 1967699 and a standard deviation of 24220475 . The maximum value of TVOL is 163000000 which is owned by PT Eagle High Plantations Tbk and the minimum value is 127.7778 which is owned by PT Sekar Laut Tbk.

Return Volatility (VOLAT) has an average value of 65312.69, the median is 0.028294 and the standard deviation of 659625.5. The maximum value of VOLAT is 6661891 which is owned by PT Wahana Interfodd Nusantara Tbk and the minimum value is 0.004083 which is owned by PT Sekar Laut Tbk.

Table 3. Description of statistic

	Mean	Median	Maximum	Minimum	Std. Dev
RQS	2166.732	937.3500	16899.75	64.75000	3017.974
ILLIQ	0.000000463	0.000000000385	0.0000343	0.000000	0.00000342
LR	251.00000000	262.0000000	837.000000000	29132.50	888.00000000
LnDEPTH	449.000000	31903600	109.00000000	128140.0	15.00000000
FO	29.69647	12.71000	94.17000	0.010000	31.93085
LnTA	17.23490	17.27500	23.11000	11.76000	2.336961
PRICE	2053.389	900.8450	14067.52	74.00000	2727.013
TVOL	9906053	1967699	163000000	127.7778	24220475
VOLAT	65312.69	0.028294	6661891.	0.004083	659625.5

Sourced : data processed using E-views

Individual test (T-test)

The test was carried out whether each independent variable dependent variable. The decision making criteria is If sig.t < 0.05, 0 is received.

H1: There is influence between Foreign Ownership on Liquidity has a significant influence on the rejected, If sig.t > 0.05, 0

Foreign Ownership (FO) against the relatively quoted bid-ask spread (RQS) has a probability value of 0.1705 > 0.05, Foreign Ownership (FO) to The liquidity measure (ILLIQ) has a probability value of 0.3976 > 0.05 , Foreign Ownership (FO) to The liquidity ratio (LR) has a probability value of 0.3976 > 0.05 , and Foreign Ownership (FO) to The market depth (LnDEPTH) has a probability value of 0.9710 > 0.05. The results of this study concluded that there was no significant positive effect betweenForeign OwnershiptoLiquidity .

H2 :There is the influence of the Control Variable (Firm Size, Share Price, Trading VolumeandReturn Volatility)against Liquidity

Firm size (LnTA) against the relatively quoted bid-ask spread (RQS) has a probability value of 0.1599 > 0.05 which shows no significant effect. Firm size (LnTA) to The liquidity measure (ILLIQ) has a probability value of 0.1889 > 0.05 which indicates there is a significant influence. Firm size (LnTA) to The liquidity ratio (LR) has a probability value of 0.0040 <0.05 which shows a significant effect. Firm size (LnTA) to The market depth (LnDEPTH) has a probability value of 0.0068 <0.05 which indicates that there is a significant effect.

The share price (PRICE) against the relative quoted bid-ask spread (RQS) has a probability value of 0.0000 < 0.05 which indicates there is a significant effect. Share price (PRICE) to The liquidity measure (ILLIQ) has a probability value of 0.9169 > 0.05 indicating no significant effect, Share price (PRICE) to The liquidity ratio (LR) has a probability value of 0.7441 > 0.05 indicating no significant effect. The share price (PRICE) to the market depth (LnDEPTH) has a probability value of 0.3472 > 0.05 indicating no significant effect.

Trading volume (TVOL) against the relative quoted bid-ask spread (RQS) has a probability value of 0.7341 > 0.05 which indicates no significant effect. Trading volume (TVOL) to The liquidity measure (ILLIQ) has a probability value of 0.9183 > 0.05 indicating no significant effect. Trading volume (TVOL) to The liquidity ratio (LR) has a probability value of 0.3949 > 0.05 which shows no significant effect. Trading volume (TVOL) to the market depth (LnDEPTH) has a probability value of 0.7666 > 0.05 indicating no significant effect.

Return Volatility (VOLAT) to the relative quoted bid-ask spread (RQS) has a probability value equal to 0.8286 > 0.05 indicates that there is no significant effect. Return Volatility (VOLAT) to The liquidity measure (ILLIQ) has a probability value of 0.9051> 0.05 indicating there is no significant effect. Return Volatility (VOLAT) to The liquidity ratio (LR) has a probability value of 0.7289 > 0.05 indicates no significant effect. Return Volatility (VOLAT) to The market depth (LnDEPTH) has a probability value of 0.8843 > 0.05 with no significant effect.

