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THE INFLUENCE OF INSTITUTIONAL INVESTOR OWNERSHIP
ON THE LEVEL OF STOCK LIQUIDITY

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Abstract

The focus of agency theory stems from assumptions that the agent will behave opportunistically, particularly if their interest conflict with the principal. This conflicts can be reduced by the presence of outside investors by monitoring and supervising activities of the firms. As outside investors who have large proportion of ownership, institutional ownership play major role in reducing asymmetric information with the company becoming more transparent in disclosure thus an expectation of increasing the stock's liquidity. This study looks at the relation of institutional ownership as measured by breakdown into foreign and domestic institutional ownership and Amihud's illiquidity ratio for Indonesian firms. The dynamic data panel Generalized Method of Moment (GMM) was applied to overcome endogeneity problem. Using 73 companies listed in Indonesian stock exchange for period 2010 – 2017, this research finds that contrary to expectations, the higher proportion of both foreign and domestic institutional ownership shows instead a significant effect in decreasing stock's liquidity. The result is different than expected which reflect the buy-and-hold strategy by foreign investors and reduces their need to trade frequently for price discovery.

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1. Introduction

Agency theory states that there is a possibility of a conflict of interest between the owner of the company (principal) and the management who run the company. Management who's in charge in company operational activities, has more information about the condition of the company compared to the owner of the company. This conflict of interests can lead to the management of the company acting for their own interests without prioritizing the interests of the company. This behavior can cause problems for the company due to the occurrence of asymmetrical information between management and principal (Jensen & Meckling, 1976). Mitchell and Meacham (2011) stated that the focus of agency theory stems from assumptions that the agent will behave opportunistically, particularly if their interest conflict with the principal. This conflicts can be reduce by the presence of outside investors by monitoring and supervision activities of the firms (Jensen & Meckling, 1976; Mustapha & Ahmad, 2011). The monitoring activities by outside investors should enhance the company's transparency and disclosure thus will reduce the information asymmetry between company's management and financial stakeholders.

The monitoring and supervising activities by outside investors could also give advantage to increase the stock's liquidity. Companies that have high liquidity is often associated with transparent information disclosure. Measurement of information asymmetry using the bid ask spread indicates that there is a relationship between the asymmetry information with the level of liquidity, where the lower the spread indicates high liquidity (Butler & Wan, 2010; Odders-White & Ready, 2006). Institutional ownership as outside investors can provide benefits to reduce the information asymmetry. Institutional ownership which generally are insurance company and pension funds have the purpose to protect their investment in the long term, and they will conduct monitoring activities to ensure the company operated in a good manner. High ownership structure by institutional ownership has a strong relationship with the quality of corporate governance. This is because institutional investors consider corporate governance to be an important factor in making investment decisions because they can minimize monitoring costs (Chung & Zhang, 2011).

1.1. Institutional ownership

Institutional ownership is the structure of company ownership owned by institutions. This type of investor is expected to generate returns from stock investments in order to provide benefits for the company. Institutional ownership reflected from share held by funds, brokers, social security firm, and financial firm (Xue & Hong, 2015). Institutional investor will demand stock of companies that have a high level of liquidity because it reflects the demand for the companies in the stock market. Chung et al. (2010) conclude that institutional ownership could enhance stock's liquidity by reducing the information asymmetry and increase the number of traded securities, since institutional ownership have diversified portfolio and trade on a frequent basis (Ajina et al., 2015; Lei et al., 2013). According to Rhee and Wang (2009), in emerging market the stock is more illiquid than those in advanced economies. The stock illiquidity are the major concern that causing high volatility in the capital market and as an obstacle in the development of financial market, especially in emerging markets. Data from the Indonesia Stock Exchange in 2018 showed that the largest holdings in Indonesian company controlled by institutional investors nearly 73% of the total ownership. This consist of 47.73% domestic investors and 52.27% foreign investors. Thus overall data indicate that institutional investors dominate ownership in Indonesia stock exchanges.

Foreign institutional investors with their large ownership in Indonesia stock exchange should have positive impact in financial market. Foreign investors are considered to have the knowledge, experience and information that is better than domestic investors. Foreign institutional ownership would increase stock's liquidity through disclosure and transparent information and more active trading. Bena et al. (2017) found that foreign institutions play disciplinary and monitoring roles in corporate governance worldwide and that foreign institutional ownership promotes long-term investment and innovation outputs, internationalization of a firm's operations, and firm valuation. Deng et al. (2018) conclude that foreign investor has greater influence in stock's liquidity through their role in monitoring corporate transparency. Bekaert et al. (2002); Bekaert et al. (2007); Levine and Zervos (1998); Moshirian et al. (2017); conclude that foreign investors will increase the stock's liquidity in emerging markets.

