

Does COVID-19 Still Affect Liquidities and Returns in Indonesia?

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Abstract Most investors need useful information for investment decisions to obtain optimum returns. Based on this assumption, information obtained by investors will influence investment decisions. Information related to the continuation of the COVID-19 pandemic has tended to be a psychological factor affecting investors since 2020. The objective of this study is to analyze whether market liquidity still has an impact on abnormal returns in Indonesia. Logistic regression is used to test the relationship between market liquidity and abnormal returns on 661 firms listed on the Indonesia Stock Exchange over the period of January 1, 2020, to December 31, 2021. By combining systematic and unsystematic risks, illiquidity in 2021 has a positive impact on abnormal returns, although some combinations show insignificant results. This study finds that during 2021, investors tend to have low sentiment, which may be due to the continued threat of the COVID-19 pandemic, especially for stocks of firms that have high abnormal returns but low systematic risk. On the other hand, illiquidity does not have a significant impact on the stock of firms that have high abnormal returns but also high systematic risk from 2020 to 2021. This result indicates that investors in that stock are still optimistic and not influenced by the continuation of the COVID-19 pandemic.

Keywords Illiquidity, Returns, Risks, CAPM, COVID-19

JEL Classification: G01; G11; G12; G32; G41

1. Introduction

Abnormal return is one of the basic components of total return on investment, which describes the goal of investors in improving their welfare [50]. According to [46], an abnormal return is a reference point that determines investors' behavior in the capital market. Baker and Stein [5] confirm that investor behavior reflects the pattern of sentiment in the market, which is quite influential on market liquidity. Under this circumstance, [1] explains that the condition of market liquidity expected by investors tends to increase market returns. Therefore, [1] confirms that increasing returns is a positive function of illiquidity.

Kothari and Warner [24], and [50] show that abnormal returns are one of the determining components of investor returns in the concept of the capital asset pricing model (CAPM). Bali and Engle [8] confirm that it is rather difficult to determine abnormal returns with market portfolios based on constant assumptions. This implies that investors need useful information to set a good portfolio as the implementation of their investment decisions if they want to obtain optimum profit, as suggested by [11]. The basic assumptions of investment decisions are closely related to the problem of risk and uncertainty [25]. This assumption is confirmed by [18], who explained that the main obstacle for investors in achieving optimum capital gains apart from limited investment funds is uncertainty. Jiang et al. [19] explain that firms with high information uncertainty can result in lower returns in the future than firms with low information uncertainty. Parveen et al. [35] explain that heuristics and biases play a significant role for

investors in anticipating the uncertainty over investment decisions.

Recently, the main trigger of uncertainty for investors in the world has been the COVID-19 outbreak, which began at the end of 2019 [47]. Shaikh [41] reports that COVID-19 has seriously triggered panic among investors, thus affecting the performance of the world oil market in the first six months of 2020. Naseem et al. [30] also report that there was a significant change in the psychology of investors, which impacted the performance of the capital market (especially in China, Japan, and the United States) from January to April 2020. Moreover, [43] confirm that investors in India have increased stock-trading activities in line with the increasing problems of the COVID-19 outbreak. Sergi et al. [39] also report that an increase in cases from the COVID-19 outbreak triggered an increase in the misery index, which eventually triggered an increase in capital market risk and reduced stock returns.

Several studies also report that the COVID-19 outbreak since 2020 has had a fairly negative impact on economic activity in Indonesia, especially in capital market activities. Rahmayani and Oktavilia [37] also confirm that the market return in Indonesia for the period 2 January 2020 to 27 October 2020 was at a disadvantage due to the concurrent COVID-19 outbreak. Haryanto and Mawardi [15] also report that the COVID-19 outbreak had a negative impact on market returns from March 2nd, 2020 to June 12th, 2020. On the other hand, [4] find that the COVID-19 outbreak tended to result in an increase in capital market performance if investors set up better portfolios. The phenomena that exist in the world and in Indonesia tend to be similar to the findings of [32]—namely, that uncertainty triggers investor sentiment to take action to anticipate the negative impact of the COVID-19 outbreak.

