Factors Affecting Trading Volume Activity with Tobin's Q as an Intervening Variable LQ45 Company in Indonesia Stock Exchange

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Abstract: *To increase the stock price index, the application of influencing factors such as disclosure of leverage, profitability, and EVA is widely considered now. Based on the background above, this study aims to determine the effect of leverage, profitability, and EVA on Trading Volume Activity (TVA), with company value as an intervening variable. The research sample is a company listed in the LQ45 company for the period 2012-2016. The type of data used is secondary data. The dependent variable is the Trading Volume Activity that is proxied with TVA. The independent variables used are disclosure of leverage, profitability, and EVA. The intervening variable in this study is Tobin's Q. The data analysis technique used is descriptive statistical analysis data and inferential statistical analysis data. The results show that: (1) Disclosure of leverage has a negative and significant effect on Tobin's Q. (2) profitability has a positive and significant effect on Tobin's Q. (3) EVA has a negative and not significant effect on TVA. (4) leverage has a negative and significant effect on TVA. (5) profitability has a negative and not significant effect on TVA. (6) EVA has a positive and not significant effect on TVA. (7) Tobin's Q has a negative and not significant effect on TVA. (8) Leverage has a positive and insignificant effect on TVA through tobin's Q as an intervening variable. (9) profitability has a negative and not significant effect on TVA through Tobin's Q as an intervening variable. (10) EVA has a positive and insignificant effect on TVA through Tobin's Q as an intervening variable.*
Keywords: TVA, Tobin's Q, Leverage, Profitabilitie, EVA

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I. Introduction

The Indonesia Stock Exchange experienced a stock trading condition which was able to attract investors to enliven the stock trading on the trading floor and even be able to attract the general public to invest the excess funds, due to improved stock trading conditions in the stock market. Stock is one of the financial commodities traded in the most popular capital market (Hadi, 2013).

Technical analysis is a technique for predicting the direction of stock price movements and other stock market indicators based on historical market data such as stock price information and stock trading volume or Trading Volume Activity (Tandelilin, 2010). Trading Volume Activity reflects stock liquidity which is the dependent variable in this study.

The value of the company in this study can be measured using Tobin's Q. The use of Tobin's Q aims to measure a company's ability to process its assets to maximize the company's net worth so that market value of shares can be beneficial (Tobin, 1977). Tobin's Q is not only a dependent variable, but also as an independent variable. Because this aims to test Tobin's Q's contribution to the TVA of the LQ45 company.

This research suggests several factors that influence the value of the company, some of which are: leverage, profitability and economic value added.

Table 1.1 Financial Reports of Several Companies Registered in LQ45 in 2012 and 2013

Year	Code	CP	Share	Total Assets	Total Debt	Total Equity	Earning After Tax
	ADRO	1,090	31,986	82,623,566	43,420,880	30,527,008	1,120,378
2013	AKRA	4,375	3,881	14,633,141	9,269,980	4,967,410	407,221
	ASII	6,800	40,486	213,994,000	107,806,000	95,537,000	9,965,000

	BBCA	9,600	24,408	496,304,573	432,337,895	57,629,979	5,550,014
	BBNI	3,950	18,462	386,654,815	338,971,310	44,105,977	2,697,980
	BBRI	7,250	24,422	626,182,926	546,855,504	68,621,996	9,345,652
	ADRO	1,590	31,986	66,116,930	36,025,242	28,962,172	3,691,474
	AKRA	4,150	3,851	9,791,304	5,598,225	4,209,740	755,870
2012	ASII	7,600	40,484	178,491,000	94,843,000	89,814,000	22,460,000
	BBCA	9,100	24,408	427,014,666	377,023,602	51,897,942	11,898,523
	BBNI	3,700	18,462	310,432,969	269,170,631	43,525,291	72,202,604
	BBRI	6,950	24,422	551,336,790	486,455,011	64,881,779	18,681,350

Source: idx.co.id

Based on the Table, we can see the movement of Current Price, Share, Total Assets, Total Debt, Total Equity, Earning After Tax, Income Before Tax, and Tax issuers listed in LQ45 still vary and fluctuation from year to year. Like, Current Price, has increased by 4 companies, while in 2 companies there has been a decline.

