



Contents lists available at [Journal IICET](http://journal.iicet.org)
JPPI (Jurnal Penelitian Pendidikan Indonesia)
ISSN: 2502-8103 (Print) ISSN: 2477-8524 (Electronic)
Journal homepage: <https://jurnal.iicet.org/index.php/jppi>



Trading volume, earnings per share and stock returns and their impact on bid-ask spreads on manufacturing industry sector stocks listed on the Indonesia stock exchange 2015-2018

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Article Info

Article history:

Received Feb 04th, 2022

Revised Mar 30th, 2022

Accepted Jun 22th, 2022

Keyword:

Trading Volume,
Earning Per Share,
Stock Returns,
Bid-Ask Spread

ABSTRACT

This research was to provide empirical evidence regarding The Effect of Trading Volume, Earning Per Share on Stock Returns, and their impact on Bid-Ask Spread in manufacturing companies listed on the Indonesian Stock Exchange. The method of the research used data from 114 companies manufacturing industry sector that was listed on the Indonesia Stock Exchange in 2015-2018. Technique analysis data used path analysis with IBM SPSS Statistics software and hypothesis test used F test, t-test, and Sobel test. Based on the results of the t-test (partial) showed that Trading Volume had a significant positive effect on Stock Returns, Earning Per Share had no significant effect on Stock Returns, Trading Volume had a significant negative effect on Bid-Ask Spread, Earning Per Share had a significant negative effect on Bid-Ask Spread, Stock Returns had a significant negative effect on Bid-Ask Spread. Based on the results of the F test, is shown that Trading Volume and Earning Per Share together have a significant effect on Stock Returns. Trading Volume, Earning Per Share and Stock Returns has a significant effect on Bid-Ask Spread.



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Introduction

Investors are the most important parties in the capital market. Investors invest intending to obtain maximum profit from trading shares on the Stock Exchange, therefore investors need to know about bid-ask spreads (Ratih & Achadiyah, 2018). In general, investors in investing often do not pay attention to the bid-ask spread in buying shares. For investors who wish to purchase shares, the broker/dealer will submit the price requested by the investors in the purchase which is called the asking price. If an investor has a desire to sell or dispose of his shares, then that's when the broker/dealer will provide the bid price of the shares he wants to sell. From the difference between the bid price and the asking price, the so-called bid-ask spread emerges. It can be said that the bid-ask spread on security can be determined by the broker (broker/dealer), but investors can give directions to the broker/dealer to sell or buy the desired security (Wiharno & Rahayu, 2018).

The bid-ask spread is one of the cost components in stock trading. The bid price is the highest purchase price that causes investors to be willing to buy a stock, while the asking price is the lowest selling price that causes investors to be willing to sell a stock (Agus & Tan, 2008) in (Aprilia, 2015). Spread is one of the

important elements of the transaction cost which is the difference or margin from the bid price and ask price (Rasyidi & Murdayanti, 2013). A reasonable bid-ask spread is no more than or equal to its average (George & Longstaff, 1993).

Bid-ask spreads can be observed in the shares of companies that are actively traded on the stock exchange, one of which is the manufacturing industry sector. The manufacturing industry sector consists of three sectors, namely the basic and chemical industry sector, the various industrial sector, and the consumer goods industrial sector. The manufacturing industry has varying levels of liquidity. Stocks in the manufacturing industry sector have high liquidity, meaning they are actively traded on the stock exchange. The following is the average bid-ask spread for the manufacturing industry sector for the 2015-2018 period:

Table 1 average bid-ask spread.

Based on average bid-ask spread for the manufacturing industry sector, namely the difference between the bid-ask spreads is larger than the existing average shown in 2015 and 2016. The size of the bid-ask spread can provide information about the return earned by investors. Knowledge of stock returns is very necessary for investors in assessing the bid-ask spread because stock returns are seen as one of the benefits that investors get. Stock return is the result obtained from investment (Hartono, 2009). A good stock return is a stock return that will be obtained by investors by 15 percent to 20 percent per year (Rudiyanto, 2013). The following is the average stock return of the manufacturing industry sector for the 2015-2018 period :

Table 2 average stock returns.

Some returns are not following good return standards. This is shown in 2015 to 2018 the average stock return of the manufacturing industry sector is smaller than a good standard of return. According to Fahmi (2015), the factors that influence stock returns are internal factors, external factors, and economic factors. This study uses the year before the Covid 19 pandemic spread so that the effect of the pandemic does not exist. Until the 2018 period, the Indonesia Stock Exchange still recorded good stock trading growth based on the Composite Stock Price Index. In 2019 Corona Virus began to spread in Wuhan China and spread throughout the world at the end of 2019 which paralyzed the world economy.