Our simple idea starts from the presumption that the COVID-19 outbreak somehow still affects returns, although [44] reports that the pandemic has an insignificant effect after mid-April 2020 for emerging markets, including Indonesia. The idea arises with the assumption that investor psychology is still in vigilance over the continuation of the pandemic after experiencing changes to events that occurred in 2020, as reported by [30] and [41]. Facts based on official reports from the Indonesian government show that COVID-19 cases in 2021 have increased since June and decreased again since mid-July (<https://covid19.go.id/>). On that fact, we assume that Amihud's [1] concept of a positive relationship between risk and return in relationship with liquidity tends to underlie investor behavior during the COVID-19 pandemic. We also suspect that investor behavior still tends to be passive in carrying out trading activities, especially in 2021. Passive behavior is a reflection of illiquidity that aims to increase abnormal returns from outstanding shares. Based on ideas, assumptions, and facts, the objective of this study is to analyze market liquidity under the COVID-19 pandemic and its impact on abnormal returns in Indonesia. The remainder of this study proceeds

as follows: Section 2 reviews the relevant literature and develops the hypothesis. Section 3 explains our method. Section 4 discusses the results. Section 5 concludes our findings and its implications.

2. Literature Review

Prospect theory and mental accounting

The efficient market hypothesis assumes that prices fully reflect the information available to investors [12]. The available information determines the behavior of investors in making investment decisions [29]. Furthermore, [29] explain that the market will be efficient if it is assumed that there is no information asymmetry (at time t_{-1} , t , and t_{+1}) from firm insiders, so those old investors will be passive and there will be no conflict of interest between old and new investors. Information is the main determining factor in shaping investor behavior to make profitable investment decisions [48]. Consistent with [27], [48] also explain that the condition often occurs because the human nature (in psychological form) of investors plays an important role in responding to the risk return of an investment. Baker and Wurgler [7] explain that information in the capital market will determine the response of investors consisting of rational and irrational investors.

Baker and Wurgler [7] explain that mispricing in the market often occurs because of changes in sentiment by irrational investors and limited information by rational investors. Under these circumstances, [45] explained that an individual's heuristic of an event is often limited to the information it has. Kahneman and Tversky [23] explain that individual behavior tends to be caused by consideration of the prospects of various choices of risky assets available to obtain utility. As an implication, [14] explained that investors tend to immediately sell risky assets that experience an increase in value and keep the undervalued risky assets in the hope that these assets will increase in value. Grinblatt and Han [14] refer to the condition as a combination of prospect theory and mental accounting.

Conceptually, mental accounting has been mentioned by [28] in Proposition 1, which assumes that investors will make dispositions by utilizing arbitrage in conditions of uncertainty and existing risks to obtain optimum profits. Proposition 1 of [28] implies that the impact on the liquidity by investors' arbitrage is that the overvalued stocks will fall and the undervalued stocks will rise. Under this condition, [10] explains that the form of mental accounting by investors still plays an important role in capital market trading, where they will make profit-taking from their shares by looking at the right momentum. Under the concavity of utility function, [25] explains that risk aversion through optimal portfolio selection patterns is one form of the unique behavior of investors.

In the context of prospect theory and mental accounting, the relationship between market liquidity and investor

behavior has a significant effect on stock returns, as confirmed by [5] and [6]. P and Rishad [34] confirm that positive sentiment from investors tends to lead to an increase in excess market return, although this condition also has the possibility of triggering excessive optimism from investors, which leads to speculation. According to [22], the higher the investor sentiment (both institutional and individual) is, the more liquid the stock market will be. Baker and Wurgler [6] confirm that risky stocks have low returns when market sentiment is high, but they have higher returns when market sentiment is low. Consistent with Amihud [1], [5] suggest that investor behaviors are reflected through market liquidity, which is measured by the illiquidity ratio. Amihud and Mendelson [2] explain that illiquidity has a close relationship with the costs of executing transactions in the capital market, which means that an asset is liquid if it can be traded at its market price quickly with low costs. Amihud [1] convinces that less-liquid market conditions will cause investors to overvalue shares so that they can obtain higher expected returns. Consistently, [3] also confirm that the positive sentiment by investors results in an increase in stock returns.

Since early 2020, most investors in the US and Europe have tended to behave as risk averters due to the COVID-19 outbreak [33]. However, [20] confirmed that the COVID-19 pandemic is not strong enough to affect the U.S. capital market, so that liquidity is not significantly relevant to stock returns. Conversely, [26] reported that COVID-19 has decreased the market liquidity of capital markets around the world. As evidence, [38] implies that investor sentiment may improve from health news about COVID-19 and impact market liquidity due to panic behavior from investors. The findings of [21] also imply that the COVID-19 pandemic has had a serious impact on companies' financial performance, resulting in reduced market liquidity and low stock returns on the European Stock Exchange, especially in the tourism sector.

