



Herding behavior and sentiment: pre and post-investor domicile code closure in Indonesia stock exchange

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ABSTRACT

Previous research has shown mixed results regarding herding behavior in Indonesia. Furthermore, this article analyzes herding behavior in the Indonesian capital market, especially in the conditions before and after the closure of the investor's domicile code as of June 27 2022, by the Indonesian Stock Exchange (IDX). This regulation concerns the closing of foreign and domestic broker codes, which are considered capable of causing herding behavior. Additionally, investor sentiment was also reviewed as a factor that might be contributed to the mixed results of herding behavior in Indonesia. A sample of 607 companies before domicile code closure and 681 companies after domicile code closure were tested using a combination of CSSD and CSAD. The two approaches used to measure show non-significant results of herding both pre and post-closure of domicile code. Investor sentiment was also not seen as a factor that contributed to herding since herding is also non-significant during low or high sentiment before and after the domicile code's closure. Different methods and influencing factors should be considered for further research.



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INTRODUCTION

Global financial market conditions are currently full of uncertainty. Geopolitical tension, rising inflation, and possible recession put investors in a difficult situation for making financial decisions. Caparrelli et al. (2010) explained the possibility of herding behavior occurrence under uncertain conditions. Investors might ignore the stock's fundamentals and prefer to follow the trading pattern of other investors. Herding behavior itself has been shown to influence stock market movements. Kremer and Nautz (2013) research on the German stock market has shown the short-term consequences of herding through decreased stock returns. Research from Hsieh (2013) on the Taiwan stock market also shows the effects of herding on stock returns, especially in conditions that are difficult to predict. Kremer and Nautz (2013) research also indicates that herding is associated with increased stock market volatility. Research from Litimi et al. (2016) on the US stock market also shows that herding is associated with volatile returns.

Chiang and Lin (2019) and Vieira and Pereira (2015) explain that herding behavior can appear under certain sentiment conditions. However, research on the context of investor sentiment for herding behavior shows different results. Research from Chiang and Lin (2019) on the US stock market shows that when sentiment conditions are positive, investors will tend to follow the movements of other investors, especially in companies that are difficult to assess. In contrast, research from Vieira and Pereira (2015) on the Portuguese stock market shows herding behavior in the context of negative sentiment.

Herding behavior is currently the most highlighted behavior in Indonesia's capital market context. As of June 27 2022, the Indonesia Stock Exchange (IDX) issued a regulation on closing investors' domicile codes or codes that provide information on whether investors are domestic or foreign. Closing the domicile code is mainly to increase the use of fundamental data and prevent herding behavior (CNBC, 2022). Director of Trading and Exchange Member Regulations, Indonesia Stock Exchange, Laksono W. Widodo, in idxchannel.com (2021), explained that code closing regulations aim to maintain price movements and prevent herding behavior.

Several studies have indeed shown the existence of herding behavior in Indonesia. Setiyono et al. (2013) have demonstrated herding behavior on the Indonesian stock market in daily transactions, especially based on historical data. Research from Arisanti and Asri (2018) shows herding behavior in

Indonesia, especially in the context of IPO companies. Research from Agarwal et al. (2011) on the stock market in Indonesia in the period 1995 – 2003 has also shown that herding behavior mainly arises from the movements of foreign investors. However, research from Warganegara and Warganegara (2022) shows that herding behavior has become non-significant since 2021, or one year before the closing of the domicile code. Due to the explanation above, an analysis regarding the accuracy of closing the domicile code is important. Further research is needed regarding herding behavior before and after the closing of the domicile code to see the current condition of herding behavior on the Indonesian stock market.

Herding itself appears in several forms, namely due to the similarity of information or information cascading, due to the reputation of other investors or herding reputation, or due to compensation that can be obtained by following the movement of the majority. Agarwal et al. (2011) mainly discuss information cascading regarding herding behavior in Indonesia. With the similarity of information from market participants, investors move together. Choi and Skiba (2015) also argues that similar information makes investors draw the same conclusions, resulting in herding behavior.

