The Effect of Liquidity on Stock Return in Bullish and Bearish Condition: Empirical Evidence in Indonesia and Japan Stock Market

ABSTRACT
The purpose of this research is to examine the dynamic effect of liquidity as a risk factor affecting stock returns in different market conditions(bullish and bearish), and in two different market developments (emerging and developed).Several measures of levels and level variability of liquidity are employed. The data used is from Indonesian and Japanesse capital markets representing emerging and developed markets, repectively.
The results of the study show that liquidity is found to be an important factor affecting portfolio returns. Liquidity has also different effect in bullish and bearish stock market condition. Liquidity risk factor, however, could not clearly explain the different characteristics of emerging and developed stock markets. The results also show the pattern correlation between liquidity effect and particular liquidity category in the developed portfolios. These findings highlight future avenues through which liquidity risk factor can potentially trascend into accounting research, related to information quality and transparency.

Keywords: *Liquidity, portfolio return, bullish, bearish, emerging, developed*

I.   Introduction

Nowaday, the research related to liquidity has grown rapidly. There is one way to explain the evolution of the liquidity literature. That is the implications for investment management. In this case, there are three stages that can be identified. The first, before the beginning of 1980, liquidity is known as a form of transaction costs that is used by the practitioners to calculate the difference in the net benefits of various trading strategies in the investment. The next stage, Ammihud and Mendelson (1986) defines that the liquidity as a premium required by investors as compensation for funds invested in illiquid securities. The last stage, the notion of liquidity is defined not only as a liquidity level, but also as a component of the systematic risk that determine the price of securities (Pastor and Stambaugh, 2003).

Ammihud and Mendelson (1986) are the first ones who introduce the liquidity as risk factors in academic research and its relation to the assets return. They use cross-sectional data and find a positive relation and significant between returns and illiquidity. Eleswaru and Reinganum (1993) evaluated the effect of liquidity by using the same measurement with Ammihud and Mendelson, but in different period and found that the relationship between liquidity and stock return confined in January. The next research conducted by Brennan and Subrahmanyam (1998) disagree with Eleswaru and Reinganum's finding and agree with Ammihud and Mendelson's (1986) finding. Chordia, Roll and Subrahmanyam (2000) also shows that there is a significant correlation between the influence of various sizes of liquidity on asset returns. Chordia, Subrahmanyam and Anshuman (2001) found a negative and significant correlation between the average return and trading activities related to the liquidity characteristics.

Fama and French (1992) argue that although liquidity is an important issue but not required the measurement and the recording specifically since it is a grouping of the combination between size and book-to-market. Nevertheless, other cross-sectional studies such as Chordia, Subrahmanyan, and Anshuman (2001) show that the liquidity need to be taken into account for individual stocks. The study showed that after controlling for size, book-to-market and other variables, liquidity becomes an important factor in explaining stock returns. They found that the average return is negatively associated with fluctuations in liquidity and expected return is positively related to the value of trade in dollars and negatively related to the coefficient of variation by the value of trading volume. Chordia, Subrahmanyan, and Anshuman (2001) conclude that the liquidity has an important role in calculating the expected return, as risk factors, such as factor beta, size and book-to-market. Brennan and Subrahmanyan study (1996) on the

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liquidity analysis using pooled cross section and time series. They found the negative and significant relationship between expected returns and liquidity, even after including the risk factors such as size and book-to-market in the calculation model.

Studies analyzing the influence of liquidity on stock returns have also been conducted in Indonesia. Hidayah (2005) found that the turnover stock significantly and negatively related to the return on some stock portfolios. In contrast to Hidayah (2005), other studies of liquidity in Indonesia also conducted by Kambuaya (2008) that use the size of the bid-ask spread, Ammihud ratio, trading turnover, trading volume, and the activity of trading day and found that the trading volume and activity of trading day significantly and negatively related to stock return and did not find significantly effected to the turnover as the results. Hidayah (2005).

Keene and Peterson (2007) conducted a study on the importance of the role of liquidity in asset pricing model during July 1963 to December 2002 using six measures of liquidity. They use a fortofolio forming method as done by Fama and French (1993) and formed 54 portfolios based on the category of liquidity, size, book-to-market and momentum by using monthly data. Their results showed that the liquidity can explain part of stock returns variation and also when the liquidity factors are included in the calculation model in parallel with other risk variables, including beta.