1.2. Stock's liquidity

Liquidity defined as simplicity to convert assets into cash easily. This simplicity to convert could be measured with time period which used in converting the assets into cash with reasonable price. Another alternative that could be used in measuring this simplicity to convert assets is by measuring prices which have to be paid for converting the assets into cash (Hasbrouck & Schwarz, 1988). In modern investment theory, investors rely on two factors to predict expected return that is risk and liquidity. Both of these factors relates each other in opposite way. The stocks that have high risk tend to be less liquid because its difficulties to trade in stock exchange. Stock liquidity is the ability of a stock to change into cash quickly and without giving a big influence on the price. Liquidity plays an important role in the formation of stock prices. Stocks that have a low level of liquidity can mean having a high level of uncertainty, this factor is also a reflection that the information provided by the company is not enough for investors to make investment decisions (Isynuwardhana & Dillak, 2017).

Pastor and Stambaugh (2003) states that liquidity is one of the important risks in stock trading. A high level of stock liquidity can be considered as a risk reduction, therefore investors highly value stocks that have a greater level of liquidity. The relationship between liquidity, liquidity risk and stock prices has been carried out by Amihud et al. (2005) which states that the level of liquidity will affect the stock's rate of return. Companies that have high liquidity is often associated with transparent information disclosure. Measurement of information asymmetry using the bid ask spread indicates that there is a relationship between the asymmetry information with the level of liquidity, where the lower the spread indicates high liquidity. Related to Agency theory, the conflict between principal and agent could arise due to asymmetric information in the company. The presence of institutional ownership, as major ownership, should gave benefit for the company by monitoring activities by as an outside party. The monitoring activities by outside investors should enhance the company's transparency and disclosure thus will reduce the information asymmetry between company's management and financial stakeholders.

2. Problem Statement

Indonesia as emerging country is characterized with high centralized ownership. Institutional ownership is the highest type ownership in Indonesia stock exchange. This proportion of ownership reach 73% which consist of domestic investor 47.73% and foreign investor to 52.27%. This high ownership shows

that both foreign and domestic institutional ownership have major role in Indonesia stock exchange. The presence of Institutional ownership can benefit the company by supervision and monitoring activities that will reduce the asymmetry information and increasing the stock's liquidity. Foreign institutional ownership should have better function because foreign investors considered to have the knowledge, experience and information that is better than domestic investors. In addition, the Indonesian capital market shows that from 2010 to 2017 the volume had fluctuated over time. The movement of stock prices does not always follow the increase in stock's trading volume. This shows that increasing stock price does not always follow the trading volume in stock market. The fluctuation of trading volume can indicate that there is possibility of asymmetry of information in the stock market (Ali et al., 2018).

3. Research Questions

- 1) How do domestic institutional investors have an impact to stock's liquidity?
- 2) How do foreign institutional investors have an impact to stock's liquidity?

4. Purpose of the Study

- 1) To examine the effect of domestic institutional ownership to stock's liquidity.
- 2) To examine the effect of foreign institutional ownership to stock's liquidity.

5. Research Methods

5.1. Population, sample and data selection

This study uses data from company annual reports and daily stock price for each company. Companies that are used as samples in this research are companies listed on Indonesia stock exchanges for period 2010 - 2017. The population in this study are all companies listed on the Indonesia stock exchange totalling 555 companies.

Selection of the samples in this study are based on following criteria, namely:

- 1) Listed in Indonesia Stock Exchange period 2010 – 2017.
- 2) Having a complete annual report for the period 2010 – 2017.
- 3) Excluded financial services companies, banks, securities, financial institution, and insurance because these company has special regulations.

Based on these criteria, the resulting sample is 73 companies over period of 2010 to 2017.

5.2. Variables measurement

- 1) This research used the definition of Institutional ownership as reflected from share held by funds, brokers, social security firm, and financial firm (Xue & Hong, 2015). This research adopted Rhee and Wang (2009) by dividing institutional ownership into foreign and domestic institutional ownership. Institutional ownership is measured based on total shares owned. Foreign institutional ownership defines as the fraction of a firm's shares that are held by foreign institutional investors and domestic institutional ownership define as the fraction of a firm's shares that are held by domestic institutional investors (Chung & Zhang, 2011).

- 2) Following Tang and Wang (2011) the stock's liquidity is measured using Amihud illiquidity ratio.

$$\text{Amihud's Ratio} = 1/D \sum_{i=1}^D \left(\frac{|R_{i,t}|}{Vol_{i,t}} \right)$$

where : $R_{i,t}$ is the absolute stock return of firm i for day t

$Vol_{i,t}$ is the trading volume in dollar i on day t

D is the number of trading days in a year for firm i .