Further study is needed for the inconclusive results of herding behavior in Indonesia. Research from Agarwal et al. (2011), Setiyono et al. (2013), and Arisanti and Asri (2018) show that there is herding behavior in Indonesia; however, research from Warganegara and Warganegara (2022) shows that after 2021 herding behavior tends to decrease and is non-significant. Based on the findings above, this study will again examine herding behavior from 2021-2023, especially by taking advantage of the conditions before and after closing the investor's domicile code.

The different results from Chiang and Lin (2019) and Vieira and Pereira (2015) regarding market sentiment also require further research. Information about investor sentiment can be obtained by taking advantage of movements in transaction volume. Baker and Stein (2004) explain that transaction volume is an important indicator of market sentiment because it can show the number of shares traded. High trading activity indicates positive market sentiment due to increased interest and optimism from investors regarding capital market conditions. Meanwhile, low trading activity indicates the opposite situation.

Baker and Stein (2004) explain that when market sentiment is low, there is little information circulating, so only a few active experienced investors, while other investors tend not to trade, decreasing transaction volume. On the other hand, if the market sentiment is high, enough information is circulating so that both experienced and general investors will make transactions, increasing the volume of transactions. Research from Baker and Stein (2004) and Marschner and Ceretta (2019) have utilized volume movements to see customer sentiment conditions.

So far we have not seen any research on market sentiment as a context for the emergence of herding in Indonesia. This research will then attempt to contribute to the dynamics between herding behavior and market sentiment, especially in the Indonesian stock market.

This paper aims to re-examine herding behavior from the 2021-2023 period in Indonesia. By utilizing the conditions before and after the closure of the investor's domicile code as of 27 June 2022 by the Indonesian Stock Exchange, it is hoped that this research will be able to obtain a more comprehensive picture. Research can also be used to see the effectiveness of closing domicile codes. This research will also take advantage of Indonesia's economic conditions based on investor sentiment analysis. It is hoped that the division based on transaction volume as an indicator of investor sentiment will clarify differences in results and current conditions of herding behavior in Indonesia.

This paper aims to review herding in the Indonesian capital market. This article is structured as follows: Section 1 is an introduction; Section 2 regarding research methods for herding behavior and investor sentiment in this study; Section 3 discusses empirical results and discussion of this study; Section 4 regarding conclusion of the study.

RESEARCH METHODS

Data

Secondary data is used in this study. All stocks on the Jakarta Composite Index (JKSE) are used with the criteria of not being a company that has just made an IPO or has been delisted. Data are downloaded from the Indonesia Stock Exchange via Thomson Reuters, Yahoo Finance, and Pusat Data

Ekonomi dan Bisnis (PDEB) Universitas Indonesia. The data used are daily and monthly data. Meanwhile, data for market sentiment will utilize the daily transaction volume from the JKSE.

Data is divided into two:

- a. Data before the closing of the domicile code: 4 January 2021 - 24 June 2022
- b. Data after closing domicile code: 27 June 2022 – 14 January 2023

Herding Measurement

Several methods have been developed in the research literature to examine investors' herding behavior. Some of the commonly used methods are the CSSD method, which is a method used by Chang et al. (2000) and Christie and Huang (1995), and the Cross-Sectional Absolute Deviation (CSAD), a method developed by Chang et al. (2000) to complement the CSSD method.

The CSSD method used by Chang et al. (2000) and Christie and Huang (1995) is based on the assumption that investors tend to ignore personal information and follow market movements when extreme market movements occur. The CSSD uses the following calculations:

$$1. \text{CSSD} = \sqrt{\frac{\sum_{j=1}^n (R_{j,t} - R_m)^2}{n-1}}$$

- a. $R_{j,t}$ = return on stock j in period t
- b. R_m = returns from the market in period t
- c. $n-1$ = the number of shares in the portfolio minus one

$$2. \text{CSSD} = \alpha + \beta_1 D_t^l + \beta_2 D_t^u + \epsilon t$$

- a. α = coefficient for the spread of the sample mean outside the dummy area
- b. $\beta_1 \beta_2$ = a statistically significant negative value indicates the presence of herding
- c. $D_t^l = 1$ if the return from the market in period t is at the extreme upper 5%
- d. $D_t^u = 1$ if the return from the market in period t is at the extreme below 5%