Another point of concern in this study is a factor in the capital market itself, in this case the level of investor risk preferences will be different with other market conditions. One of the modification that has influence to the liquidity factor is the stock market conditions that are bullish and bearish. Bull market is the market with the pattern of an increasing trend, while the bear market is the market that has a pattern in declining trend. Bhardwaj and Brooks (1993) found a significant difference between beta in

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bullish and bearish market conditions with the variable of the company size as the control.

Condition of bullish and bearish market is closely related to the investor preference toward the liquidity of their assets. Liquidity and stock returns are expected to have a negative relationship, in this case when the assets with lower liquidity levels, or in other words the higher the risk, the asset returns are also expected to be higher. This relationship may have different influence with other market conditions. In the bull market period, an investor requires a level of liquidity that is not too high. This is caused by the desire of investors to maintain winner stocks and sell loser stocks that they owned stocks of winner and loser sell shares owned. Therefore, in a bullish market condition, in which case all investors can make a profit then the tendency is investors reduce portfolio activity (Keene and Peterson, 2007). In contrast to the bearish market conditions, in this case the behavior of investors affected by the unstable market situation the liquidity needs of investors will be increased. This would strengthen the effect of liquidity on stock returns. One possibility that could happen is that the bearish market conditions, investors want as quickly as possible to buy and sell stocks that are considered the winner and loser. Therefore, in a bullish market condition, in this case all investors can get a profit so that the investors will reduce their portfolio activity (Keene and Peterson, 2007). In contrast to the bearish market conditions, in this case the investors behavior affected by the unstable market situation so that the investors need of the liquidity will increase. It will strengthen the effect of liquidity on stock returns. One possibility that can happen in the bearish market conditions is that the investors will buy and sell the winner and loser stocks as quickly as possible. Another market conditions are also analyzed in this study was the effect of liquidity in emerging capital markets (emerging)

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compared with well-developed capital markets (developed). In general, new capital markets interpreted as capital market have good modification in terms of size and market sophistication (Cahyono, 2002). Some of different characteristics that distinguish between new markets and growing markets is the characteristics of the merchandise, the behavior of market participants, the mechanism of asset transactions and regulations. Mobius (1999) argues that the new market is a very attractive place for investment and promising a high return.

Research on liquidity as a risk factor affecting stock returns in emerging capital market becomes notable since the emerging markets have different characteristics with the capital markets which have developed, particularly at the lower levels of liquidity. The survey conducted by Chuhan in 1992, Qin (2007) showed that the liquidity factor is one of the important reasons that obstruct the foreign investors to invest in emerging markets. Bekaert, Harvey and Lundblad (2003) argue that the investors will give more attention to the liquidity factors in emerging markets compared with the market that has grown and the liquidity effect should be greater in emerging markets than the market that has grown.

Generally, this research was conducted to examine empirically the effect of liquidity on stock returns in a different market conditions. Market conditions referred in this study are the bullish and bearish market conditions in both the emerging capital markets (emerging) and well-developed capital markets (developed). The results of this study will give more contribution to the literature development of liquidity, accounting, morover to the research in the field of quality and transparency of accounting information. Naturally, there is a close relationship between literature liquidity and accounting literature, since accounting is a major source of information used by the

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investors in making decisions to invest in the stock market. Studies conducted by Kyle (1985), Admati and Pfleiderer (1988) indicate that iliquid stock is a function of the interaction between investors who have information (informed traders), discretionary liquidity traders, and noise traders. Thus, the accounting information can be used to reduce discrepancy information by providing quality information and transparency that will increase stock of liquidity (Diamond and Verrechia, 1991).

The scope of this study is limited to the study of liquidity, as one of the risk factors, which negatively effects on the stock return. Besides, the liquidity also has a higher impact on stock returns to the bearish market conditions compared with the bullish market conditions. This study uses data from emerging capital markets of Indonesia Stock Exchange and capital market that has developed, namely Tokyo Stock Exchange to examine the effect of liquidity on the two conditions of the capital markets. The results of this study are expected to be further development of accounting literature related to the quality and transparency of accounting information that is needed to reduce the risk of liquidity.