Additionally, [17] reported that the COVID-19 pandemic caused high negative sentiment from investors in the Chinese stock market (especially in the Shanghai Stock Exchange) so that all abnormal returns of traditional industrial sectors experienced a very significant decline. Singh et al. [42] report that the abnormal returns in G-20 countries turned into negative values as the cases of COVID-19 increased. Shaik [40] finds that the COVID-19 pandemic resulted in negative abnormal returns in the market of Saudi Arabia, which implies a volatile market, similar to the finding of [31] in Vietnam. Moreover, [49] also find that a significant lack of liquidity in the Chinese capital market lowers stock returns. Farooq et al. [13] also report that COVID-19 triggered negative sentiment from investors in responding to several crucial fundamental factors resulting in a negative abnormal return of the insurance sector (both for developed countries and developing countries, including Indonesia). Similarly, [16] also reported that abnormal returns in Indonesia during the

COVID-19 pandemic also decreased as negative sentiment by investors increased.

Research hypothesis

Based on this empirical evidence, we note the work of [14] that investors tend to keep the targeted assets that will increase in value in the context of prospect theory and mental accounting. We also follow the concept of [1] that increasing return is a positive function of illiquidity, which arises from the assumption that illiquidity captures passive investor behavior. On that assumption, we hypothesize that the more illiquid the market is, the higher the abnormal returns. We note the hypothesis for this study as follows.

H1: Illiquidity positively affects abnormal returns.

3. Method

We use a quantitative approach to test the hypothesis of this study. In this approach, we use two analytical tools, namely, descriptive statistical analysis and causality testing in the form of logistic regression. Descriptive statistics are used to evaluate the phenomena that occur based on the data, while logistic regression is used to see the impact and probability of the independent variable on the dependent variable. The sample for this study is 661 active listed firms over the period from January 1, 2020, to December 31, 2021. We take the sample of listed firms from the Indonesia Stock Exchange (<https://www.idx.co.id/>) with the criteria that they should be listed at the starting date of the observation period for this study and not at the status of delisted or suspended. Based on the purposive approach, the sample of this study consists of 81 firms in the basic materials sector, 112 firms in the consumer cyclical sector, 79 firms in the consumer noncyclical sector, 64 firms in the energy sector, 99 firms in the financial sector, 18 firms in the healthcare sector, 48 firms in the industrial sector, 51 firms in the infrastructure sector, 66 firms in the property and real estate sector, 19 firms in the technology sector, and 24 firms in the transportation and logistics sector. Based on Eq. (1), we test the effect of liquidity on abnormal returns with logistic regression.

$$AR = \alpha + \beta \cdot ILLIQ + \varepsilon \quad (1)$$

In Eq. (1), AR is the monthly abnormal returns, and ILLIQ is the monthly illiquidity. We follow [24], [50], [36], [9], and [46] to estimate the AR of the assets by using the CAPM in Eq. (2). The AR is separated by the median to determine high returns for a year (the value is 1) versus otherwise (the value is 0).

$$R_{it} - RF_t = \alpha_i + \beta \cdot (RM_t - RF_t) + \varepsilon_{it} \quad (2)$$

In Eq. (2), R_{it} represents the stock returns for firm i at time t , RF_t is the risk-free rate at time t from the Central Bank of Indonesia (www.bi.go.id), and RM_t is market returns at time t drawn from the Indonesia Stock Exchange (<https://www.idx.co.id/>). Furthermore, we follow [1] to

estimate the ILLIQ of the assets with Eq. (3). According to [1], the ILLIQ should be positive, as it uses the absolute returns.

$$ILLIQ_{it} = 1/D_{it} \sum_{t=1}^{D_{it}} |R_{it}| / VOLD_{it} \quad (3)$$

In Eq. (3), D_{it} is the number of days for firm i at time t , $VOLD_{it}$ is the daily volume (in IDR) for firm i at time t , and $ILLIQ_{it}$ is multiplied by 10^6 . To obtain specific results, we also sort the systematic risk (SR) and unsystematic risk (UR) estimated from Eq. (2) with the same technique to separate the AR. Based on sorts, we categorized the sample as follows: (1) high SR; (2) low SR; (3) high UR; (4) low UR; (5) high for both SR and UR; (6) high SR and low UR; (7) low SR and high UR; and (8) low for both SR and UR.

