Turkish Journal of Computer and Mathematics Education Vol.12 No.12 (2021), 4471-4478

Research Article

Disperse of Ownership, Liquidity, and Firm Value: Evidence from Indonesia

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Article History: Received: 11 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 16 May 2021

Abstract: This study aims to investigate the relationship between disperse of ownership, liquidity, and firm value using a sample of 225 Companies on Indonesia Stock Exchange (IDX) market conditions since 2014 until 2019. We examine disperse of ownership as measured by free float, liquidity as measured by Amihud illiquidity, firm value as measured by Tobin's Q, and total assets, operating income to price ratio, financial leverage ratio, operating income on assets, relative bid-ask spread, turnover of stock, depth of stock, stock return, and return on assets as control variables. We use panel data, which is a combination of cross section and time series data from Thomson Reuters data stream. We find that this study indicated that free float is negatively associated with liquidity of stock and both firm value while liquidity of stock is positively associated with firm value. Our findings not only consistent with some prior research in relation to blockholder dispersion have a negative correlation with Tobin's Q and disperse of ownership negatively impact liquidity of stock, but also can serve as a reminder for investor that liquid stock may not provide positive returns.

Keywords: Disperse of Ownership, Free Float, Amihud Illiquidity, Firm Value, Tobin's Q

1. Introduction

Indonesia Stock Exchange ("IDX") according to the Capital Market Law Number 8 of 1995 is the organizer, system provider and/or facilitator of each parties securities with the aim of trading securities between them. The aim of the IDX establishment for developing the market that regular, fair and efficient. Recently, IDX as the Self Regulatory Organization ("SRO") issuing a decision Number: KEP-00059/BEI/07-2019 on July 22, 2019 concerning "Specific regulation for share listing and securities other than equity on the acceleration board issued by listed companies". On the attachment, V.1. stated that listed companies to remain listed on the stock exchange, the number of shares owned by non-controlling shareholders and non-major shareholders (free float) must be at least 7.5%. The goal of that regulation is to increase shares being traded, hence domestic and foreign capital inflow will come and Indonesian capital market become more liquid.

The indirect impact of share liquidity is to boost performance of the Company, consequently the firm value will be higher and it definitely attracts potential investors for targeting those Company who has higher firm value. On the other hand, the minimum free float of 7.5% is a mandatory and the listed Company must be complied in accordance with the regulation, otherwise they will be suspended. The theoretical literatures on ownership produce conflicting predictions on whether larger blockholder is better for liquidity on the correlation between ownership and liquidity. Arguments that free float is bad for liquidity come from Rhee & Wang (2009). Those researchers explain the negative relationship between the free float and liquidity was caused by foreign participation. The research also consistent with previous studies from Heflin and Shaw (2000) that imply the smaller quoted depth, larger and adverse selection of the components of the spread is led by higher institutional ownership. The potential explanations on why foreign institutional has negative impact on liquidity reported in that study is asymmetric information, the presence of dominant trader, and buy-and-hold strategy (Ding et al., 2016).

Research held by Fang et al (2009) and Nguyen et al (2016) indicate that stock liquidity enhances firm performance. Many researchers use Tobin's Q formula for measuring firm value, this include the ratio of the firm's market value of the replacement cost of its assets. Since the replacement cost of assets is hard to find, they find alternative value to substitute replacement cost and book value of assets are chosen. This research shows that better performance is coming from higher stock liquidity as measured by the Tobin's Q (market-to-book ratio). Market-to-book ratio separated into three categories: operating income-to-price ratio ("OIP"), financial leverage ("leverage") ratio, and operating income on.

Assets ("OIOA") ratio. Higher operating income on assets is coming from higher stock liquidity and more equity on their capital structure. As opposed to previous previous conclusion, operating income-to-price ratio is similar to less stock liquidity.

Some of the theoretical study on ownership provides positive and negative correlation between ownership structures in relation to firm value. This study also examines relationship the same proxies in Indonesia. Konijn et al (2011) argue that blockholder dispersion negatively correlated with Tobin's Q. Their result support prior literature
that indicate that blockholder dispersion is bad for firm value, such as Tobin (1969), Bennedsen & Wolfenzon, (2000), Bolton & von Thadden (1998), and Pagano & Röell (1998). Most of those studies emphasize the importance of the asymmetric information between the blocks. In this study, we examine dispersion by the number of free float and stock liquidity to firm value over the listed Company.

