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The Relationship of Idiosyncratic Risk and Liquidity on Stock Return in Covid-19 Pandemic

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Abstract. This research aimed to determine the effect of idiosyncratic risk and stock liquidity on stock returns before and during the Covid-19 pandemic. Sample of this research are 26 companies that consecutively listed on LQ45 index through the year of 2017-2021. By using panel data regression method, it was found that idiosyncratic risk partially did not have significant effect on stock returns, while liquidity had significant effect on stock returns. This study also found that idiosyncratic risk and liquidity simultaneously have significant effect on stock returns. The result showed that in Covid-19 pandemic phenomenon, internal factors, especially idiosyncratic risk and liquidity have significant effect on stock returns.
Keywords: Idiosyncratic risk; Liquidity; Stock returns; Pandemic Covid-19.

I. Introduction

Investment activities in Indonesia is developing over time. The existence of the capital market is a medium for investors to carry out investments, assets owned, especially in financial assets in the form of stocks, deposits, or bonds. Stocks are the most in demand because stocks have several advantages, namely the low minimum capital needed to start investment, with the need for insight into the finances of the items to be invested, providing the greatest profits in the long term, high liquidity, and with a high level of investment. certain risks (Kanari, 2019).

Every investor who will invest their funds must expect a return or return from the funds they have invested. The return-on-investment funds has a gradual nature in the coming period, and is uncertain. Stock return assessment can be carried out from an analysis of an organization's fundamental information, related to the state of the company with a focus on financial ratios, as well as events that directly or indirectly affect the general company's financial work results (Anggiyanti, 2018).

There are two factors that will affect stock returns, namely macro and micro. Macro factors are those that come from outside the company. Then, Micro is the origin of the company. Idiosyncratic Risk and Liquidity are part of the company's micro factors that can affect the profitability and yield of the stock. Idiosyncratic risk is part of the security risk that can be eliminated by forming a well-diversified portfolio, which is also referred to as unsystematic risk (Jogiyanto, 2014). Liquidity can significantly affect stock returns, with the understanding that the benchmark shares are determined, from the assumption of the IDX with the meaning that smoothness shows an easy level for companies, with capital disbursement. The liquidity used is the benchmark and the ability to fulfill it is obligatory until the specified time date. Invest investors with consideration of the level of liquidity to decide something. Jones (2007) by seeing if the asset is a high liquidity, with a high expected return as well.

In 2020 the world was shocked by a report from the World Health Organization (WHO), on March 10, 2020, where Covid-19 has caused more than 110,000 confirmed cases of infection and 4,015 deaths in 110 countries and the number is increasing rapidly. The report caused major disruptions to economic activity, with the imposition of lock-downs, curfews and business closures to prevent a rapid contagion. In addition to the tragedy of death and disease, an indirect effect is the fear that dominates many people around the world. Quoting from the World Economic Forum, the Global Risk Report 2020 published on January 15, 2020, where the virus outbreak which is the topic of “communicable diseases” was ranked tenth (preceded by extreme weather and failure in climate action). Covid-19 will go down in history as a major outbreak of neglected risk that was deemed highly unlikely. Where the attention of corporate decision makers and politicians focuses on traditional sources of risk in business and pressing environmental issues. However, just a few weeks later there was a dramatic shift in his attention.

LQ45's performance in 2020 decreased dramatically, which at the same time was the peak of Covid-19 transmission in Indonesia. BEI from 22% with declining performance which has an impact on LQ45. Overall, Waskita Karya (WSKT) stock index declined by 59.6% in 2020. Other stocks decreased by 11.66%.”

Research purposes

The research problem, this research includes several things:

1. Knowing the effect of idiosyncratic risk on the company's stock returns.
2. Knowing the effect of stock liquidity on the company's stock returns.
3. Knowing the effect of idiosyncratic risk and stock liquidity on the company's stock returns.

II. Literature Review

Risk

Jogiyanto (2003:130) means that the risk with the expected gain with a large measure of diversity or standardization of deviation, returns to the level with the expectation. Spreading investment that has risk. In investment activities, risk is generally directly proportional to the potential return, or often known as "high risk, high return." In other words, if in investing a profitable level is obtained for an investor, predicting, or estimating investment risk is quite complex for investors.