II. Basic Theory and Hypothesis Development

Previous studies have found the role of liquidity as a risk factor in asset pricing (Ammihud and Mendelson 1986; Brennan and Subrahmanyan 1996; Chordia, Subrahmanyan, and Anshuman 2001). Investors certainly hope that the results of their investment can fulfill the future needs as their preferences towards risk and return. Investors can choose long-term and short-term investment, but one of the important conditions to be considered is the investments can be quickly transferred by cash or

others as much as they want (liquid), either by the reason of prediction market conditions or to the consumption. If the investors can not do that, then they will face liquidity risk, and give certain requirement as compensation for the condition. Investors' need to the liquidity should make them consider the liquidity as one of risk in investing, especially in stocks. Then it becomes the determination of liquidity as risk factors. Investors perception to the liquidity must be different based on their preference for risk, but when they are faced with a choice between investment liquid and illiquid, for investors that are reluctant to take risks will automaticly choose liquid assets to reduce the risk of unsold assets in the future or in other words, investors will demand compensation for the liquidity of an asset factors.

The concept of liquidity has at least four dimensions, namely: (i) Immediacy, which shows the immediate transaction in certain amount and price levels; (ii) Width, which indicates the difference between the best buying interest and the best selling interest in a certain amount; (iii) Depth, which shows the number and the value of transactions that can be executed at a certain price level; (iv) Resiliency, which indicates how fast the prices can be returned to the normal rate if someday there is a current demand which is not balanced. The liquidity concept in this study includes immediacy that is reflected in the turnover stock and the depth concept represented by the value of the transaction volume.

Chordia, Subrahmanyan, and Anshuman (2001) show that the liquidity need to be noticed for individual stocks. The study showed that after controlling for size, book-to-market and other variables, liquidity remains an important factor in explaining stock returns. They conclude that liquidity has an important role in calculating the expected return, as risk factors, such as factor beta, size, and book-to-market. Keene and Peterson

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(2007) conducted a study on the importance of the role of liquidity in asset pricing models. They use a fortofolio forming method as done by Fama and French (1993) and formed 54 portfolios based on the category of liquidity, size, book-to-market and momentum by using monthly data. Their results showed that the liquidity can explain part of stock returns variation and also when the liquidity factors are included in the calculation model in parallel with other risk variables, including beta. Based on these arguments and the results of previous studies, this study hypothesized as follows:

H1: Liquidity has negative effect on stock returns

Numerous studies have shown that the analyzes that include time varying into the model can better explain the relationship between return and risk in asset pricing. Merton (1973) developed the original CAPM that uses only one period into a model with several continued periods which is known as intertemporal CAPM (ICAPM). Ferson and Harvey (1991) developed a study to predict the rate of stocks return and the bonds over time and it is found that the variation of time in determining the risk of premium beta can explain the level of return on the portfolio level. Jagannathan and Wang (1996) proposed the conditional CAPM to relax the assumption of a static period in the CAPM and analyze the variation of time in analyzing the beta and the return. Many research found time varying on risk premium, as Keim and Stambaugh (1986), Fama and French (1988). They stated that the concept of time varying on risk premium can not be described accurately by the model in static as the single factor CAPM.

The condition of bullish and bearish market is closely related to investor preference for the liquidity of their assets, it can describe the concept of time varying on risk premium, since the behavior of investors to the liquidity is also influenced by the

capital market itself. Fabozzi and Francis (1979) analyzed the systematic risk faced by mutual funds in bullish and bearish markets. Chen (1982) found a different beta, it means the different level of risk faced by investors in the market are bullish and bearish. Bhardwaj and Brooks (1993) used dual beta to distinguish the relationship between return and risk stocks in bullish and bearish market conditions.