Research conducted by Kurniyanti et al. (2016), Novianti & Tandika (2018), Widayanti & Haryanto (2013) state that trading volume has a significant positive effect on stock returns. Research conducted by Hermi & Kurniawan (2011) states that earnings per share have a significant positive effect on stock returns. Research conducted by Cahyono (2014) shows that trading volume and stock returns harm the bid-ask spread. Research conducted by Winoto (2017) states that earnings per share have a significant negative effect on the bid-ask spread.

The purpose of this study is to provide empirical evidence of the effect of trading volume variables, earnings per share on stock returns and the bid-ask spread of manufacturing companies listed on the Indonesia Stock Exchange.

Method

The method used in this research is quantitative with the verification method and descriptive method. The use of the verification method basically wants to test the truth of a hypothesis that is carried out through data collection (Sugiyono, 2013), which in this study aims to determine the effect of trading volume, earnings per share on stock returns and their impact on bid-ask spreads in companies that include: manufacturing industry sector listed on the Indonesia Stock Exchange for the 2015-2018 period. The use of the descriptive method in this study is to provide an overview of the variables of trading volume, earnings per share, stock returns, and bid-ask spreads in manufacturing industry sector companies listed on the Indonesia Stock Exchange for the 2015-2018 period. The population is the entire object of research and fulfills certain characteristics (Bahri, 2018). The population in this study are companies in the manufacturing industry sector in 2015-2018. The population in this study is the financial statements of 160 companies x 4 years = 640 financial statements.

The sample is part of the population taken through certain ways which also have certain characteristics (Bahri, 2018). In determining the number of samples used in this study, the researchers determined the following characteristics:

Table 3. Determination of Research Sample

No	Description	Number of Companies
1.	Companies in the manufacturing sector listed on the Indonesia Stock Exchange 2015-2018.	160
2.	Manufacturing industry sector companies that do not have complete financial data/reports.	17
3.	Companies delisted from the IDX during the observation period.	3
4.	Suspension of manufacturing industry companies.	26
		114

Based on the determination of the sample above, the sample size required in the manufacturing industry sector for the 2015-2018 period is 114 companies with a span of 4 years, so a total of 456 financial statement data are used in this study.

The sampling technique in this study was non-probability sampling. Non-probability sampling is a sampling technique that does not provide equal opportunities or opportunities for each element or member of the population to be selected as a sample (Sugiyono, 2016). Non-probability sampling is a non-random sample selection technique so that population elements do not have the same opportunity to be selected as research samples (Bahri, 2018). The non-probability sampling technique used by the author in this study is to use a purposive sampling technique. The purposive sampling technique is a sampling technique with certain considerations (Sugiyono, 2016). Data analysis techniques uses multiple linear regression analysis, with hypothesis testing t-test, F test, and determination regression test.

Results and Discussions

Bid-Ask Spread

The bid-ask spread is the difference between the bid price and the asking price. The bid price is the highest price offered by the broker/dealer, while the asking price is the lowest price at which the broker/dealer is ready to sell shares (Ambarwati, 2008). The bid-ask spread shows the difference between the highest demand for investors to sell and the lowest offer for dealers to buy (Jogiyanto, 2015). The size of the bid-ask spread can be determined by the market maker which acts as an intermediary for trading securities. The higher the bid-ask spread, the less actively traded the stock will benefit the broker/dealer, while the lower the bid-ask spread indicates that the stock is actively traded, thereby narrowing the bid-ask spread on the stock.

The bid-ask spread is calculated using the formulation from Stoll (1978) which is also used in Nurmayanti (2009):

Description:

Spread_{i, T} = Share bid-ask spread I on day t
 Bid_t = Share purchase price on day t
 Ask_t = The selling price of shares on the t-th day

Return Saham

Stock return is an advantage obtained by companies, individuals, and institutions from the results of their investment policies (Fahmi, 2015). Investors in investing their funds have the aim of making a profit so that a high stock return will make investors more interested in a stock that they want to own. Stock returns can be calculated by the equation (Sunardi, 2010) in (Kristiana & Sriwidodo, 2012), as follows:

Description :

P_t = Stock price at the beginning of period tP_{t-i}
 = Stock price at the end of period $t-i$

Trading Volume

Stock trading volume is the number of shares traded daily (Hartono, 2005). A small trading volume indicates that investors are little or less interested in investing in the secondary market, while a large trading volume indicates a large number of investors and a lot of interest in buying and selling shares, thus a small trading volume is a sign of uncertainty or investor uncertainty in the future. the future (Cahyono, 2014).