2. Materials

We combine data from several resources, most of them was obtained from the Thomson Reuters datastream. The panel data set is unbalanced. The data are covered period 2014 - 2018 (quarterly) of 225 listed Companies and the total data processed is 27.000. The distribution of the sample is presented below.

Table 1. Distribution of Firm Observations

Category	Number of Company	Percentage
Trading	60	27%
Basic Industry	28	12%
Property	25	11%
Financial	24	11%
Consumption	23	10%
Mining	20	9%
Infrastructure	17	8%
Plantation	10	4%
Others	18	8%
Total	**225**	**100%**

3. Methods

We use a combination of time-series and cross-section data. Therefore, panel data regression is the right regression model. Gujarati (2010) revealed the steps in determining the estimation model, commonly known as Common Effect Model ("CEM"), Fixed Effect Model ("FEM"), and Random Effect Model ("REM"). The estimation method used in this study is Chow, Hausman, and Breusch Pagan Lagrange Multiplier test.

The estimation results considered as Best Linear Unlimited Estimator (BLUE) on panel data regression method if all Gauss Markov assumptions are met, such as: normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test.

Equations

Liquidity measurement in this study is using variable: illiquidity ratio (Amihud, 2002), turnover (Lesmond, 2005; and Bekaert et al. 2007), relative bid-ask spread (Chung and Zhang, 2014), and depth.

$$Ami_{i,t} = \beta_0 + \beta_1 FF_{i,t} + \beta_2 Size_{i,t} + \beta_3 RelSPRD_{i,t} + \beta_4 Turnover_{i,t} + \beta_5 Depth_{i,t} + \beta_6 Storet_{i,t} + \beta_7 LogROA_{i,t} + \varepsilon_{i,t} \quad (1)$$

Fang et al (2009) and Nguyen et al (2016) explain that firm specific factors in relation to firm value are as follow: operating income-to-price ratio ("OIP"); financial leverage ratio ("Leverage"); operating income on assets ("OIOA") and size of company.

$$FirmValue_{i,t} = \beta_0 + \beta_1 Ami_{i,t} + \beta_2 Size_{i,t} + \beta_3 OIP_{i,t} + \beta_4 Leverage_{i,t} + \beta_5 OIOA_{i,t} + \varepsilon_{i,t} \quad (2)$$

Prior research conducted by Konijn et al (2011) explain that disperse of ownership have a negative relationship with firm value.

$$FirmValue_{i,t} = \beta_0 + \beta_1 FF_{i,t} + \beta_2 Ami_{i,t} + \beta_3 Size_{i,t} + \beta_4 OIP_{i,t} + \beta_5 Leverage_{i,t} + \beta_6 OIOA + \beta_7 RelSPRD_{i,t} + \beta_8 Turnover_{i,t} + \beta_9 Depth_{i,t} + \beta_{10} Storet_{i,t} + \beta_{11} LogROA_{i,t} + \varepsilon_{i,t} \quad (3)$$

H1 : Disperse of ownership is associated with lower liquidity

Free float is a number of shares sold to the public when a company enters into the capital market. Berk & DeMarzo (2011) explain that free float is the number of shares that are actually available for sale. These shares exclude the number of shares owned by the government, affiliates, key employees (Ding et al., 2016), while the definition of free float according to the Indonesia Stock Exchange is the number of shares owned by non-controlling shareholders and non-major shareholders.

H2 : Liquidity is associated with higher firm value

Amihud Illiquidity ratio is widely used as a reference in measuring liquidity because of the ease and effectiveness in measurement. However, there are important assumptions that must be maintained for Amihud ratio becomes a valid liquidity measurement. The selected Company must have trading volume at the vulnerable time. In other words, if there is no trade at one time vulnerable, the Amihud ratio cannot be determined.

H3 : Disperse of ownership is associated with lower firm value

Tobin (1969) explains that the main reason why the aggregate demand can be influenced by financial policy and by changing the physical valuation of assets into the replacement cost of assets. The model used in the study is only an illustration and can be developed flexibly. Tobin's Q ratio has been widely used as a tool for measuring firm value in various studies. Tobin's Q ratio measured by the market value of assets divided by the book value of assets (market-to-book ratio) and usually calculated at the end of the year. The market value of assets is defined as the market value of equity plus the book value of assets less the book value of equity and deducted by deferred tax in the statements of financial position.