Bullish and bearish market conditions are also will affect the investors' needs for liquidity. the Illiquid stocks when investors have hopes of high liquidity, both in consideration of market conditions and consumers needs will be seen as a source of risk in the portfolio of their investment. If market conditions improve (bullish), the investors' need for liquidity will be lower because of all the investors can make a profit and the investors will reduce their portfolios activity (Keene and Peterson, 2007), on the contrary, if the market in a deteriorated condition (bearish) then the investors will need more cash assurance of their investment whether caused by considerations of uncertainty or the need for cash. The differences in preferences of different market conditions will make investors to view the liquidity risk in a different way as well. Therefore the second hypothesis proposed in this study are:

H2: Liquidity has a higher impact on stock returns in bearish market conditions compared to the bullish market conditions

As one of the risk factors, investors will require a higher return on assets with lower liquidity, both in terms of transactions speed and trading volume. This applies also in the overall market conditions faced by a country. The characteristics of emerging capital market with the value of a market capitalization that has not been so great, the limited number of issuers and the opportunity of market participants to affect market

makes investors must perform the analyzes carefully when investing in emerging capital markets. Bekaert, Harvey and Lundblad (2003) found that investors gives more attention to liquidity factors in emerging markets compared with the market that has grown and the liquidity has greater influence in the emerging markets than the market that has grown. Qin's research (2007) supports Bekaert, Harvey and Lundblad (2003) and also found that investors pay more attention to liquidity risk in emerging markets compared with the market that has grown.

Emerging capital markets have different characteristics to the capital markets that has grown. When it is viewed from the regulatory and the trade mechanisms, market capitalization, number of listed companies and market participants, then the emerging capital market on liquidity should be an important consideration factors as they relate to how fast and how many existing shares that can be traded. Therefore, the third hypothesis can be stated as follows:

H3: Liquidity has a higher impact on stock returns in the conditions of emerging capital market to the capital market that has grown.

III.   The Data and The Research Method

This study uses secondary data including stock data companies listed in Indonesia Stock Exchange as an emerging capital markets and the Tokyo Stock Exchange representing the capital market that has developed. The research observation period starting from July 2002 to June 2008, in order to obtain a sample and a representative estimation period to perform statistical testing. Researcher excludes the companies that have performed the

stock split policy and the companies that do not have stock transactions during the observation period from the sample of the research.

Based on predetermined criteria from the respective capital market, the data obtained during the 72 months of observation with the total number of companies in Indonesia Stock Exchange as many as 104 companies and the total number of companies in the Tokyo Stock Exchange as many as 1360 companies.

Dependent variables.

The dependent variable in this study is the excess return of stock portfolio based on the value-weighted monthly return. Excess return obtained by subtracting the return of a stock portfolio with a risk free rate. Researchers will use the interest rate of Bank Indonesia (SBI) a month for the data from the Indonesia Stock Exchange and one-month for Gensaki rate to data from the Tokyo Stock Exchange (Daniel et al, 2001) as a risk free rate.

Independent variables

The independent variables in this study consisted of six measures of liquidity which will be examined separately, namely; turnover stock calculated by dividing the number of shares traded by the number of shares outstanding. The second measure is the value of the trading volume calculated by multiplying the number of shares traded by the stock price at that time. Both measures are calculated as an annual average value based on monthly data. The third and fourth measures are the standard deviations of turnover stock and the standard deviation of the trading volume, which is calculated for 12 months. The fifth and sixth measures are the coefficient of variation of turnover stock

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and the coefficient of variation of trade volume, which also counted for 12 months starting in July of the previous year to June next year.

Keene and Peterson (2007) divides the sixth measure of the liquidity level in two measures, namely the level measure of liquidity and the level measure of variability. Level measure of liquidity consists of stock turnover and trading volume value (Ammihud, 2001) while the variability level of liquidity consists of standard deviation and coefficient of variation of the turnover and trading volume (Chordia, Subrahmanyan and Anshuman, 2001). Researcher will use a similar method with Ammihud (2002) to calculate an annual average of each measurement of liquidity based on the monthly data.

The Formation of Portfolio

Researchers will establish a stock portfolio using the data for 72 months of observation to 104 shares on the Indonesia Stock Exchange and 1360 shares on the Tokyo Stock Exchange by category of firms standard, liquidity, and book-to-market. In June each year, in each exchange will be sorted by the standard and divided into two groups with two categories: large companies and small companies. The next step is, the portfolio that has been established based on the standard of the company will be reordered based on the liquidity of the two categories of companies. Those are the company with the high liquidity and the company with the low liquidity. Fourth portfolios formed based on company standard and liquidity levels are further subdivided based on book-to-market by the categories of the company's portfolio with a book-to-market and the company with high book-to-market low. Figure 1 shows the formation of portfolio formation.