The CSAD method was developed by Chang et al. (2000) and is similar to CSSD but with a non-linear approach. In conditions of extreme market movement, the linear relationship from the market return to price becomes non-linear, with the possibility that the relationship becomes stronger or weaker. The CSAD calculations are as follows:

$$1. \text{CSAD} = \frac{\sum_{j=1}^n |R_{i,t} - R_{m,t}|}{n}$$

- a. $R_{i,t}$ = return on stock j in period t
- b. $R_{m,t}$ = cross-sectional returns from the market in period t
- c. n = the number of shares in the portfolio

$$2. \text{CSAD} = \alpha + Y_1 |R_{m,t}| + Y_2 R_{m,t}^2 + \epsilon t$$

- a. $R_{m,t}^2$ = negative and significant indicates herding behavior

Following the explanation from Vieira and Pereira (2015) regarding the need to use combinations of approaches in herding analysis, this study will use combinations of CSSD and CSAD.

Investor Sentiment Measurement

Baker and Wurgler (2007) describe several empirical approaches to measuring investor sentiment. The first is using an investor survey, which is obtained by asking investors about investors' optimism or pessimism. Research from Arif and Lee (2014) and Aristei and Martelli (2014) utilizes the customer confidence index to determine sentiment conditions in the market. The second is using investor mood to discuss investor behavior under certain conditions. Drakos (2010) discusses mood by using the impact of acts of terror on investor sentiment. Schneider (2013) discusses weather conditions with investor sentiment. Last is using transaction volume, explained by Baker and Wurgler (2007), to view liquidity as an investor sentiment index. Baker and Stein (2004) and Marschner and Ceretta (2019) have shown the benefits of using volume to determine market sentiment conditions.

Based on the several ways of measuring sentiment above, this research will use transaction volume as an indicator of market sentiment. Using daily mood data requires an analysis of certain conditions that influence investor sentiment, and it is difficult to quantify. The customer confidence index is also difficult to use since the data released in Indonesia are monthly and not daily. With the above conditions, the transaction volume is the most likely to be used and obtained.

Herding and Investor Sentiment

For looking at herding in the context of differences in investor sentiment, data will be divided in each period into two, namely when sentiment conditions are low, and sentiment conditions are high. The median value of the JKSE volume will be the benchmark for dividing sentiment into negative or positive. Dummy code 1 is given for high sentiment (above average), while dummy code 0 is for low sentiment (below average). CSSD and CSAD then analyze the data from dummy code 0 or 1 to see whether or not herding behavior occurs.

RESULTS AND DISCUSSION

Results

We used all the stocks listed on the Indonesia Stock Exchange. The data was then divided into two, namely from 01/01/2021 to 06/24/2022 to show data before the domicile code closing and from 06/27/2022 to 01/25/2023 to show data after the domicile code closing. From the two data groups, filtering was then carried out based on IPO, delisting, and suspension criteria. The final number of the sample is 607 before domicile code closure and 681 after domicile code closure.

The following is a descriptive statistical table of all the research variables used in this study:

Table 1 Descriptive statistics

	CSAD before	CSSD before	CSAD after	CSSD after
Mean	2.449%	4.041%	1.834%	3.092%
Median	2.373%	3.986%	1.810%	3.076%
Maximum	4.770%	6.361%	2.611%	3.957%
Minimum	0.541%	0.577%	0.451%	0.451%

	Volume before	Volume after
Mean	190,670,511	199,607,735
Median	188,106,700	187,621,750
Maximum	344,812,000	396,136,700
Minimum	104,014,000	109,645,000

Source: Self Computed (2023)

The primary function of CSSD and CSAD is to see how far the stock moves from the market in a certain period. Suppose CSSD or CSAD declines when there is an increase in the volatility of market movements. In that case, investors do not see the stock's fundamental value and tend to follow market movements.

Based on table 1., it can be seen that there are differences in the average, median, minimum and maximum values between CSAD and CSSD. The difference in CSAD and CSSD can occur because CSSD tends to use price movement volatility calculations using extreme values of 95% and 5% as volatility thresholds. In contrast, CSAD uses volatility indicators with a non-linear approach to yields. In other words, CSSD calculates herding when a movement is under extreme conditions. At the same time, CSAD is based on market movements when there is an increase or decrease in the market which is not under extreme conditions. CSAD values were smaller than CSSD in this study and are in accordance with previous studies using these two methods, namely from Bensaida et al. (2015), Kanojia et al. (2022), and Citizens and Citizens (2022).