Control variables - Relative bid-ask spread (Chung and Zhang, 2014), turnover (Lesmond, 205; and Bekaert et al., 2007), depth (Rhee & Wang, 2009), stock return (Ding et al., 2016), and the natural logarithm of total assets (Fang et al., 2009; and Konijn et al., 2011) is a set of control variables for liquidity measurement. Firm specific factors consist of operating earnings-to-price ratio; financial leverage ratio; and operating return on assets (Fang et al., 2009; Nguyen et al., 2016), and return on assets (Konijn et al., 2011).

4. Result and Discussion

First, we collect data from the Thomson Reuters datastream and conduct preliminary regression process to determine whether the data is in standard deviation range. Since we find our data is not normally distribute, we conduct winsorization process for handling outliers by converting very high data values to the highest data values that are not considered as outliers. We use “winsor2” function on the STATA application to convert the outliers and to produce new data values within the range of standard deviation. Following is a descriptive statistics table before and after winsorization process:

Table 2. Variable Definition

Variable		Definition
Dependent Variable		
Firm Value	:	Market value of assets divided by book value of assets at fiscal year end where market value of assets is defined as market value of equity plus book value of assets less book value of equity less deferred taxes on financial position.
Independent Variable		
FF	:	Percentage free float of listed company
Table 2 Variable Definition (Continued)		
Ami	:	The average of the absolute value of the return to volume ratio
Control Variable		
Size	:	Natural logarithm of total assets

OIP	:	Operating income after depreciation divided by market value of equity
Leverage	:	Market value of equity divided by market value of assets
OIOA	:	Operating income after depreciation divided by book value of assets
Sprd	:	Logarithm of the difference between bid-ask price
Tov	:	Logarithm of trading volume divided by average of total equity
Depth	:	Natural logarithm of bid-ask price divided by trading volume
Return	:	Natural logarithm of rate of return
RoA	:	Logarithm of net income divided by assets

Table 3. Summary Statistics (Before Winsorization)

Variable	Mean	Median	Std. Dev.	Max	Min	Skew	Kurt
Firm Value	1,44	1,09	1,04	8,30	0,00	2,89	10,48
FF	0,32	0,30	0,18	1,00	0,00	0,67	0,34
Ami	-0,04	0,00	0,27	0,01	-1,89	-6,21	36,62
Size	29,33	29,28	2,07	34,89	0,00	-4,21	61,74
OIP	36,32	27,48	224,92	2618,80	-2883,69	-2,40	55,25
Leverage	2,59	1,85	1,99	12,11	0,00	2,20	5,11
OIOA	0,01	0,02	0,10	0,11	-0,95	-7,78	62,40
Sprd	0,03	0,01	0,12	2,00	-2,00	-9,16	202,49
Tov	19,38	20,20	4,69	27,58	0,00	-0,86	1,20
Depth	14,28	14,00	2,94	23,37	0,00	0,08	0,59
Return	0,01	0,01	0,11	0,73	-0,87	-0,20	6,86
RoA	0,00	0,00	0,00	0,00	0,00	1,47	80,49

Table 4. Statistic Descriptive (After Winsorization)

Variable	Mean	Median	Std. Dev.	Max	Min	Skew	Kurt
Firm Value	1,69	1,11	1,89	15,12	0,34	4,11	19,36
FF	0,32	0,30	0,18	0,88	0,02	0,58	0,00
Ami	-2,96	-2,93	0,69	0,00	-4,88	0,35	1,60
Size	12,75	12,71	0,74	14,96	10,99	0,30	-0,05
OIP	38,23	27,48	162,05	1209,88	-1622,11	-1,47	32,16
Leverage	2,58	1,85	1,95	11,35	1,01	2,12	4,52
OIOA	0,01	0,02	0,09	0,10	-0,89	-8,19	70,86
Sprd	0,03	0,01	0,09	0,42	-2,00	-12,06	290,76
Tov	8,42	8,77	2,02	11,77	0,00	-0,80	0,98
Depth	14,29	14,00	2,86	21,92	0,00	0,19	-0,25
Return	0,01	0,01	0,10	0,50	-0,45	0,14	3,72
RoA	-4,89	-5,90	2,48	0,00	-8,33	1,37	0,13

As can be seen from the table 2 and 3, variables that have changed within the range of standard deviation are as follows: firm value (from 1.04 to 1.89), Amihud illiquidity (0.27 to 0.69), natural logarithm of total assets (from 2.07 to 0.74); OIP (224.92 to 162.05), leverage (1.99 to 1.95), OIOA (0.10 to 0.09), relative bid-ask spread (0.12 to 0.09), natural logarithm turnover (4.69 to 2.02), natural logarithm of depth (2.94 to 1.24), logarithm of stock return (0.11 to 0.10), and the logarithm of return on assets (0.00 to 2.48).