4. Results and Discussion

Figure 1 shows the monthly movement of AR, SR, UR, and ILLIQ for all firms in the sample from 2020 to 2021. From its low point in January 2020, AR fell to its lowest point in May 2020 until finally reaching its highest point in

December 2020. In 2021, the AR fell again in January 2021 and increased again in February and April 2021, although then it moved lower and tended to be constant from May 2021 to December 2021.

Furthermore, Figure 1 also shows that SR reached its highest point in February 2020 and its lowest point in July 2020. SR increased again in August 2020 and tended to move constantly until it returned to its lowest point in September 2021. The point of September 2021 of SR was the lowest point compared to the point in July 2020, and it then saw another increases starting in October 2021. UR had a high point in March and then stayed constant before increasing again in December and throughout 2020. UR tended to move steadily at a lower point from January 2021 to August 2021 and then decreased further from September 2021 to December 2021. ILLIQ reached its highest point in March 2020 and continuously tended to decline until the end of 2021. These phenomena indicate that AR tended to increase at the end of 2020 in line with increases in SR and UR as well as fairly liquid capital market activity. On the other hand, AR decreased in line with lower SR and UR and the tendency of a less liquid market at the end of 2021..

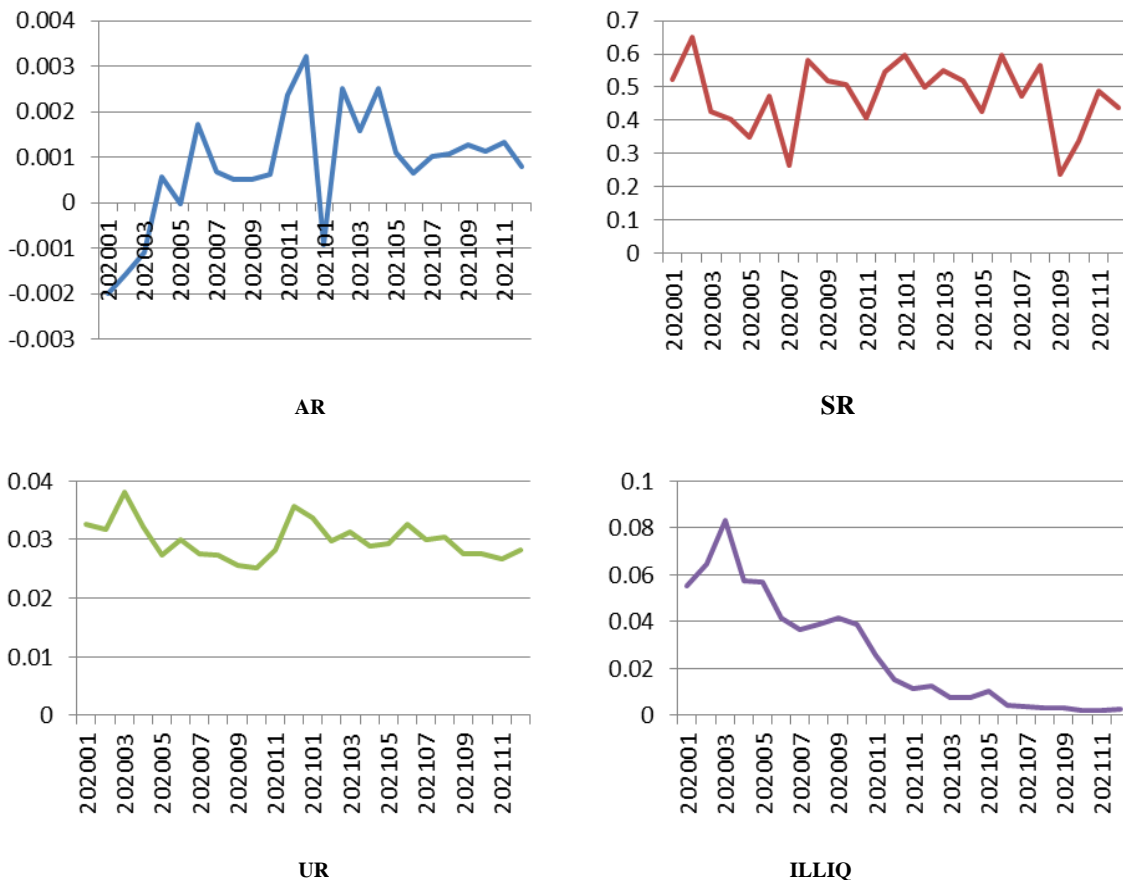


Figure 1. The trend lines of AR, SR, UR, and ILLIQ

Specifically, Figure 2 describes the trend patterns that occurs in AR, SR, UR, and ILLIQ. The analysis results show that the AR trend does not follow the trend pattern of the SR and UR, but in contrast, the ILLIQ trend pattern uniquely follows the SR and UR trend lines. This trend pattern indicates that investors in Indonesia tend to behave in a risk-neutral manner and have been very careful in carrying out investment activities during the COVID-19 pandemic.

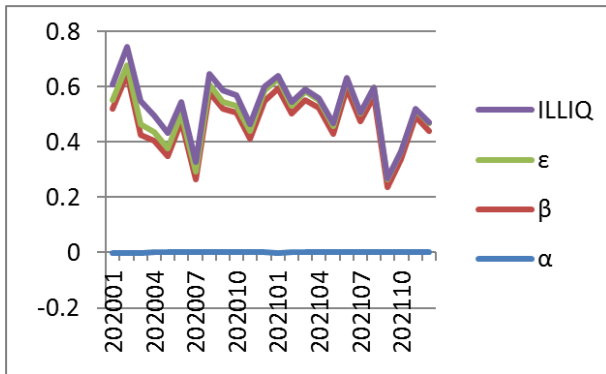


Figure 2. The pattern lines of AR, SR, UR, and ILLIQ

Table 1 presents descriptive statistics (with rounded numbers) of AR, SR, UR, and ILLIQ in 2020 and 2021. In the descriptive statistical analysis, the data were separated based on the sample with the highest and the lowest AR. In addition, the samples were sorted using a combination of SR and UR. These combinations were constructed so that the results of the analysis could provide more specific information on the conditions that occurred from 2020 to 2021 on AR and ILLIQ according to the characteristics of the sample. In the early stages, overall, we find that the mean of ILLIQ for both high AR and low AR firms decreased in 2021 from 2020. A low mean ILLIQ tends to indicate that market liquidity in 2021 was better than that in 2020, although it is necessary to confirm whether the ILLIQ of these two types of companies represents a significant difference.