From the volume data, it can be seen that there is an increase in the period after closing when compared to the period before the closing of the domicile code. An increase in volume could be attributed to the rising number of issuers conducting IPOs during 2022-2023.

CSAD before domicile code closure

The research hypotheses will be tested using two methods, namely CSAD and CSSD. The CSAD method was carried out for the first time by following the method previously described. The method starts by calculating the daily CSAD figures, daily JKSE returns, daily absolute JKSE returns, and daily JKSE returns squared. The overall calculation results are then regressed with CSAD figures to see whether or not there is herding behavior. The hypothesis of the occurrence of herding is as follows:

H0: $Y_3 < 0$ herding occurs

H1: $Y_3 > 0$ herding does not occur

The test results using the CSAD method before closing the domicile code are as follows:

Table 2 Results of CSAD Method Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.021686	0.000351	61.73856	6.3E-192	0.020995	0.022377
Y1	0.024361	0.020659	1.1792	0.239108	-0.01627	0.064991
Y2	0.346601	0.068505	5.05954	6.76E-07	0.211876	0.481327
Y3	5.834816	2.483096	2.349815	0.01933	0.951389	10.71824

Source: Self Computed (2023)

The results from CSAD method before closing the domicile code did not show any herding behavior. A negative and significant Y_3 value indicates herding behavior, while the results show a positive Y_3 value which indicates that hypothesis 1 is not supported using the CSAD method.

CSSD before domicile code closure

The research hypotheses will also be tested using the CSSD method. The CSSD method uses dummy variables to assess the level of extreme volatility. This extreme value will be included in the calculation of D_t^l for the upper extreme and D_t^u for the lower extreme. The limit for the upper extreme is 95%, while the lower extreme is 5%. CSSD values will then be regressed with upper and lower extreme values to see whether or not herding behavior exists. The hypothesis of the occurrence of herding is as follows:

H0: $\beta_1\beta_2 < 0$ herding occurs

H1: $\beta_1\beta_2 > 0$ herding does not occur

The test results using the CSSD method before closing the domicile code are as follows:

Table 3 Results of CSSD Method Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.039817	0.000338	117.7836	3.3E-287	0.039152	0.040482
β_1	0.006459	0.001471	4.389721	1.5E-05	0.003565	0.009353
β_2	0.005435	0.001471	3.693928	0.000255	0.002541	0.008329

Source: Self Computed (2023)

The results of herding testing using the CSSD method before closing the domicile code did not show any herding behavior. Both values of $\beta_1\beta_2$ are positive, so the results show no herding behavior. These results indicate that hypothesis 1 is not supported using the CSSD method.

CSAD after domicile code closure

The research hypotheses will be tested again using the CSAD method by following the steps that have been done before. The hypothesis of the occurrence of herding is as follows:

H0: $Y_3 < 0$ herding occurs

H1: $Y_3 > 0$ herding does not occur

The test results using the CSAD method after closing the domicile code are as follows:

Table 4 Results of CSAD Method After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0167	0.0003	48.8848	0.0000	0.0160	0.0174
Y_1	0.0391	0.0223	1.7550	0.0813	-0.0049	0.0830
Y_2	0.2168	0.0937	2.3135	0.0221	0.0316	0.4019
Y_3	7.7217	4.8910	1.5788	0.1166	-1.9446	17.3881

Source: Self Computed (2023)

The results of herding testing using the CSAD method after closing the domicile code did not show any herding behavior. The calculation results show the value of Y_3 is positive, which shows that hypothesis 2 is not supported using the CSAD method.

CSSD after domicile code closure

The hypothesis formed will also be examined again using the CSSD method to see if there are any possible differences in the results. The CSSD method uses the steps previously described with the hypothesis of herding occurring as follows:

$H_0 : \beta_1\beta_2 < 0$ herding occurs

$H_1 : \beta_1\beta_2 > 0$ herding does not occur

The results of testing using the CSSD method after closing the domicile code are as follows:

Table 5 Results of CSSD Method After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0307	0.0004	86.1642	0.0000	0.0300	0.0314
β_1	0.0018	0.0016	1.0982	0.2739	-0.0014	0.0050
β_2	0.0030	0.0016	1.8852	0.0614	-0.0001	0.0062

Source: Self Computed (2023)

The results of the herding test using the CSSD method after closing the domicile code did not show any herding behavior. Both values of $\beta_1\beta_2$ are positive, so the results show no herding behavior. These results indicate that hypothesis (2) is not supported using the CSSD method.