The Amihud measure is useful in measuring the level of stock illiquidity. Amihud's (2002) illiquidity measure has been widely used by researchers to study the importance of stock liquidity for an array of financial economics issues, ranging from asset pricing to corporate governance. Its usage, in part, reflects the measure's simple construction using data that can be obtained for long histories and across different markets (Barardehi et al., 2019). According to Xiaoxia and Tao (2016) the Amihud measure has two advantages over many other liquidity measures. First, the Amihud measure has a simple construction that uses the absolute value of the daily return-to-volume ratio to capture price impact. Second, the measure has a strong positive relation with expected stock return. The positive return premium of the Amihud measure is generally considered a liquidity premium that compensates for price impact. Xiaoxia and Tao (2016) confirm that the Amihud measure does a good job capturing stock liquidity and price impact, as the Amihud measure is highly correlated with the high-frequency price impact benchmark.

5.2.1. Control variables

- 1) Market to book ratio. Company with high market to book ratio not only showing growth opportunities in the future but also has lower agency problem. (Alves et al., 2015; Bradley & Chen, 2015; Liao et al., 2015; Ramly, 2013; Spiceland et al., 2015; Zhu, 2014).

Measure:
$$MtB = \frac{\text{book liabilities} + \text{market value of equity}}{\text{book value of assets}}$$

- 2) Efficiency Ratio. According to Ang et al. (2000), efficiency ratio is another measurement of agency cost. The more efficiently the company it indicated lower agency cost.

Measure:
$$Eff = \frac{\text{annual sales}}{\text{total assets}}$$

- 3) Return on Asset (ROA). It is proxy for firm's profitability, where higher ROA values reflect firm's ability to generate profit (Alves et al, 2015; Bradley & Chen, 2015; Dasilas & Papasyriopoulos, 2015; Hashim & Amrah, 2016).

Measure:
$$ROA = \frac{\text{Net Income}}{\text{Total Asset}}$$

5.3. Statistical analysis

The data used in this research include 73 companies from 2010 to 2017, with totalling 584 observation data. The type of data is panel data which combine cross section and time series. According to Roberts and Whited (2013) and Wintoki et al. (2012) the problem that often occur in finance is the

endogeneity problem which leads to biased and inconsistent parameter estimates. The endogeneity problem often occur when research attempts to explain the causes and effects of financial decision.

Previous studies shows that there is a possibility of endogeneity problem related to corporate governance research (Hermalin & Weisbach, 2012; Roberts & Whited, 2013; Schultz et al., 2010; Wintoki et al., 2012). This research use a well-developed dynamic panel generalized method of moments (GMM) estimator to alleviate endogeneity concerns. GMM builds on the ideas of expected values and sample averages. Moment conditions are expected values that specify the model parameters in terms of the true moments. The sample moment conditions are the sample equivalents to the moment conditions. GMM finds the parameter values that are closest to satisfying the sample moment conditions.

The assumption that must be made related to GMM method are:

- a) Autocorrelation test, using AR(1) and AR(2). The test for autocorrelation has a null hypotheses of no autocorrelation and is applied to the differenced residuals. The test for AR (1) process in the first differences usually rejects the null hypotheses. The test for AR (2) in first differences is more important, because it will detect autocorrelation in levels (Roodman, 2009).
- b) The Hansen/Sargan test to test the correlation of instrumental variables with error term. The null hypotheses is instrumental variables are uncorrelated with error terms. This test also confirms additional exogeneity assumption in the dynamic panel GMM estimator.

The Equation model of this research is as follows:

$$Liq_{it} = \alpha + \beta_1 FInstO_{it} + \beta_2 DInstO_{it} + \beta_3 MtB_{it} + \beta_4 ROA_{it} + \beta_5 Eff_{it} + e_{it}$$

6. Findings

6.1. Descriptive statistics

Table 01. Descriptive Statistics of Variables

Variable	2010	2011	2012	2013	2014	2015	2016	2017
FinstO	0.03027	0.03543	0.03228	0.03224	0.02926	0.03145	0.03829	0.02657
DInstO	0.009979	0.010432	0.012233	0.00931	0.004519	0.006053	0.008338	0.008771
Liq	0.000111	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
MtB	89.44218	101.0129	85.59369	24.82258	13.85131	9.398055	8.8794	47.11263
Eff	0.969262	0.932336	1.027813	3.296429	0.916354	0.88851	0.820151	0.832681
ROA	0.027006	0.036418	0.048583	0.029192	0.038464	0.035611	0.009406	0.028338

Table 01 show the data of variables in this research, the mean value of each variable per year indicate the trend value of variables from period 2010 to 2017. Institutional ownership is divided into foreign and domestic institutional with total ownership proportion around 3%. This percentage is lower than which have shown earlier in Introduction section, this due to mostly of the company's institutional ownership are held by holding company which not categorized as institutional ownership in this research. Table 01 also show that in Indonesia stock exchange the foreign institutional has higher percentage of ownership than domestic institutional ownership,

The Amihud's ratio measure the illiquidity of stock in the market, therefore the lower Amihud's Ratio reflect the high level of stock liquidity. Mean value for 73 firm show fluctuation trend from 2010 to 2017, this indicate the existence of asymmetry information thus will increase the risk of liquidity. The

fluctuated trend of stock liquidity not in line with foreign and domestic ownership which shows stable trend from year 2010 to 2017. Control variables which are measured by market to book value, efficiency ratio and return on asset also has similar trend which fluctuated during the observation period.