The reason the researchers chose the LQ45 company on the Indonesia Stock Exchange was because companies went public. Companies that have gone public mean that they have sold a portion of the shares to the public, giving rise to benefits and consequences that must be borne by the issuer (Hadi, 2013). The company has diversified ownership, so that the company concerned oversees and evaluates its operations.

II.   Theoretical Review
2.1 Tranding Volume Activity (TVA)
Trading Volume Activity is one of the important parameters that show transactions that occur in trading activities in a session or reflect the number of shares that change hands (Ong, 2011). Trading Calculation Volume Activity is done by comparing the number of company shares traded in a certain period with the total number of outstanding shares of the company in the same time period. Notations that can be used as follows:

$$TVA = \frac{\sum \text{The volume of company shares traded time t}}{\sum \text{The volume of company shares i circulated at time t}}$$

Where:
TVA   = Trading volume activity
I   = Company name
T   = Specified time period

2.2 Company Value
Company value can be defined as the fair value of the company that describes the investor's perception of the issuer concerned. According to Husnan (2008) the value of the company is the price that the prospective buyer is willing to pay if the company is sold. Whereas according to Keown, et al.

There are several ratios to measure the market value of a company, one of which is Tobin's Q. This ratio is considered to provide the best information, because in Tobin's Q includes all elements of debt and share capital of the company, not just ordinary shares and not only the company's equity included but all company assets.

The value of the company in this study as independent and dependent variables. The value of the company becomes an independent variable when the dependent variable is leverage, profitability, and EVA. Whereas it becomes the dependent variable when the independent variable TVA. One version of Tobin's Q which is modified and simplified by Chung & Pruitt (1994) on the formula made by Lindenberg & Ross (1981) in Sinaga (2011) is:

$$Tobin's\,Q = \frac{(CP \times S) + TL}{TA}$$

Where:
Tobin's Q   = The value of the company
CP   = Current price (stock price on a certain date)
S   = Share (number of shares)
TL   = Total liabilities
TA   = Total assets

2.3 Leverage

Leverage ratio is a ratio used to measure the extent to which a company's assets are financed by debt (Kasmir, 2011). This means that the amount of debt used by companies to finance their business activities is compared to using their own capital.

Leverage / solvency ratio in this study used Debt to Asset Ratio (DAR) and Debt to Equity Ratio (DER) which can be seen as follows (Kasmir, 2011):

a) Debt to Asset Ratio (DAR)

This ratio emphasizes the importance of debt funding by showing the percentage of company assets supported by debt. A high ratio value indicates an increase in risk to creditors. DAR can be calculated using the formula:

$$DAR = \frac{TL}{TA}$$

Where:

DAR = Debt to asset ratio
TL = Total liabilities
TA = Total assets

b) Debt Equity Ratio (DER)

This ratio is the percentage of the provision of funds by shareholders to the lender. The higher the ratio shows the lower corporate funding provided by the shareholders. DER can be calculated using the formula: $DER = \frac{TL}{TE}$

Where:

DER = Debt to equity ratio
TL = Total liabilities
TE = Total equity

2.4 Profitability

Profitability in this study is a financial factor that affects the value of the company (Djamalludin, Rahmawati and Ali, 2017). The formulas used are return on assets (ROA) and return on equity (ROE) which can be seen as follows (Fahmi, 2013):

a) Return on Asset (ROA)

Return on Assets (ROA) is a ratio that looks at the extent to which invested investment is able to provide returns as expected (Fahmi, 2013). the investment is actually the same as the company assets that are invested or fixed. ROA can be calculated by:

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

Where:

ROA = Return on asset
EAT = Earning after tax
TA = Total Asset

b) Return on Equity (ROE)

Return on Equity (ROE) is also called return on equity. This ratio examines the extent to which companies use the resources they have to be able to provide return on equity (Fahmi, 2013). ROE can be calculated by:

$$ROE = \frac{EAT}{TE}$$

Where:

ROE = Return on equity
EAT = Earning after tax
TE = Total equity

2.5 Economic Value Added (EVA)

Anthony and Govindarajan (2005) in Sari (2013), Economic Value Added (EVA) is the amount of money not the ratio obtained by subtracting capital charge from net operating profit.