In general, if we do not use a combination of sorting on SR and UR (all firms), then the results of the analysis show that, in 2020 and 2021, there was a significant difference for AR between firms with higher values and firms with lower values. Similarly, the mean of ILLIQ in 2020 and 2021 also showed a significant difference between firms with high AR and firms with low AR. In general, the results of this analysis indicate that firms with high AR tended to have less liquid market activities. We continue the analysis by performing a combination of sorting on SR and UR to obtain more specific firm characteristics. Based on the results of the analysis of firms with high SR, we find that firms with high AR experienced significant changes to ILLIQ in 2021 compared to 2020, which indicates that these firms were becoming less liquid in the capital market compared to firms with low AR. Conversely and empirically, firms with high AR and low SR had a high ILLIQ compared to firms with low AR and SR until 2021, which indicates that these firms have been less liquid since 2020. On UR sorting, the analysis results show that firms with low UR, both those with high AR and low AR, have had no significant differences in ILLIQ since 2020. We also find that firms with high AR and UR had significant differences in ILLIQ from firms with low AR and high UR in 2021.

Furthermore, we conduct further sorting on SR and UR to determine whether there was a unique phenomenon. Based on the analysis, we find that firms with high SR and UR and firms with high SR and low UR for both firms with high and low AR have not experienced significant differences in ILLIQ since 2020. These results indicate that either firms with high or low AR tended to experience similar conditions for their market liquidity during the COVID-19 pandemic. Another unique finding is that statistically, in 2021, there was a significant difference in ILLIQ between firms with high AR and firms with low AR (in the category of firms that have low SR and high UR or low UR). These results tend to reflect that, in 2021 specifically, stocks with high AR and low SR—for both those with high and low UR—tended to have less liquidity in the capital market.