6.2. Regression result

Table 02. Generalized Method of Moments Result

Variables	Coef	p value
Constant	-0.0045746	
Foreign Institutional Ownership	0.000297	0.00029696***
Domestic Institutional Ownership	0.0005752	0.00057524***
Market To Book	-0.000000	-0.00000***
Efficiency	-0.000000	-0.000000
Return On Aset	-0.0000312	-0.0000312***
AR (1)	0.204	
AR (2)	0.458	
Sargan/Hansen test	0.889	

Notes: *p < .05 **p < .01 ***p < .001

This research uses dynamic panel data of Generalized Method of Moment (GMM) to eliviate the endogeneity problem. Table 02 show the result of GMM regression. In order to test the model, there are two test that has been done. First test is The Sargan test which has a null hypothesis of “the instruments as a group are exogenous”. Therefore, the higher the p-value of the Sargan statistic the better. Table 02 show that Sargan test has value of 0.889 thus the GMM model is fit for this research. Second test is The Arellano – Bond test for autocorrelation, which has a null hypothesis of no autocorrelation and is applied to the differenced residuals. The test for AR (1) process in first differences usually rejects the null hypothesis, but this is expected since the test for AR (2) in first differences is more important, because it will detect autocorrelation in levels. The result of AR (1) and AR (2) is to accept null hypothesis thus there is no autocorrelation in this model.

Significance test as shown in Table 02 conclude that foreign institutional ownership, domestic institutional ownership, market to book ratio and return on asset has significant effect on stock’s liquidity. However, the effect of foreign and domestic institutional ownership is positive. Since the Amihud’s ratio measure the illiquidity of stock thus the result would be the higher proportion of foreign and domestic ownership will decrease stock liquidity. The result of control variables indicate that market to book value and return on asset has significant effect on stock’s liquidity. Higher market to book ratio and return on asset will increase stock’s liquidity. Another variable, which is efficiency ratio does not have significant effect on stock’s liquidity.

This result indicates that the presence of foreign institutional investor could reduce the stock liquidity in Indonesia stock market. This result strengthens the research by Rhee and Wang (2009) who states that this finding may reflect the buy-and-hold strategy by foreign investors and reduces their need to trade frequently for price discovery. The greater information asymmetry and the lack of trading both reduce market liquidity. High foreign ownership tends to result in ownership concentration which also reduces liquidity. Similar result was occurred in the relationship between domestic institutional ownership and stock

liquidity. The greater ownership of domestic institutional investors will cause the level of stock liquidity to decrease. This result may happen due to “following” behaviour by domestic institutional ownership, which means there is possibility that domestic institutional investor follows the buy and hold strategy by foreign institutional investor. The reason could be due to foreign investors have the experience, knowledge, and information better than domestic investors and perform better than domestic investors in the equities of large, well-known firms in emerging markets (Bekaert et al., 2007; Froot & Ramadorai, 2008; Grinblatt & Keloharju, 2000). Deng et al. (2018) stated that the negative effect of institutional ownership on stock liquidity could be caused by the presence of block institutional ownership, which trade less frequently in order to avoid transaction cost. However, to strengthen these results further research is needed, using other measurement of institutional ownership and stock liquidity, and also by comparing the performance of foreign and domestic investors in Indonesia stock market.

The relationship of control variables and stock liquidity shows that market to book ratio and return on asset could increase stock liquidity. As measurement of asymmetry information, this result indicate that lower asymmetry information could increase stock liquidity, therefore the more transparent the disclosure of company should increase stock liquidity. Similar result also occurs in the relationship of return on asset and stock liquidity. Company ability to generate profit could enhance stock liquidity.

7. Conclusion

The result show that institutional ownership, whether it is foreign or domestic institutional ownership, has significant negative effect on stock’s liquidity. The relationship of control variables and stock liquidity however shows that market to book ratio and return on asset has significant effect on increasing stock liquidity. However, efficiency ratio does not have significant effect on stock liquidity. This result is consistent with Rhee and Wang (2009) which found that the presence of foreign and domestic institutional ownership would decrease stock’s liquidity for Indonesia stock exchange and reinforce that the greater information asymmetry and lack of trading reduces market liquidity.

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