Stock trading volume is the total value of share sales transactions by investors which is calculated using the trading volume activity (TVA) with the formula (Gurendrawati & Sudibyo, 1999) in (Cahyono, 2014).

Earning Per Share

Earning per share is a form of giving benefits given to shareholders from each share owned (Fahmi, 2015). Earnings per share or EPS are obtained from the profit available to ordinary shareholders divided by the average number of ordinary shares outstanding (Winoto, 2017). Earning per share is the net profit from each share given by a company to investors who own the company's shares. The earnings per share formula (Fahmi, 2015), is as follows:

Description :

EAT = *Earning After Tax or income after tax*

J_{sb} = Number of shares outstanding

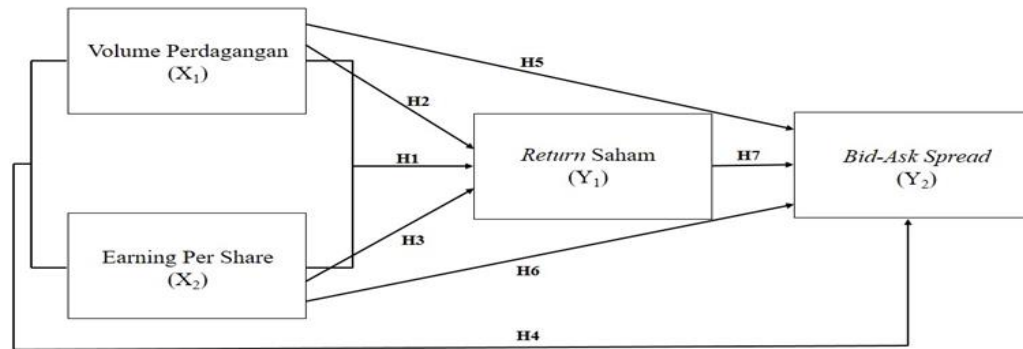


Figure 1. Research Model

Based on table 1 descriptive statistics, the trading volume of 456 data has an average value (mean) of 0.272373 with a standard deviation of 0.4650639, the standard deviation value is higher than the average value, which indicates that there is a spread pattern of the data. so that it becomes a variation of the value of a high trading volume. Earning per share of 456 data has an average value (mean) of 158.129707 with a standard deviation of 461.5200645, the standard deviation value is higher than the average value which indicates that there is a pattern of data spread that spreads so that it becomes a variation in the earning value. high per share. Stock returns from 456 data have an average value (mean) of 0.039234 with a standard deviation of 0.3327556, the standard deviation value is higher than the average value, which indicates that there is a pattern of data spread that spreads so that it becomes a variation of stock return values. tall one. The bid-ask spread of 456 data has an average value (mean) of 0.066649 with a standard deviation of 0.0407990 which illustrates that there are variations in the value of the deviation of the bid-ask spread from high and low bid-ask spreads.

Table 4. Descriptive Statistics of Independent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Trading Volume	456	.0001	2.9880	.272373	.4650639
Earning Per Share	456	-375.2236	6479.3182	158.129707	461.5200645
Return Saham	456	-.7944	1.2368	.039234	.3327556
Bid Ask Spread	456	.0017	.1991	.066649	.0407990
Valid N (listwise)	456				

The correlation between research variables is shown in table 2. The test results show that there is no high correlation between variables. The correlation test between trading volume and earnings per share is negatively correlated, trading volume and earnings per share are positively related to stock returns. Furthermore, the three variables, namely trading volume, earnings per share, and stock returns have a negative effect on the bid-ask spread. This is an early indication of the relationship between variables based on their correlation.

The results of the path analysis test using the Sobel test for the effect of X1 on Y2 through Y1 $0.4356 < 1.965$, meaning that there is an indirect, insignificant effect of trading volume on the bid-ask spread through stock returns. The results of this calculation can be said to be partial mediation. Sobel test for the effect of X2 on Y2 through Y1 $0.29226 < 1.965$, meaning that there is an indirect and insignificant effect of earnings per share on the bid-ask spread through stock returns. The results of this calculation can be said to be partial mediation.

Table 5. Correlation Coefficient and Path Coefficient

Correlation				Path Coefficient		
Variabel	Trading Volume	Earning Per Share	Return Saham	Bid Ask Spread	Return Saham	Bid Ask Spread
Trading Volume	1				0,225	-0,286
Earning Per Share	-0,094	1			0,079	-0,179
Return Saham	0,217	0,058	1			-0,136
Bid Ask Spread	-0,298	-0,160	-0,208	1		

Source: Output IBM SPSS Statistics 20

Hypothesis test

Based on table 3, the results of the calculation of trading volume on stock returns obtained a count of 4.892 or greater than 1.965 with a significant 0.000 less than 0.05 so it can be stated that trading volume has a significant positive effect on stock returns.