Idiosyncratic Risk

In contrast to the systematic risk that cannot be avoided, Idiosyncratic Risk is the sharing of the risk of lost securities and the formation of a portfolio with a systematic mention (Jogiyanto, 2014). Idiosyncratic risk is a risk attached to securities that arise from an organization (Lestari, 2016). For example, with an employee strike with the impact of declining operations of an organization, with confidence in the management of funds. Levy (1978) explains that theoretically, with an organization of stock price balances, Merton (1987) is an indication of investment and portfolio diversification capabilities, with the risk being considered including idiosyncratic risk.

In Indonesia, several studies on idiosyncratic risk have been conducted. Naomi (2011) found that idiosyncratic risk in the Indonesian capital market has a positive effect on average returns and has a stronger effect than market risk. Likewise with the research conducted by Sasongko (2012) which suggests that the proportion of idiosyncratic risk to the total risk in the Indonesian capital market is quite large.

Idiosyncratic Risk Measurement

Idiosyncratic risk is part of the security risk with the disappearance of the portfolio form which is called unsystematic risk (Jogiyanto, 2014). The Capital Asset Pricing Model (CAPM) was introduced by William Sharpe in 1964, namely: A similar analysis was also developed by John Lintner in 1965 and Jan Mossin in 1969. Due to the mention of the CAPM in the Sharpe-Lintner-Mosssin form (Hartono, 2010: 487). Murhadi (2013) with the formulation of capital with a media error assessment of the benchmarks:

$$R_{i,t} = \alpha_{i,t} + \beta_{i,t}\left(R_{m,t} - R_{f,t}\right) + \varepsilon_{i,t} \quad (1)$$

Idiosyncratic Risk according to Bali and Cakiki (2006) using the Idiosyncratic Risk Volatility (IVOL) formula:

$$IVOL_{i,t} = \sqrt{var(\varepsilon_{i,t})} \quad (2)$$

Idiosyncratic risk volatility gains a standard deviation, with residual idiosyncratic risk.

Stock Liquidity

The liquidity of the benchmark shares of the Indonesia Stock Exchange (IDX) is a smooth one by showing an easy level of investment capital, with the crucial one being assets (Malkiel & Xu, 2004). Various researchers have an understanding by rejecting the distinction with general terms that agree with the sale of assets with loss of fairness value (Murhadi, 2013).

According to Lawrence E. Harris, there are 4 dimensions of liquidity:

1. Immediacy, is immediate financing with transactions or the sum of the specified price.
2. Width, which is part of the interest in either selling or buying.
3. Depth, showing the sum or valuation of transactions that affect the level of shares.
4. Resiliency, judging from the speed with which the price returns to its proper price level, if the order flow is unbalanced.

Stock liquidity is an indicator of the market with an announcement, coverage of stock premiums, of compensation for high levels of return (Alteza, 2005).

Liquidity Measurement

Stock liquidity is a measure of the number of transactions with the capital market which is determined, with the higher (Deden, 2011). Liquidity according to Lo & Wang (2000) is calculated by trading frequency with the TVA or Trading Turnover formula:

TVA= (Number of shares traded)/(Number of shares outstanding) (3)

Liquidity can be observed from transactions from shares related to the ease of cash from the capital market mechanism (Koetin, 1994).

III. Research Method

This research takes samples using purposive sampling method. Purposive sampling is to determine the sample based on considering the criteria for the purpose of the: 1. Companies listed on the LQ45 index in 2017 – 2021. 2. An organization with or successively listed on the LQ45 index in 2017 – 2021. Uses a minimum restriction of 60 months (5 years x 12 months) of LQ45 stock trading which never comes out. After limiting a minimum of 60 trading months for 5 consecutive years, the remaining 26 companies were obtained. Furthermore, these 26 companies were the samples of this study, with a total of 1560 studies. The use of monthly data allows the availability of complete data, although the number of observations is less than daily or weekly data. As suggested by Febrian and Herwany (2010), using monthly data can avoid unstable time series data. Although the use of monthly data can result in a decrease in data fluctuations and a decrease in the accuracy of research results, it can result in a decrease in data noise. Noise data is the fluctuation of prices and their volumes, by moving prices in the market, the actual investment.