Table 4.
RQS Individual Test result (T-test)

Independent Variable	Dependent Variable		
	RQS		
	Coefficient	Probability	Conclusion
Constant	- 974.6202		-
FO	3.585494	0.1705	Not significant
lnTA	50.70158	0.1599	Not significant
PRICE	1.047485	0.0000	Significant positive
TVOL	0.00000118	0.7341	Not significant
VOLAT	0.0000234	0.8286	Not significant

Sourced : data processed using E-views

Table 5.
ILLIQ Individual Test Result (T-test)

Independent Variable	Dependent Variable		
	ILLIQ		
	Coefficient	Probability	Conclusion

Constant	0.00000379	-	-
FO	0.00000000931	0.3976	Not significant
lnTA	- 0.000000209	0.1889	Not significant
PRICE	0.00000000000382	0.9169	Not significant
TVOL	. 0000000000000155	0.9183	Not significant
VOLAT	0.0000000000000626	0.9051	Not significant

Sourced : data processed using E-views

Table 6.
LR Individual Test Result (T-test)

Independent Variable	Dependent Variable		
	LR		
	Coefficient	Probability	Conclusion
Constant	- 199000000000	-	-
FO	357000000	0.2131	Not significant
lnTA	12000000000	0.0040	Significant positive
PRICE	1162774.	0.7441	Not significant
TVOL	331.8616	0.3949	Not significant
VOLAT	- 4405021	0.7289	Not significant

Sourced : data processed using E-views

Table 7.
LnDEPTH Individual Test Result (T-test)

Independent variable	Dependent Variable		
	lnDEPTH		
	Coefficient	Probability	Conclusion
Constant	3460000000	-	-
FO	- 446944.6	0.9710	Not significant
lnTA	247000000	0.0068	Significant positive
PRICE	- 145061.9	0.3472	Not significant
TVOL	- 3.059811	0.7666	Not significant
VOLAT	31.17907	0.8843	Not significant

Sourced : data processed using E-views

Research Regression Model

The panel data regression model previously used by (Bousnina et al., 2022) can be written as follows :

LIQ_{it} = -974.6202 + 3.585494FO_{it}+ 1.047485 $PRICE_{it}$ + 50.70158 $LnTA_{it}$ + 0.00000118$TVOL_{it}$ + 0.0000234 $VOLAT_{it}$

LIQ_{it} = 0.00000379 + 0.00000000931 FO_{it}+ 0.00000000000382 $PRICE_{it}$ + -0.000000209 $LnTA_{it}$ + -0.00000000000000155 $TVOL_{it}$ + 0.0000000000000626 $VOLAT_{it}$

LIQ_{it} = -199000000000+ 357000000 FO_{it} + 1162774 $PRICE_{it}$ + 12000000000 $LnTA_{it}$ + 331.8616 $TVOL_{it}$ + 331.8616$VOLAT_{it}$

LIQ_{it} = 3460000000 + -446944.6 FO_{it}+ -145061.9 $PRICE_{it}$ + 24700000 $LnTA_{it}$ + -3.059811 $TVOL_{it}$ + 31.17907 $VOLAT_{it}$

Information :
LIQit   : Liquidity

FO   : Foreign Ownership
PRICE   : Share Price
Lnta   : Firm Size
TVOL   : Trading Volume
VOLAT   : Return Volatility

4. Conclusion

Based on the results of the tests performed, the following conclusions were obtained:

1. The foreign ownership variable as measured by looking at the proportion of ownership in a companyhas no significant effect on liquidity
2. Variables *Firm Size* significant positive effect on LR and LnDEPTH, but no significant effect on RQSand ILLIQ.
3. The share price variable has a significant positive effect on the relative quoted bid-ask spread (RQS).

5. Implication

Based on the results of the research that has been done, there are benefits to be gained as implications for financial managers and investors which are taken into consideration in making decisions. Some of the implications obtained are as follows:

a. For Finance Manager
For financial managers, this research is expected to provide information to managers

companies to pay attention to the factors that can affect the company's liquidity. Based on the results of this study, firm size has a positive influence on liquidity. Company managers can increase firm size by increasing the assets of a company, both current assets and fixed assets. Apart from firm size, the stock price factor can also increase liquidity. things that can be done by company managers to increase stock prices is to improve company performance. if the quality of the company is good, it will trigger the stock price to rise. By knowing these factors, company managers are expected to be able to create a better strategy to increase company liquidity.

b. For Investors
This research is expected to provide information for investors to assess the company's liquidity level before making an investment. This research can provide information to investors about what factors affect liquidity. based on the results of this study, investors can see the high total assets of a company before investing. Companies that have large total assets tend to have a high level of liquidity so that this will be attractive investors' interest in investing.

LIMITATIONS AND ADVICE

Based on the results of the research that has been done, there are some data limitations in this study, namely not all companies have a bid-ask spread value and foreign investors. This research is terba Further research is expected to add variables in order to show other factors that can affect liquidity. Variables that can be added include:Market Capitalisation(Thanatawee, 2019) andMarket to Book Ratio(Lee & Chung, 2018).

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