According to Young and O'Byrne (2001) in Alverniatha and Dossugi (2010) EVA is calculated by the formula:

EVA = After-tax operating profit - capital costs

EVA = EBIT (1 - tax) - (WACC x amount of capital)

Amount of Capital = Amount of long - term debt + amount of capital stock

III.   Materials and Method

Data analysis techniques in a study using two statistical approaches, namely descriptive statistics and inferential statistics. Sinulingga (2016) defines the descriptive and inferential statistics as follows:

1. Descriptive Statistics Analysis

Descriptive statistics are a technique of analyzing data by describing or describing the situation of a research object as it is without intending to draw certain conclusions based on all the data that has been collected. Data analysis with descriptive statistical approach aims to provide an understanding of the situation that occurs or applies to the object of research.

2. Inferential Statistical Analysis

This study uses the PLS data analysis method with the help of the Smart PLS 3.0 program. Partial Least Squares (PLS) analysis is structural equation analysis (SEM). based on variants that can simultaneously test measurement models while testing structural models. Evaluation of the PLS model is done by evaluating the outer model and inner model.

IV. Results and Discussion

The results of the study used secondary data from the LQ45 company on the Indonesia Stock Exchange (IDX) for the period of 2012 - 2016. LQ45 shares are liquid stocks and have high market capital and stocks actively traded on the IDX. The companies that were sampled in this study were 24 companies that were reduced by 2 companies that had data outliers, so that they were 22 sample companies. 22 sample companies are companies registered in LQ45 and meet the research criteria in the 2012-2016 observation period. The results of the study are as follows:

4.1 Analysis of Descriptive Statistics

Descriptive statistics are conducted to find out the description of the value of the variables that were sampled in the research in the LQ45 company. Descriptive statistics from the study are as follows:

Table 4.1 Descriptive Statistics Table

	TVA	Tobin's Q	EVA	DAR	DER	ROA	ROE
Mean	0,03049	2,264501	- 15.956.896	0,492191	1,900479	0,114989	0,206517
Std. Error	0,00308	0,277916	3285189	0,020703	0,219624	0,024138	0,030069
Median	0,02261	1,610279	-4598348	0,465819	0,872634	0,069591	0,163642
Mode	#N/A	#N/A	#N/A	0,397468	0,659664	#N/A	#N/A
Std. Dev	0,03236	2,914805	34455352	0,217134	2,303432	0,253161	0,315363
Range	0,26231	29,32862	208789581	0,749258	7,502678	2,079196	2,444466
Min	0,00623	0,637694	- 169.579.665	0,133061	0,013366	0,014104	0,008494
Max	0,26855	29,96631	39209915	0,882319	7,516045	2,093301	2,45296
Count	110	110	110	110	110	110	110

Source: Microsoft Excel

4.2 Inferential Statistical Analysis
a) Data Analysis and Discussion

Significant and significant variables can be seen from Table 4.2 Outer Weights as follows:
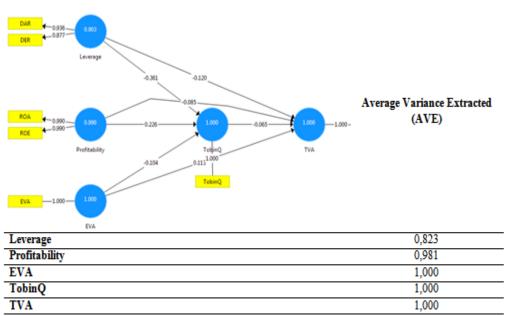
Table 4.2 Outer Weights (Mean, STDEV, T-Value)

	Original (O)	Sample	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
DAR <- Leverage	0,936		0,938	0,019	49,633	**0,000**
DER <- Leverage	0,877		0,873	0,040	21,822	**0,000**
EVA <- EVA	1,000		1,000	0,000		
ROA <- Profitability	0,990		0,970	0,066	15,058	**0,000**
ROE <- Profitability	0,990		0,964	0,088	11,246	**0,000**
TVA <- TVA	1,000		1,000	0,000		
TobinQ <- TobinQ	1,000		1,000	0,000		