CSAD and investor sentiment before domicile code closure

The test is then continued to test hypotheses (3) dan (4) to mainly look at herding behavior during high or low sentiment conditions before the closing of the domicile code. Testing was carried out using the previously described method with a negative and significant Y_3 result, which will be a benchmark for herding when market sentiment is high or low. The results are as follows:

Table 6 Results of CSAD and High Sentiment Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0209	0.0006	37.5937	0.0000	0.0198	0.0220
Y_1	0.0346	0.0300	1.1561	0.2492	-0.0245	0.0937
Y_2	0.4366	0.1006	4.3422	0.0000	0.2382	0.6351
Y_3	3.4768	3.1831	1.0923	0.2762	-2.8048	9.7583

Source: Self Computed (2023)

Table 7 Results of CSAD and Low Sentiment Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0229	0.0005	45.9517	0.0000	0.0220	0.0239
Y_1	0.0101	0.0277	0.3656	0.7151	-0.0446	0.0649
Y_2	0.0233	0.1393	0.1671	0.8675	-0.2516	0.2982
Y_3	22.5205	7.3138	3.0792	0.0024	8.0848	36.9562

Source: Self Computed (2023)

The results of the study show that there is no visible herding behavior when market sentiment is high or low. Under these conditions, hypothesis (3) and (4) are also not supported by using the CSAD method. In the period before the closing of the domicile code, the market did not show any herding behavior, especially during high or low sentiment conditions.

CSSD and investor sentiment before domicile code closure

Testing is continued to test hypotheses (3) and (4) with CSSD, especially to analyze herding behavior when high or low sentiment. Tests were carried out following the method described above, with negative and significant results β_1 and β_2 indicating that herding occurred when market sentiment was high or low. The results are as follows:

Table 9 Results of CSSD and High Sentiment Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0387	0.0005	75.5737	0.0000	0.0377	0.0397
β_1	0.0077	0.0021	3.6038	0.0004	0.0035	0.0119
β_2	0.0080	0.0024	3.3855	0.0009	0.0034	0.0127

Source: Self Computed (2023)

Table 10 Results of CSSD and Low Sentiment Before Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0409	0.0004	96.3100	0.0000	0.0401	0.0418
β_1	0.0051	0.0019	2.6482	0.0088	0.0013	0.0090
β_2	0.0031	0.0017	1.7710	0.0783	-0.0004	0.0065

Source: Self Computed (2023)

The results showed that herding behavior was not seen when market sentiment was high or low. Based on these results, hypotheses (3) and (4) are not supported by the CSSD method. During the high or low market sentiment in the period before the closing of the domicile code, herding behavior was not visible.

CSAD and investor sentiment after domicile code closure

The test is continued to test hypotheses (5) and (6) to see herding behavior when low or high sentiment. A negative and significant Y_3 result indicates herding when market sentiment is low or high. The test results are as follows:

Table 10 Results of CSAD and High Sentiment After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0170	0.0006	27.4025	0.0000	0.0157	0.0182
Y_1	0.0332	0.0482	0.6876	0.4939	-0.0630	0.1294
Y_2	0.1298	0.1937	0.6702	0.5049	-0.2564	0.5160
Y_3	10.8825	12.1399	0.8964	0.3731	-13.3238	35.0889

Source: Self Computed (2023)

Table 11 Results of CSAD and Low Sentiment After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0165	0.0003	48.3187	0.0000	0.0158	0.0172
Y_1	0.0402	0.0192	2.0987	0.0394	0.0020	0.0784
Y_2	0.2857	0.0862	3.3143	0.0014	0.1138	0.4576
Y_3	4.9688	4.2499	1.1691	0.2463	-3.5054	13.4429

Source: Self Computed (2023)

The results showed no visible herding behavior when market sentiment was high or low. These results indicate that hypotheses (5) and (6) are also not supported by using the CSAD method. In the period after the closing of the domicile code, the market did not show any herding behavior, especially when sentiment was high or low.