Secondary data is used, including: monthly closing and opening prices of shares, monthly trading volume and total VAP (Volume at Price) obtained from Thomson Reuters Eikon. Meanwhile, for Risk Market (R_m) and Risk Free (R_f), secondary data from Fenebris is used.

Data Analysis

The research uses panel data regression analysis tool media. Panel data is a combination of time series data with cross sections. Panel data is the acquisition of cross section data with the object unit of the same time.

IV. Results and Discussion

Table 1. Descriptive Statistics

Sample: 1560

	RETURN	IVOL	TVA
Mean	0.000271	0.103482	0.016505
Median	-0.006320	0.102808	0.013685
Maximum	0.682609	0.170562	0.131546
Minimum	-0.554667	0.051994	0.001965
Std. Dev.	0.110461	0.035108	0.010991
Observations	1560	1560	1560

From table 1, it can be seen that the average stock return of the sample during the last five years is very small, which is less than 1 percent. Meanwhile, stock volatility is quite volatile, ranging from 5 to almost 17 percent, with an average volatility of 10 percent. Stock volatility over the past three years has been quite high due to the pandemic crises which have not been resolved until now. This high stock volatility is a proxy for the idiosyncratic risk that exists in each company. Meanwhile, for stock liquidity using spread proxies, it looks quite high with an average of above 1. Furthermore, the results of hypothesis testing can be seen in the inferential statistics in table 2. In table 2, three models are shown using a panel data approach, namely PLS, FEM and REM.

Return= 0.046592+0.071600IVOL+2.390392TVA

When compared in terms of Goodness of Fit:

The t-test, both Fixed (FEM) and Random (REM) models only 1 significant, namely TVA. The f-test, both Fixed (FEM) and Random (REM), are equally significant, the models fit accordingly. When viewed from the adjusted r square / coefficient of determination, fixed (FEM) is better by 34% while random is 4.9 percent, this is because the Fixed (FEM) model accommodates the coefficient value of _0 (constant), for each different company (dummy variables).

$$Y_{it} = \beta_0 + \beta_{ot} + \beta_1 X_{1it} + \beta_1 X_{2it} + \varepsilon_{it}$$

$$\hat{y}_{it} = -0.046698 + \beta_{ot} + 0.071592 X_{1it} + 2.396883 X_{2it}$$

Table 2. Inferential Statistical Results

Dependent Variable: RETURN
Method: Panel EGLS (Period random effects)
Sample: 2017M01 2021M12
Periods included: 60
Cross-sections included: 26
Total panel (balanced) observations: 1560
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.046592	0.011350	-4.104898	0.0000
IVOL	0.071600	0.064723	1.106237	0.2688
TVA	2.390392	0.262979	9.089667	0.0000

Effects Specification	S.D.	Rho
Period random	0.060113	0.3098
Idiosyncratic random	0.089720	0.6902

Weighted Statistics			
R-squared	0.051182	Mean dependent var	7.63E-05
Adjusted R-squared	0.049963	S.D. dependent var	0.092020
S.E. of regression	0.089692	Sum squared resid	12.52541
F-statistic	41.99468	Durbin-Watson stat	2.114008
Prob(F-statistic)	0.000000		

V. Conclusions

This study aims to examine the effect of idiosyncratic risk and stock liquidity on stock returns. Based on the data analysis using the panel data regression method that has been carried out, it can several things. First, partially idiosyncratic risk has no significant effect on stock returns with a prob. value of 0.2688 which is greater than the probability value of 0.05. Second, stock liquidity partially has a significant effect on stock returns with a prob. value of 0.000 which is smaller than the probability value of 0.05. Third, idiosyncratic risk and stock liquidity simultaneously have a significant effect on stock returns with a prob. value of 0.000 which is smaller than the probability value of 0.05.

Based on statistical criteria, the selected model is the REM model but based on the Goodness of Fit criteria the best model is the FEM model. Further research is expected to increase the number of independent variables consisting of other company internal factors that can affect stock returns. The selection of the object of further research in examining the effect of idiosyncratic risk should consider samples with a high enough level of risk so that the measurement of idiosyncratic risk in future studies can be more accurate. Utilizing other statistical models such as the Dynamic Panel Model.

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