Source: Output Bootstrapping PLS

Table 4.2 Outer Weights shows T-Statistics DER (49,633), DAR (21,822), ROA (15,058) and ROE (11,246) which are above the T-Table value (1.67) which means Valid indicator variables and do not need evaluation or retesting.

b) Path Chart

The path diagram of algarithma estimation results with PLS based on processed secondary data can be seen in Figure 4.1:

	Average Variance Extracted (AVE)
Leverage	0,823
Profitability	0,981
EVA	1,000
TobinQ	1,000
TVA	1,000

Source: Algoritma PLS

Source: Algoritma PLS

Figure 4.1 Algarithma PLS Output Path Diagram Average Variance Extracted (AVE) Table

c) Evaluation of the SEM-PLS Model

Evaluation of the SEM-PLS model based on predictive orientation that is non parametric. The SEM-PLS Evaluation Model is conducted by assessing the outer model and inner model as follows:

Assessing Measurement Models (Outer Model)

The measurement model is used to test construct validity and constructability reliability. Measurement model testing is done through confirmatory factor analysis. This analysis is carried out using the Multi Trait-Multi Method (MTMM) approach.

- **Outer Loading Results**

Table 4.3 Outer Loading

	Leverage	Profitability	EVA	TobinQ	TVA
DAR	0,936				
DER	0,877				
EVA			1,000		
ROA		0,990			
ROE		0,990			
TobinQ				1,000	
TVA					1,000

Sumber: Algoritma PLS

- **Discriminant Validity**

Table 4.4 Cross Loading

	Leverage	Profitability	EVA	TobinQ	TVA
DAR	**0,936**	-0,187	0,310	-0,453	0,021
DER	**0,877**	-0,095	0,364	-0,321	-0,107
EVA	0,365	0,208	**1,000**	-0,189	0,064
ROA	-0,227	**0,990**	0,170	0,267	-0,016
ROE	-0,097	**0,990**	0,242	0,255	-0,100
TobinQ	-0,436	0,264	-0,189	**1,000**	-0,056
TVA	-0,036	-0,059	0,064	**-0,056**	1,000

Source: Algoritma PLS

- **Evaluating Reliability and Average Variance Extracted (AVE)**

Table 4.5 Average Variance Extracted (AVE) dan Composite Reliabelity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
EVA	1,000	1,000	1,000	1,000
Leverage	0,789	0,844	0,903	0,823
Profitability	0,980	0,981	0,990	0,981
TobinQ	1,000	1,000	1,000	1,000
TVA	1,000	1,000	1,000	1,000

Source: Algoritma PLS

Assessing Structural Models (Inner Model)
- **Nilai R-square**

Table 4.6 R-Squares

	R-Square
TVA	0.020
Tobin's Q	0.237

Source: Algoritma PLS

R-square results Table 4.6 in the TVA variable is obtained 0.020 (weak category) and for Tobin's Q variable it is obtained at 0.237 (medium category). These results indicate that 2.0% of the TVA variable can be influenced by variations in leverage, profitability, EVA and Tobin's Q and for 23.7% the Tobin's Q variable is influenced by variables leverage, profitability, and EVA.

- **Analysis of Direct Effect and Indirect Effects (Total Effects)**

Table 4.7 Direct Effect, Inderect effect and Total Effect

Independent	-->	Dependent	Mediation	Direct Effect		Indirect Effect		Total Effect	
				Koef	T.S	Koef	T.S	Koef	T.S
Leverage (X₂)	-->		-	-0,361	4,897	-		-0,361	4,897
Profitability(X₃)		Tobin's Q (Z)	-	0,226	2,652	-	-	0,226	2,652
EVA (X₁)	-->			-0,104	1,353	-	-	-0,104	1,353
Leverage (X₂)	-->	TVA (Y)	Tobin's Q (Z)	-0,120	1,747	0,023	0,735	-0,096	0,147
Profitability (X₃)				-0,085	1,027	-0,015	0,642	-0,099	1,248
EVA (X₁)	-->			0,113	0,998	0,007	0,641	0,120	1,044
Tobin's Q (Z)	-->		-	-0,065	0,790	-		-0,065	0,790