CSSD and investor sentiment after domicile code closure

Testing hypotheses (5) and (6) using the CSSD method was the final test with negative and significant results β_1 dan β_2 indicating that herding occurred when market sentiment was high or low.

Table 12 Results of CSSD and High Sentiment After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0305	0.0006	52.6979	0.0000	0.0294	0.0317
β_1	0.0037	0.0050	0.7448	0.4588	-0.0062	0.0136
β_2	0.0034	0.0050	0.6766	0.5008	-0.0066	0.0133

Source: Self Computed (2023)

Table 13 Results of CSSD and Low Sentiment After Domicile Code Closure

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0.0309	0.0004	75.2060	0.0000	0.0301	0.0317
β_1	0.0013	0.0014	0.9141	0.3637	-0.0015	0.0041
β_2	0.0028	0.0014	2.0161	0.0475	0.0000	0.0056

Source: Self Computed (2023)

The analysis results show that herding behavior is not seen when high or low market sentiment exists. Based on these results, hypotheses (5) and (6) are not supported by the CSSD method. When market sentiment is high or low in the period after the closing of the domicile code, herding behavior is not visible.

Discussion

This study aims to analyze herding behavior in the stock market in Indonesia. Previous research from Arisanti and Asri (2018) and Setiyono et al. (2013) demonstrated herding behavior in Indonesia. As of 27 June 2022, IDX closed the investor's domicile code intending to increase the use of fundamental data while reducing herding behavior. However, Warganegara and Warganegara (2022) show that herding behavior has been non-significant since 2021. With these different results, this research will return to testing herding behavior by utilizing data before and after closing the domicile code.

This research also utilizes market sentiment analysis to see the context of the emergence of herding behavior. Research from Chiang and Lin (2019) and Vieira and Pereira (2015) explain that herding behavior can appear under certain sentiment conditions. However, different results have been shown; Chiang and Lin (2019) show that herding behavior was seen in positive sentiments, while Vieira and Pereira (2015) show that herding behavior was seen in the context of negative sentiments. With this difference in results, further research is needed to see the emergence of herding behavior more thoroughly. This research is one of the first studies to analyze the dynamics between herding behavior and investor sentiment on the stock market in Indonesia.

In their article, Vieira and Pereira (2015) advocated using more than one method to measure the appearance of herding behavior. On this basis, the hypothesis formed in this study will be tested using a combination of CSAD and CSSD analysis methods. As for seeing the emergence of herding based on the context of investor sentiment, the analysis will be divided by using transaction volume. Research from Baker and Stein (2004), Baker and Wurgler (2007) and Marschner and Ceretta (2019) have utilized the use of transaction volume as an indicator of investor sentiment.

This study's results align with the results of Warganegara and Warganegara (2022). Data analysis using the CSAD and CSSD methods does not show any herding behavior on the market in Indonesia, especially in the period 1/4/2021 – 6/24/2022 and the period 6/27/2022 – 1/25/2023. These results indicate that herding behavior was no longer visible before the closing of the domicile code on 6/27/2022. The results show that investors in Indonesia are rational investors who prioritize fundamental analysis rather than following market movements.

The analysis using the context of market sentiment also found different results from research from Vieira and Pereira (2015) and Chiang and Lin (2019). In this study, no herding behavior was found

either during high or low sentiment conditions. These results also show that Indonesian investors continue to behave rationally in high or low sentiment conditions.

The ability of Indonesian investors to behave rationally can occur due to several things. First, as the rate of return on the market continues to increase, investors can be more careful in investing. The stock market in Indonesia shows a positive return of 10% in 2021. With high returns, investors can be more careful since there might be market corrections or market bubbles. The rate of return is indeed seen to decline to 4% in 2022. Investors can feel the importance of avoiding speculative actions that can cause stock bubbles. Investors are becoming more careful and prioritizing stock's fundamentals in making investments rather than moving based on the movements of other investors.