Second, we conduct regression process to determine which the best estimation model and method for this study. The results of regression shown from table below

Tabel 5. Regression Model

	Model 1	**Model 2**	**Model 3**
FF	-0.13*		-0.23
	(-2.17)		(-1.53)*
Ami			**-0.62*** **
			(-15.69)
Size	**0.04*** **	**-0.26*** **	**-0.72*** **
	(1.11)		**(-9.62)**
OIP		**-0.00**	**0.00*** **
		(-1.65)	**(4.94)***
Lev		**0.05*** **	**-0.05*** **
		(11.02)	**(-4.50)***
OIOA		**0.20** **	**-0.97*** **
		(2.67)	**(-5.80)**
Sprd	**-0.58*** **		**-0.16**
	(-10.92)		**(-1.10)***
Tov	**-0.14*** **		**0.01**
	(-38.96)		**(0.58)***
Depth	**0.03*** **		**-0.02***
	(7.39)		**(-1.96)***
Return	**0.79***		**1.07*** **
	(17.66)		**(8.71)***
RoA	**0.00*** **		**-0.00**
	(2.07)		**(-1.26)***
Const.	**-2.67**	**0.20**	**9.46*** **
	(-5.42)	**0.37**	**(10.03)***
N	**4500**	**4500**	**4500**
R2	**0.33**	**0.04**	**0.11**
Numbers in parentheses are t statistics			
Numbers in parentheses and asterisk are z statistics			
Legend: * p<0.05; ** p<0.01; *** p<0.001			

Table 6. Chow Test

Model 1	**Model 2**	**Model 3**
Prob > F = 0.0000	Prob > F = 0.0000	Prob > F = 0.0000
p-value < 0.05	p-value < 0.05	p-value < 0.05
FEM	**FEM**	**FEM**

Table 7. Hausman Test

Model 1	**Model 2**	**Model 3**
Chi2 (7) = 249.86	Chi2 (4) = 72.41	Chi2 (11) = 8.18
Prob > Chibar2 = 0.0000	Prob > Chibar2 = 0.0000	Prob > Chibar2 = 0.6974
p-value < 0.05	p-value < 0.05	p-value < 0.05
FEM	**FEM**	**REM**

Table 8. Breusch Pagan Lagrange Multiplier Test

Model 1	**Model 2**	**Model 3**
Chi2 (7) = 249.86	Chi2 (4) = 72.41	Chi2 (11) = 8.18
Prob > Chibar2 = 0.0000	Prob > Chibar2 = 0.0000	Prob > Chibar2 = 0.6974
p-value < 0.05	p-value < 0.05	p-value < 0.05
REM	**REM**	**REM**

Based on the previous table as shown in table 4 (chow test) we find that all models are fit for fixed effect model. Table 5 (Hausman test) shows that the fixed effect model fits model 1 and 2, while the random effect model is fit for model 3. Table 6 (Breusch Pagan Lagrange Multiplier test) shows a random effect model is fit for all models.

Third, we conduct normality tests, multicollinearity test, heteroscedasticity test, and autocorrelation test to ensure that the estimated results are Best Linear Unlimited Estimator. The results are on the table below:

Table 9. Multicollinearity Test

	Firm Value	FF	Ami	Size	OIP	Leverage	OIOA	Sprd	Turnover	Depth	Return	RoA
Firm Value	1,00											
FF	0,04	1,00										
Ami	-0,34	-0,01	1,00									
Size	0,00	0,18	-0,44	1,00								
OIP	0,13	0,01	-0,10	0,05	1,00							
Leverage	-0,30	-0,05	0,32	0,11	-0,10	1,00						
OIOA	-0,36	0,02	0,11	0,00	-0,01	0,01	1,00					
Sprd	-0,04	-0,10	-0,04	-0,19	0,00	-0,01	0,00	1,00				
Turnover	0,24	0,30	-0,46	0,63	0,09	-0,14	-0,02	-0,24	1,00			
Depth	0,18	0,02	-0,50	0,35	0,03	-0,16	-0,07	-0,04	0,28	1,00		
Return	0,01	0,03	0,12	0,04	0,00	-0,02	-0,01	0,01	0,05	-0,03	1,00	
RoA	-0,03	-0,08	0,18	-0,09	-0,08	0,11	-0,08	0,00	-0,11	-0,12	0,00	1,00