Table 1. Descriptive statistics

	2020			2021		
	Mean		Differences	Mean		Differences
	High AR	Low AR		High AR	Low AR	
<i>All firms</i>						
AR	0.002	-0.001	0.003***	0.003	-0.001	0.004***
ILLIQ	0.058	0.035	0.023***	0.009	0.003	0.006***
SR	0.579	0.364	0.215***	0.408	0.548	-0.140***
UR	0.035	0.025	0.010***	0.039	0.020	0.019***
<i>Firms with high SR</i>						
AR	0.002	-0.001	0.003***	0.004	-0.001	0.005***
ILLIQ	0.027	0.022	0.005	0.005	0.002	0.003**
SR	0.901	0.896	0.006	0.813	1.015	-0.203***
UR	0.034	0.032	0.002	0.041	0.026	0.015***
<i>Firms with low SR</i>						
AR	0.002	-0.001	0.003***	0.003	-0.001	0.003***
ILLIQ	0.107	0.043	0.064***	0.013	0.003	0.010***
SR	0.067	0.027	0.040*	0.005	0.075	-0.069***
UR	0.037	0.020	0.017***	0.038	0.014	0.024***
<i>Firms with high UR</i>						
AR	0.003	-0.002	0.005***	0.004	-0.002	0.006***
ILLIQ	0.088	0.075	0.013	0.011	0.006	0.005**
SR	0.599	0.433	0.166***	0.439	0.697	-0.258***
UR	0.043	0.043	0.001	0.046	0.038	0.008***
<i>Firms with low UR</i>						
AR	0.001	-0.001	0.002***	0.001	-0.001	0.002***
ILLIQ	0.008	0.010	-0.002	0.004	0.001	0.002
SR	0.544	0.321	0.223***	0.322	0.493	-0.171***
UR	0.022	0.014	0.008***	0.021	0.013	0.008***
<i>Firms with high SR and UR</i>						
AR	0.003	-0.002	0.005***	0.004	-0.002	0.060***
ILLIQ	0.040	0.039	0.001	0.005	0.004	0.002
SR	0.958	0.829	0.128*	0.842	1.089	-0.248***
UR	0.041	0.042	-0.001	0.046	0.038	0.008***
<i>Firms with high SR and low UR</i>						
AR	0.001	-0.001	0.002***	0.002	-0.001	0.003***
ILLIQ	0.006	0.004	0.002	0.004	0.001	0.003
SR	0.811	0.964	-0.152*	0.701	0.979	-0.278***
UR	0.023	0.023	0.001	0.022	0.020	0.002*
<i>Firms with low SR and high UR</i>						
AR	0.003	-0.002	0.004***	0.004	-0.002	0.005***
ILLIQ	0.163	0.115	0.048	0.017	0.009	0.008**
SR	0.047	0.005	0.042	-0.036	0.062	-0.098*
UR	0.047	0.043	0.004	0.046	0.039	0.008***
<i>Firms with low SR and low UR</i>						
AR	0.001	-0.001	0.002***	0.001	0.000	0.002***
ILLIQ	0.011	0.012	-0.001	0.004	0.002	0.002*
SR	0.101	0.036	0.065**	0.088	0.078	0.010
UR	0.020	0.010	0.009***	0.021	0.007	0.013***

AR is abnormal returns, ILLIQ is illiquidity, SR is systematic risk, and UR is unsystematic risk. The *, **, and *** indicate significance at 0.1, 0.05, and 0.01, respectively

Table 2 presents the regression results for the relationship of ILLIQ to AR as stated in the hypothesis of this study. First, we show the results of the regression for all models. On the sample of all firms, we find that ILLIQ had a significant and positive effect on AR for firms with high AR compared to firms with low AR in both 2020 and 2021. Overall, further analysis by sorting SR and UR shows that all relationships between ILLIQ and AR had a positive t value in 2021 compared to 2020. Based on those findings, the results tend to be consistent with [1] in the concept of a positive relationship between risk-return and the presence of illiquidity. Furthermore, after controlling for the variables of SR and UR, we show that (1) firms with high SR, (2) firms with low SR, (3) firms with low SR and high UR, and (4) firms with low SR and UR were significant. These results mean that we accept the alternative hypothesis of this study for those models. Our findings for the significant and positive relationship between risk-return during and the COVID-19 pandemic are still consistent with the findings of [34] but inconsistent with the findings of [13], [16], [17], [21], [31], [40], [42], and [49]