Second, with so many companies carrying out IPOs throughout 2021 and 2022 - there have been 113 IPO companies - investors might require more fundamental calculations. Some IPO companies show a declining share value, so prudence in investing becomes more important. Third, with the economic condition recovering, investors are becoming more cautious about using investment funds. Investors need to plan well the shares to be purchased to ensure investment funds and cash flow from investors are appropriate. Fourth, predicting future investment conditions with economic conditions that have not yet recovered is difficult. An example is the many investment cases that end in losses, such as crypto investments that lead to a drastic drop in investment value. Investment conditions that are difficult to predict create an urgency to be extra careful when investing.

The possibility of demographic influences should also be considered. Based on data from KSEI (2022), there has been a 114% increase in the number of investors in the Indonesian capital market since 2021, with the highest number of investors are under the age of 30. There is a possibility that the investment behavior of the demographic under 30 years of age is different from other demographics. Further research is needed regarding the investment preferences of this age demographic and considerations in buying shares.

Sixth is the argument from the rise of domestic investors in the Indonesian stock market. Agarwal et al. (2011) showed that foreign investors tend to herd more than domestic investors in the Indonesian stock market. With a significant increase in the number of domestic investors, then herding behavior might not be shown, thus becoming non-significant. In this condition, the herding behavior of foreign investors becomes not visible. Further research is needed regarding whether there is still herding behavior from foreign investors in the capital market in Indonesia.

Lastly is an argument from the information and technology development. Increased advancements in information technology could make it easier for investors to find information about stocks or certain issuers. With the ease of searching for information, the company's internal information becomes more open to the public so that every investor becomes more aware of the company's fundamental condition.

Based on the results and arguments above, it can be seen that IDX's decision regarding closing the domicile code to avoid herding behavior needs to be further investigated. The policy of closing the domicile code is intended to avoid any bubbles that might occur in the Indonesian capital market. However, in the short term, the policy is still not in accordance with the current conditions. In the present situation, investors tend to be more careful in investing and prioritise using fundamental aspects rather than following market movements non-rationally. Policies also need to pay attention to demographic factors by paying attention to the number of new investors, where the majority are in the demographic under the age of 30 years who can have their own characteristics or preferences that cause differences in stock selection so that it suppresses the emergence of herding behavior. With the transparency of information, herding behavior is also naturally increasingly depressed.

CONCLUSION

This study has shown results that are different from previous studies. In discussing herding behavior, this research is in line with Warganegara and Warganegara (2022), that herding behavior has not been seen since 2021. Discussion from the point of view of investor sentiment also shows that herding behavior has become non-significant.

There are several considerations in the results of this research analysis. This research uses the CSAD and CSSD methods in carrying out herding analysis calculations. To see a more comprehensive condition, it is necessary to consider using other methods, such as from Lakonishok et al. (1992) or Patterson and Sharma (2006). Consideration of the method for analyzing passive herding can also be

done. Further research is also necessary to consider the use of differences between domestic and foreign investors or individual and institutional investors in calculating herding behavior. Research from Hsieh (2013) has shown differences between domestic and foreign investors in behaving in the capital market. Further study regarding domestic dan foreign investors before and after domicile code closure could give a more comprehensive understanding regarding herding behavior in Indonesia.

Further research can also use other indices to interpret market sentiment conditions. The market sentiment index from Baker and Wurgler (2007), which uses a combination of several indicators such as dividends, IPO value, and volume, can be used to complete an understanding of market sentiment conditions and their dynamics with herding behavior. Using sentiment analysis from social media such as Twitter can also provide different insights regarding the dynamics of investor sentiment and herding behavior.

Another consideration should also be noted. Spyrou (2013) explanation regarding the formation of herding that is difficult to see in the market, namely passive herding should be further analyzed. Spyrou (2013) explains that herding behavior that can be analyzed using the current methods is visible herding behavior where there is an action in selling or buying. In the concept of passive herding, investors do not make purchases or sales because other investors also tend to be passive in investing. There is a possibility of passive herding behavior in the Indonesian stock market, which requires further research.

Based on this research, the current behavior of capital market investors in Indonesia is rational by prioritizing fundamental aspects. This behavior can occur due to situational factors that stimulate deeper consideration in making financial decisions. IDX's decision to establish a domicile code closing policy requires further study, especially considering investors' demographic aspects in the capital market. The impact of this decision in the long term still requires further research.

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