Figure 1

For the standard category of company, it is calculated based on the share price in June multiplied by the number of shares, while the category of book-to-market is grouped based on the book-to-market at the end of the previous year divided by the share price at the end of the year. The liquidity value of turnover sharesand the volume value of the trade represents the average liquidity of the stock for 12 months, starting in the previous year of June to June next year, while for a measure of liquidity standard deviation and variation coefficient of stock turnover and trading volume is calculated for 12 months, starting in the previous year of June to June next year.

Eight portfolios were formed and analyzed to test the hypothesis about the effect of liquidity on stock returns in various market conditions, both in bullish and bearish market conditions or in the condition of emerging market and the market that has grown. The method division of the month in bullish and bearish market was using median return market value (Bhardwaj and Brooks, 1993) which will divide the month observation in bullish and bearish conditions in the same amount, which is 36 months in a bearish condition and 36 months of bullish market. Therefore, the determining of bullish and bearish market conditions is based on the total time series observation in monthly period which is sapareted based on median market return. The measurements using median market return is used in order to divide the observations into two equal parts.

Technique Analysis and Testing Hypotheses

In measuring liquidity, researcher will use analytical model as used by Keene and Peterson (2007), by calculating the liquidity as a residual, to ensure that liquidity is not correlated with other variables. Fama and French (1992) argue that liquidity is related to the factor of the firm standard. Therefore Keene and Peterson's research (2007) would be

also conducted by the researcher, using a mimicking portfolio factor by forming the

portfolio based on the category of company standard and liquidity.

$$LIK = \eta_0 + \eta_1 MKT + \eta_2 SIZE + \eta_3 BM + e_{LIK} \tag{1}$$

In this case,

LIK   : The average return of the portfolio companies with low liquidity minus by the average return of return company with high liquidity.

SIZE   : The average return of the portfolio of small companies minus by the average return of large companies.

BM   : The average return of portfolio companies with a high book-to-market minus by the average return of company with low book-to-market.

MKT   : Market excess return

eLIK   : Residual liquidity

Equation (1) will be calculated each for the sixth measurement of liquidity and

will produce eLIK variable which will become an independent variable to explain the

return of the portfolio with the following equation:

$$RP_m - Rf_m = A + L\,(e_{LIK,m}) + e_m \tag{2}$$

In this case,

RPm   : Portofolio return in m period

Rfm   : Risk free rate in m period

eLIK,m   : Residual liquidity in equation (1) in m period

The market in bullish and bearish conditions will be determined using the

method of Bhardwaj and Brooks (1993), by classifying the entire month in bullish and

bearish conditions based on the median market value during the observation period.

Researcher will use the median value of the Composite Stock Price Index (CSPI) on the

Indonesia Stock Exchange and the NIKKEI 225 index for the Tokyo Stock Exchange in

determining bullish and bearish market conditions. If the value of JCI and the NIKKEI

225 for the month is higher than the median during the month observation period, the

period is categorized as bullish condition, and if the value is lower than the median, the

period is categorized as bearish market condition. To test the second hypothesis about

the effect of liquidity in the bullish and bearish market conditions, the researcher used

the time varying risk market model as follows:

$$RP_m - Rf_m = A + A1(DB) + L\ (e_{LIK})_m + L1\ (e_{LIK}\ x\ DB) + e_m \qquad (3)$$

In this case,

RPm   : Portofolio return

Rfm   : Risk free rate

eLIK,m   : Residual liquidity in equation (1)

DB   : A dummy variable with one value to the bearish market condition and zero value for the bullish market condition

Researcher used a time varying risk market model as in equation (3) to test the

third hypothesis, but with the dummy value equal to 1 (one) for the emerging market,

namely the Indonesian Stock Exchange, and 0 value (zero) for the market that has grown,

that is the Tokyo Stock Exchange.

$$RP_m - Rf_m = A + A1(ED) + L\ (e_{LIK})_m + L1\ (e_{LIK}\ x\ ED)_m + e_m \qquad (4)$$

In this case,

RPm   : Portofolio return in m period

Rfm   : Risk free rate in m period

eLIK,m   : Residual liquidity in equation (1) in m period

ED   : A dummy variable with one value for the emerging capital markets and zero value for the capital market that has grown

IV.   Empirical Testing Results

Descriptive statistics.