Second, we show and discuss the details of the regression results for all models. More specifically, by SR sorting, a significant positive relationship between ILLIQ and AR occurred consistently for firms with high AR and low SR from 2020 to 2021. On the other hand, a significant positive relationship between ILLIQ and AR in firms with high AR and SR only occurred in 2021. Upon sorting of URs, we find that a significant positive relationship occurred in 2021, especially for firms with high ARs and URs. With respect to those results, our findings tend to be consistent with [2] and [1], which indicate that the stocks tended to be less liquid and thus experience an increase in abnormal returns. We continue the analysis for further combinations of SR and UR and find specific results. The results of the analysis of firms with high AR and SR (both those with high or low UR) show that the relationships between ILLIQ and AR have been insignificant since 2020. The findings indicate that the illiquidity of stocks with high market risk and better returns tended to have an insignificant impact on their abnormal returns, which is similar to the study of [20].

Conversely, the impact of ILLIQ for firms with high AR and low SR (both those with high and low UR) became significant in 2021. With respect to those results, we find that the impact of ILLIQ is still consistent with the studies of [2] and [1] and similar to the case of firms with low SR (without controlling UR) in 2021. Based on the analysis, those firms tended to be illiquid in the capital market for 2021, although descriptively, the value of illiquidity tended to decrease from 2020, which means that investors had little more activity in the capital market. This finding also indicates that unsystematic risk is not the main factor considered by investors if they pay attention to the conditions of systematic risk. In the case of firms with high

AR and low SR, the positive value of illiquidity in 2021 tends to indicate that there was still a passive perception from investors of capital market conditions in this period. The results of this study are still consistent with [16] in Indonesia, which implies that investors tended to be passive due to the COVID-19 pandemic. The results of this study are also consistent with [26], [17], and [21] in the case of declining market liquidity in the world due to the COVID-19 pandemic. As in the studies of [6] and [22], the case of ILLIQ for firms with high AR and low SR (both those with high or low UR) exhibited a tendency consistent with prospect theory and mental accounting. This condition occurs as the investors tend to behave in a risk-neutral manner to retain optimum returns, which makes them have low sentiment and drives the market to become less liquid.

Table 2. Logistic regression

	2020	2021
All firms	2.133***	40.459***
Firms with high SR	1.024	21.012*
Firms with low SR	4.068***	57.043***
Firms with high UR	0.673	20.451**
Firms with low UR	-2.269	21.775
Firms with high SR and UR	0.130	11.790
Firms with high SR and low UR	6.025	13.070
Firms with low SR and high UR	1.793	23.935*
Firms with low SR and UR	-0.848	49.174*

The dependent variable is AR, and the independent variable is ILLIQ. The reference category is firms with low AR. The *, **, and *** indicate significance at 0.1, 0.05, and 0.01, respectively.

5. Conclusion

The continuation of the COVID-19 pandemic through 2021 still has tended to affect the sentiment of investors in Indonesia. Although not all impacts are significant (especially in 2021), this study finds that illiquidity has had a positive impact on abnormal returns; in other words, the less liquid the assets are, the higher the abnormal return. More specifically, market illiquidity has a significant impact on firms that have high abnormal returns but low systematic risk. This reflects that during 2021, investors who owned these assets tended to have low sentiment, which may have been due to the continued threat of the COVID-19 pandemic with the aim of maintaining or increasing existing abnormal returns. On the other hand, the findings also show that market illiquidity did not have a significant impact on firms that had high systematic risk and abnormal returns from 2020 to 2021. This indicates that investors who owned these assets still had positive sentiments and tended not to be influenced by the COVID-19 pandemic.

Our findings show that most of the investors in Indonesia tend to be passive in responding to information in the capital market related to the COVID-19 pandemic. Consistent with prospect theory and mental accounting, we imply that the risk-neutrality of investors is caused by their objective to retain or increase abnormal returns. Our study is limited to the characteristics of the capital market in Indonesia, especially during the period when the COVID-19 pandemic case started and continued, namely, in 2020 and 2021. In addition, we use the traditional CAPM because this model can be applied quickly and effectively in detecting the characteristics of risk and return. We suggest that further studies in the same field apply our method and model to other capital market conditions, especially emerging markets. We also suggest extending the control variables that are relevant to the characteristics of the target object, especially in the use of sorting techniques, to obtain more specific results on investor behavior during the COVID-19 pandemic or other issues.

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