Source: Bootstap PLS

d) Pengujian Hipotesis

Testing The hypothesis is statistically carried out by using a simulation with the bootstrap method on the sample. Use of Bootstrap in testing to minimize data abnormalities in the study. The results of the research data can also be seen in Figure 4.2 Hypothesis Test.
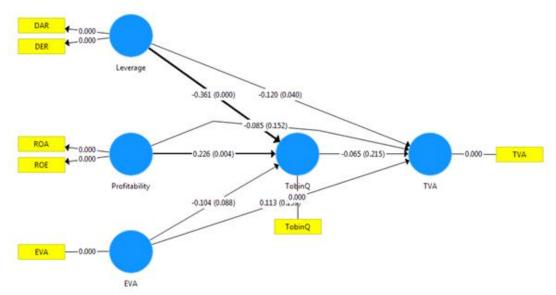

Figure 4.2 Hypothesis Test

V.   Conclusion and Suggestion

5.1 Conclusion

Based on the results of the study, some conclusions were drawn to answer all the hypotheses proposed in the study, namely:

a) Leverage has a significant effect on Tobin's Q in LQ45 companies. Based on the results of the study that the results of the same leverage have a negative and significant effect on Tobin's Q in LQ45 companies. So that the first hypothesis using PLS is acceptable.

b) Profitability has a significant effect on Tobin's Q in LQ45 companies. Based on the results of the study the results are the same that profitability has a positive and significant effect on Tobin's Q in LQ45 companies. So that the first hypothesis using PLS is accepted.

c) EVA has a significant effect on Tobin's Q in LQ45 companies. Based on the results of the study the results are not the same that EVA has a negative and not significant effect on Tobin's Q in LQ45 companies. So that the first hypothesis using PLS is rejected.

d) Leverage has a significant effect on TVA in LQ45 companies. Based on the results of the study the results are the same that leverage has a negative and not significant effect on TVA in LQ45 companies. So that the first hypothesis using PLS is accepted. Profitability has a significant effect on TVA in LQ45 companies. Based on the results of the study the results are not the same that profitability has a negative and not significant effect on TVA in LQ45 companies. So that the first hypothesis using PLS is rejected.

e) Profitability has a significant effect on TVA in LQ45 companies. Based on the results of the study the results are not the same that profitability has a negative and not significant effect on TVA in LQ45 companies. So that the first hypothesis using PLS is rejected.

f) EVA has a significant effect on TVA in LQ45 companies. Based on the results of the study the results are not the same that EVA has a positive and not significant effect on TVA in LQ45 companies. So that the first hypothesis using PLS is rejected.

g) Tobin's Q has a positive and significant effect on the LA45 TVA company. Based on the results of the study, the results with Tobin's Q had a negative and not significant effect on the TVA of the LQ45 company. So that the first hypothesis using PLS can be rejected.

h) Leverage has a significant effect on TVA through Tobin's Q in LQ45 companies. Based on the results of the study that the results of the same leverage have a positive and not significant effect on TVA through Tobin's Q in the LQ45 company. So that the first hypothesis using PLS can be rejected.

i) Profitability has a significant effect on TVA through Tobin's Q in LQ45 companies. Based on the results of the study the results are not the same that profitability has a negative and not significant effect on TVA through Tobin's Q in LQ45 companies. So that the first hypothesis using PLS is rejected.

j) EVA has a significant effect on TVA through Tobin's Q in LQ45 companies. Based on the results of the study that the results with EVA have a positive and not significant effect on TVA through Tobin's Q in LQ45 companies. So that the first hypothesis using PLS can be rejected.

The overall conclusion of the results of the study is that all variable hypotheses can influence the Tranding volume of Activity, but the variables that greatly influence the Tranding Variable of Activiti Volume are Laverage seen from the results of this study. Leverage can affect Tobin's Q and the company's Tranding Volume Activity.

5.2 Suggestion

The suggestions from the results of the analysis in this study through descriptive statistics and structural equation modeling analysis (SEM), namely:

a) Research other than using financial factors can also add non-financial factors such as GCG, Intellectual Capital, CSR and others.

b) Conducting research on trading volume activity can add independent variables other than leverage, profitability and EVA, as well as intervening or moderating to expand research on LQ45 companies.

c) Conducting more extensive research by adding non-financial factors in the research year period of more than 5 years.

d) Conducting the same research using variables in the study but at different companies and time periods.

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