Researcher used a total of 104 companies on the Indonesia Stock Exchange and 1360

compannies of Tokyo Stock Exchange during the 72-month observation period that

began in July 2002 to June 2008. The descriptive statistics for companies sample in each

exchange can be seen in the following table:

Table 1 and Table 2

Table 1 and Table 2 show that the average stock return of companies listed in Indonesia Stock Exchange give a return rate that is greater than the company's shares on the Tokyo Stock Exchange. The company's liquidity level can also be seen from the turnover, trading volume and value of trading volume. Minimum extreme value that is close to zero for the size of the liquidity show that there are stocks that did very little transactions by the little value during the observation period.

Table 3

In general, Table 3 shows that no visible pattern of the relationship between risk and return. Portfolio risk can be seen from the standard deviation value, while the portfolio return can be seen from the average value. For example, in the portofolio of turnover liquidity, the portfolio with the highest risk value is the fifth portofolio by the standard deviation value in 0.124, but the highest average return is in the first portofolio with the average value in -0029. The same thing can be seen in liquidity size of the volume value, the portfolio with the highest risk is the portfolio five with a standard deviation value in 0.113, but the portfolio with the higest return average value is the portofolio two with an average value in -0033.

Table 4

Table 4 also shows the inconsistent relationship between return and risk for the data in Tokyo Stock Exchange. On the portofolio formation with the turnover liquidity size, the fifth portofolio has the highest risk with a standard deviation in 0.078, but the portfolio with the highest return value is the sixth portfolio with the average value in -0023.

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Descriptive statistics of Factor mimicking Portfolio.

Liquidity factor used in this study is each residual size of liquidity which will be used as independent variables in hypothesis testing. The residual value is obtained by forming a portfolio based on factor mimicking portfolio (Keene and Peterson, 2007). The reason of forming the portofolio using factor mimicking is to get liquidity value that is free from the effect of other risks variable that have had strong relationship with the stock returns, particularly for the size of the company. (Fama and French, 1992).

Table 5

The factor mimicking portfolio based on the liquidity means that the difference between the portfolio return with low liquidity and a portfolio with high liquidity. The average value of factor mimicking portofolio for the size of turnover stock is -0018, while the average value for the value of trade volume is -0012. For the size of liquidity variable, the average value of the standard deviation of the turnover and trading volume, respectively 0.022 and 0.017, and the average value of the coefficient of variation of the turnover and trading volume, respectively 0.002 and 0.003. Liquidity residual value for each size of liquidity would be used as independent variables in hypothesis testing.

Table 6

The data on the Tokyo Stock Exchange shows the average value of the size factor mimicking portfolio turnover and the value of each trade volume is -0006 and -0004. The standard deviation size of variability liquidity turnover is 0.008, and 0.006 for

trading volume. Factor mimicking portfolio is based on the liquidity coefficient of variation in turnover and trading volume have the same value, that is 0011.

Regression Analysis

The Hypothesis Testing On The Effect Of Liquidity Toward Stock Return.

The first hypothesis in this study is the liquidity negatively affected on the stock return. The entire sample of companies in each capital market will be put into eight portofolio categories based on the method of portfolio formation. The return of the eight portfolios formed would be used as the dependent variable in analyzing the regression based on residual liquidity from the factor mimicking portfolio as the independent variable. The total of regression test for the first hypothesis was done 48 times (8 x 6 size portfolio liquidity) for each capital market.

Table 7

Table 7 presents the results of the first hypothesis testing for data of Indonesia Stock Exchange. On the panel size of turnover stock, the liquidity was able to explain six of the eight portfolios formed. Turnover stock significant effected on the P1, P2, P3, P4, P5, and P6. The significant level 1% is in the P1, P2, P4 and P6. The liquidity size of the trade volume was able to explain the return of four portfolio that is P4, P5, P6 and P8 with the significant level 1% in Q4 and Q8. At the level of variability of liquidity, the standard deviation turnover and the standard deviation of the trade volume has the same result that was only able to explain the four return of portfolio, they are P2, P4, P7 and P8, while the coefficient size of variation turnover and trading volume was only able to describe two portfolios return, those are P4 and P6.