Table 6. Partial test (t test)

Model	T _{count}	t _{table}	Sig.	Alpha
Variabel dependen : Return Saham				
Trading Volume	4,892	1,965	0,000	0,05
Earning Per Share	1,715	1,965	0,087	0,05
Variabel dependen : Bid Ask Spread				
Trading Volume	-6,363	-1,965	0,000	0,05
Earning Per Share	-4,077	-1,965	0,000	0,05
Return Saham	-3,029	-1,965	0,003	0,05

Source: Output IBM SPSS Statistics 20

The results of the calculation of earnings per share obtained a count of 1.715 or less than 1.965 with a significance of 0.087 greater than 0.05 so that it can be stated that earnings per share have no significant effect on stock returns. Hypothesis 2 is supported and hypothesis 3 is not supported.

The results of the calculation of trading volume on the Bid-Ask Spread obtained a count of -6.363 or smaller than -1.965 with a significance of 0.000 less than 0.05 so that it can be stated that the trading volume has a significant negative effect on the bid-ask spread. The results of this study are in line with research conducted by Cahyono (2014), Rasyidi & Murdayanti (2013), and Aprilia (2015) which state that trading volume has a significant negative effect on the bid-ask spread.

The results of the calculation of earnings per share on the bid-ask spread obtained a count of -4.077 or less than -1.965 with a significance of 0.000 less than 0.05 so that it can be stated that earnings per share have a significant negative effect on the bid-ask spread. The results of this study are in line with research conducted by Winoto (2017) which states that earnings per share have a significant negative effect on the bid-ask spread.

The results of the calculation of stock returns on the Bid-Ask Spread obtained a tcount of -3.029 or less than -1.965 with a significance of 0.003 less than 0.05 so that it can be stated that stock returns have a significant negative effect on the bid-ask spread. Hypotheses 5 and 6 are supported. This is in line with research conducted by Cahyono (2014) and Zyahromie (2013) which states that stock returns have a significant negative effect on the bid-ask spread.

Table 7. Joint Hypothesis Test (F test)

Model	Sub Struktur 1	Sub Struktur 2
F	12.763	24.959
Sig.	.000 ^b	.000 ^b

The H1 hypothesis test shows that the joint test results using Ftest show that the trading volume and earnings per share variables together have a significant effect on stock returns. Likewise, in hypothesis H4 the joint test of trading volume, earnings per share, and stock returns have a significant effect on the Bid-Ask Spread.

The results of calculations using the Sobel test for controlling trading volume on the Bid-Ask Spread and the variable earnings per share on the Bid-Ask Spread through stock returns show that there is an indirect effect that is not significant.

Conclusions

Trading volume has a significant positive effect on stock returns. This shows that if the trading volume of a stock increases, the stock returns obtained by investors will increase. Furthermore, Earning per share has no significant effect on stock returns. This shows that the increase in earnings per share on the company's shares has no effect on stock returns.

Trading volume, earnings per share, and stock return together affect the bid-ask spread. Trading volume has a significant negative effect on the bid-ask spread. This shows that the higher the trading volume of a stock, the more investors are attracted to the stock, which will result in a smaller bid-ask spread for a stock. Furthermore, Earning per share has a significant negative effect on the bid-ask spread. This shows that high earnings per share tend to be in demand by investors so that the shares are actively traded which makes dealers not keep shares for too long which results in a lower cost of share ownership so that the bid-ask spread on shares will be reduced.

Stock returns have a significant negative effect on the bid-ask spread. This shows that high stock returns are in great demand by investors who make these shares actively traded on the exchange so that it will result in a decrease in the cost of ownership of a share which will have an impact on narrowing the bid-ask spread. on stock.

Judging from the results of the study, investors should pay more attention to the fundamentals of the shares they want to own, one of which is by considering the volume of stock trading when investing. To detect an increase in trading volume, investors can pay attention to positive signals that occur in the market, so that investors will get the desired profit. As for the results of the study that earnings per share have no significant effect on stock returns, but indirectly earnings per share can increase stock returns so that earnings per share can be used as a benchmark in investing. Paying attention to the trading volume of the bid-ask spread because the high trading volume will reduce or narrow the level of the bid-ask spread on the stock and reduce the cost of ownership of shares so that investors will get the profits they want.

For further researchers are expected to increase the number of samples in the study and expand the population in all sectors of the company. Further research can add other variables that can affect the bid-ask spread such as asset size, leverage, company size, liquidity, return variance, and so on.

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