Table 10. Heteroscedasticity test

Model 1	**Model 2**	**Model 3**
Chi2 (225) = 1.6e+05	Chi2 (225) = 3.6e+06	Chi2 (225) = 8.4e+06
Prob > Chi2 = 0.0000	Prob > Chi2 = 0.0000	Prob > Chi2 = 0.0000
p-value <0.05	p-value <0.05	p-value <0.05

Table 11. Autocorrelation Test

Model 1	**Model 2**	**Model 3**
F (1, 224) = 560,940	F (1, 224) = 3407,657	F (1, 224) = 2,905
Prob > Chi2 = 0,0000	Prob > Chi2 = 0,0000	Prob > Chi2 = 0,0000
p-value <0,05	p-value <0,05	p-value <0,05

Effect and Relationship of Disperse of Ownership to Liquidity

The first model in this research is to examine the hypothesis of disperse of ownership to liquidity with the conjecture that disperse of ownership has a negative relationship with a significant effect on liquidity. Based on the results of 225 listed companies on the Indonesia Stock Exchange, we find that the best estimated model is fixed

effect model, disperse of ownership has a negative relationship and a significant effect on liquidity. This means the higher percentage of the free float of listed companies, the less liquid of stock trading on the capital market. The regression results explain that free float can affect the liquidity of the Company's shares and the potential explanation of this relationship is coming from buy-hold strategy and asymmetry information that leads investor (usually foreign institution and/or family company) to hold their transaction. These findings are consistent with Heflin and Shaw (2000) and Rhee & Wang (2009).

Effect and Relationship of Liquidity to Firm Value

The second model in this study investigates the theory of liquidity to firm value, with the premise that liquidity has a substantial influence and a negative link on company value. Based on the findings of 225 listed businesses on the Indonesia Stock Exchange, we discover that the best estimated model is the fixed effect model, and that liquidity has a considerable and positive impact on company value. Investors want to be compensated for holding securities that become illiquid when the market in general becomes illiquid, investors are willing to accept lower asset returns with high returns when the market is illiquid, and investors are willing to accept lower expected returns on liquid securities in a declining market. This study, which is corroborated by Amihud (2002) and Acharya & Pedersen (2005), demonstrates a positive relationship between liquidity and the Company's stock returns.

Effect and Relationship of Disperse of Ownership to Firm Value through Liquidity

The third model in this study is to examine the hypothesis of disperse of ownership to firm value with the conjecture that disperse of ownership has a significant effect and a negative relationship to firm value of the company through liquidity. Based on the results of research on 225 listed companies on the Indonesia Stock Exchange, we find that the best estimated model is the random effect model where disperse of ownership has a significant influence and negatively correlated to the firm value through liquidity. As mentioned above, since percentage of free float negatively correlated with liquidity, it makes turnover on capital market has decreased in value and consequently it bad for firm performance (Heflin & Shaw, 2000). This finding is consistent with Konijn et al (2011) which presented negative relationship between disperses of ownership and firm value.

5. Conclusion

Based on previous research related to the relationship between disperse of ownership to liquidity, disperse of ownership to the firm value, and liquidity to the firm value, the results are still inconclusive in which there are researchers who report a negative and positive relationship on the relationship of each variable. The following are the conclusions of the analysis and discussion: The Disperse of ownership negatively affects the liquidity of the Company's shares. The test results show that the higher the free float level is not directly proportional to the high stock trading. Therefore, we concluded that the decision Number: KEP 00059/BEI/07-2019 on July 22, 2019 concerning "Specific regulation for share listing and securities other than equity on the acceleration board issued by listed companies" cannot increase the level of liquidity of the Company's shares. Therefore, we recommend that IDX look for alternative ways and/or combine several policies to boost the capital market. Almost tested variable such as: Amihud Illiquidity, Size, Leverage, OIOA, relative bid-ask spread, depth, and ROA have a negative correlation to firm value even though liquidity has positive impact to firm value.

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