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In Indonesia Stock Exchange, the hypothesis test results also show that the liquidity size of the turnover stock is able to explain the portfolio return which is better than the fifth size of other liquidity. Nonetheless, the size of variability of liquidity level particularly the size of standard deviation turnover and trading volume was consistently able to describe two groups of portfolios that can not be explained by the size of the liquidity turnover, i.e P7 and P8. These results support Hidayah's research (2005), which also found that the stock turnover is not able to explain a group of stocks with low liquidity.

Table 8

The results of regression test for the first hypothesis of the Tokyo Stock Exchange also showed similar results to the Indonesia Stock Exchange. Table 8 shows that the size of the turnover can better describe the return of portfolio compared with the other sizes, both at the level of liquidity and the level of liquidity variability. The size of the liquidity of turnover stock was able to describe the six of eight return portofolios formed. The sixth portfolio also has the same criteria as six of the portfolio on the Indonesia Stock Exchange, namely P1, P2, P3, P4, P5 and P6.

The test results also show a relationship pattern between liquidity and return of portfolio, both in Indonesia Stock Exchange and the Tokyo Stock Exchange. The pattern that can be seen is the liquidity coefficient that has negative value in the group portfolio which has high liquidity, i.e P1, P2, P5, P6 and has a positive value in the group with low liquidity portfolio, which is P3, P4, P7, P8. These results supports Keene and Peterson's research (2007). It means that the liquidity is a factor that may describe the time varying in the relationship between return and risk. Different coefficients describe

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the relationship of risk and return which can be different when the stock portfolio in conditions of high liquidity and low liquidity. The other descriptions is that investors will have different risk preferences on the investments when a stock or a stock portfolio is at a different level of liquidity.

The Hypothesis Testing on the Effect of liquidity toward the stock in Bullish and Bearish Conditions.

The method of month division in bullish and bearish by using the median value of the market return (Bhardwaj and Brooks, 1993) will split the month observation in bullish and bearish conditions with the same amount, which is 36 months in a bearish condition and 36 months of bullish market. Hypothesis two will include the bullish and bearish market conditions as moderating variables. The test will be carried out by using regression test using dummy variables to describe the condition of the bullish and bearish market. Dummy variable for the market in bullish condition is 0 (zero) and 1 (one) for the bearish market conditions.

Table 9

Table 9 shows that the liquidity factor may describe some portfolios return. However, it is different with the hypothesis testing, the liquidity size that may explain the return of portfolio is the standard deviation turnover in description of return in P1, P3, P4, P7 and P8. The size of liquidity turnover was able to describe four portfolio return, those are P1, P2, P5 and P6, while the value of trading volume is only able to describe two portfolio return that are only P4 and P8.

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The results of regression test in the second hypotheses of the Indonesia Stock Exchange using bullish and bearish market condition as variables did not support the second hypothesis. It can be seen from the coefficient L and L1 in the regression test that showed no significant results to all portfolios in each liquidity size. Furthermore, it is presented the results of the second hypothesis testing for the data on the Tokyo Stock Exchange.

Table 10

Table 10 shows the results of the second hypotheses testing on the Tokyo Stock Exchange. Regression testing with data on the Tokyo Stock Exchange showed a significant difference between the portfolio return when the market in bullish and bearish conditions. It can be seen in the coefficient value A1 is positive and significant in the majority of the portfolio with all liquidity sizes.

The liquidity size which may explain the portfolio returns in bullish and bearish market conditions is the coefficient of variation in turnover and trading volume. Interaction variable coefficient (L1) for both sizes show a positive and significant value, which means that the liquidity has a higher impact on portfolio returns in bearish market conditions compared with the bullish market. The results of regression test to measure the variation coefficient of turnover stock and trading volume on the Tokyo Stock Exchange data has supported the second hypothesis. The results show that by using variation analysis time (time varying), liquidity factors may describe the portfolio return, especially by using a variation coefficient of the size on the turnover and trading volume.

The Hypothesis Testing On The Liquidity Effect Of The Stock Return in Emerging Capital Market Condition and The Market That Has Grown.

The third hypothesis in this study is that liquidity has a higher impact on stock returns in emerging capital market than the capital markets that has grown.

Hypothesis testing was done by including the capital market as a moderating variable in the regression test. The researcher used a dummy variable to describe the different capital market conditions by providing a value of 0 (zero) for all data in the Tokyo Stock Exchange and the value of 1 (one) for the data in the Indonesia Stock Exchange.

Table 11

Table 11 shows the results of the regression test for the third hypothesis on the Indonesia Stock Exchange and the Tokyo Stock Exchange. Liquidity factor will still be able to describe several portfolios return for all liquidity sizes. The pattern of the relationship between liquidity and returns are also appear as well, but the results do not support the third hypothesis regression test.

The test results found no significant difference between emerging markets and the market has grown in describing portfolio return. It can be seen from the coefficient L and the coefficient L1 interaction variables that showed no significant value in all portfolios and liquidity sizes. The regression results for each hypothesis of the study have been summarized as follows: Table 7 and 8 for the result of the 1st hypothesis testing; Tables 9 and 10 for the results of the 2nd hypothesis testing; and Table 11 for the results of the 3rd hypothesis testing.

V.   Conclusions, Implications and Limitations of The Research

The test results of the first hypothesis indicates that the liquidity effect on stock returns. It can be seen in all liquidity sizes, particularly on the size of turnover stock. Investors can take advantage of these results test to consider the liquidity factor as one of the sources of risk when investing the stocks. Another implication that can be taken is that the investor should consider the characteristics of the stock liquidity which is going to be purchased or already owned.

Related to the test results showing the effect of different liquidity on stock returns, among a group of stocks that liquid with a group of illiquid stocks. The results support Keene and Peterson (2007), in which the liquidity factor is calculated as a residual, effect on stock returns. Liquidity value as residual guarantees the liquidity size which is free from the effect of other risk factors such as beta, size and book-to-market, therefore the development of accounting research to test the quality of information and transparency of information, can use the proxy of liquidity risk. Research in the field of finance and capital markets can also utilize the results of this study to include the liquidity as a risk factor in conducting the analysis of asset pricing.

Then the investors can use the results of the second hypothesis testing, related to the effect of liquidity on stock returns in different market conditions. The investors, especially investors in the Tokyo Stock Exchange as well as those who interested in investing on the stock exchange, may consider liquidity factors into investment analysis models when the capital markets are in a bullish or bearish conditions. Investors can use the size of variability coefficient of variation turnover liquidity of stock and trading volume when considering the expected return on bullish or bearish market condition. The test results for the Tokyo Stock Exchange shows that liquidity has a higher impact on stock returns when the market is bearish than bullish. These results can not be found

on the Indonesian Stock Exchange. It also provides information to investors that capital markets in each country has different characteristics when in different market conditions. The test results for the second hypotheses, especially on the Tokyo Stock Exchange, shows the effect of time varying liquidity in asset pricing models. This can be useful for academics to consider and explore the liquidity factor as one of the sources of risk and the influence on the return of investment in the CAPM development models, such as the intertemporal CAPM or conditional CAPM.

The test results for the third hypotheses indicate that liquidity factors have different effects on stock returns in emerging capital markets and the market that has grown. These results provide information that investors can not use the liquidity factor to distinguish the characteristics of the Indonesia Stock Exchange and the Tokyo Stock Exchange. It is beneficial for those investors who have a portfolio of stocks in both the capital markets to determine the most appropriate investment strategy related to the liquidity of the stock. The results of this study is different from the Qin (2007) who found differences in the effect of liquidity on emerging capital markets and the market that has grown. It shows that the size of the liquidity dimension of immediacy, which is reflected in stock turnover, and depth represented by the value of the trading volume was not able to get the different characteristics of the capital market development. Then the researchers can develop and use the possibility of another liquidity size that may include the fourth dimension of liquidity, i.e immediacy, width, depth and resiliency and its effect on stock returns in various market conditions to obtain more comprehensive results.

Another important things that are found in this study is the pattern of relationship between liquidity and stock returns in the portofolio of stock with different liquidity

characteristics. Liquidity negatively affect stock returns with high liquidity and positive effect on a portfolio of stocks with low liquidity. Investors can use these results to account for stock returns by considering the characteristics of the portfolio liquidity of shares to be purchased and which has been owned. Related to these findings, Keene and Peterson (2007) describe the possibility of liquidity becomes a factors that can describe the variations of time (time varying) in the asset pricing analysis, in this case the risk would have a different effect on stock returns in different liquidity conditions. The results of this study can be the basis of the research development on the effects of liquidity to the further stock returns.

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