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Comparative Analysis of Herding Behavior in Indonesia, Malaysia, and Singapore

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Abstract*: Herding Behavior is an investor bias that affects the stock market price. The stock market is one of the factors that can influence economic condition in a country. This research examines the phenomenon of herding behaviour in Indonesia, Malaysia, and Singapore from 2016 to 2019. This research used secondary data, stocks return and market return, and transformed it into Cross-Sectional Absolute Deviation (CSAD) to test the dispersion level of stock return to find herding behaviour indication using quantile regression. This research was also comparing herding behaviour between Indonesia and the other two countries using independent sample t-test. The result showed that in all countries, there was no indication of herding behaviour in all kind of market condition. This research also found a difference in herding behaviour between Indonesia and other countries.*

Keywords: *Herding Behavior, CSAD, Quantile Regression.*

INTRODUCTION

The stock market is one of the most critical components of the economy in a country. It can also be one of the sources of additional capital for viable companies from investment funds. Not only for the company, but the stock market also has some advantages for the investor. Mutualism that occurs in an exchange in the stock market makes it promising to be developed to improve a country's economy.

Humans control transactions in the stock market as the broker, investor, or the company investment manager. There are so many factors that can cause a human error, especially one that can affect the investor. Investors who have analysed stocks they have interest in will be followed by investment decision behaviour. It means that the stock price and money circulating in a stock market heavily influenced by investor decision. Before investing in a company, an investor usually does some analysis such as technical analysis, fundamental analysis, and also analyse rumours about the market. However, not all of the investor would like to do all of those analyses. Some of the investors, especially the new ones, tend to be. Then, it will create confusion that will affect the stock price. The bias of investors can be explained in behavioural finance theory.

Behavioural finance was introduced by Slovic (1969), which examined the psychological aspect of investment and brokers. Shefrin and Statman (2000) also defined behavioural finance as a theory about how does psychology can affect finance. The definition of behavioural finance is also mentioned by Nofsinger, (2001) that is a study about how humans behave in a financial setting. By the definitions, we can conclude that

psychology has an impact on a financial decision, especially for investors. Also, psychology is something unpredictable but can be controlled. It means that there will be a probability for investors doing the bias in making the financial decisions. The bias that happens in a stock market can impact the efficiency of the market, especially on affecting the market price.

The market price is one of the main factors highlighted by the investors before deciding to invest. An efficient market is essential to reduce the investment risk because of the complete information in the market-determined the prices. Jogiyanto (2001) classify the market efficiency type by three categories; information based efficiency, operational based efficiency, and decision-based efficiency. The classification of market efficiency is based on the Efficient Market Hypothesis introduced by Fama (1970). Information based efficiency is market efficiency based on the information side of the market. Operational based efficiency is an efficiency that made by marketability to provide the liquidity, execution, with the lowest cost (Freund & Pagano, 2000). This type of efficiency is also can be measured by looking at the bid-ask spread.

On the other hand, Lakonishok et al. (1994) argued that bid-ask spread could also mislead the value on the execution. The difference between information-based and decision-based efficiency is on the decision made by the investor. Information-based efficiency is affected by the decisions made in the market. By the definitions about types of market efficiency, we can conclude that market efficiency is critical to make sure about the return that will be gained by the investor, as well as reducing the risk on investment. The market efficiency could be messed up by the bias found in the market. The investor causes the most impactful bias that affects the market. Less amount of information known by the investor can worsen the investor's bias. That is why it is essential to investigate the behavioural finance case to reduce bias and making the market more efficient. One of the biases that frequently show up in the stock market is herding behaviour.

Herding Behavior is one of investor bias that usually found in an emerging market. This bias is caused by investors that investing without analyzing the stock and market before. Instead of analyzing the stock and market, investors tend to copy another investor's decision assuming that their analysis is fair and well informed. Herding behaviour is a tendency for a group of investors copying most of the other investors' decision (Banerjee, 1992). When the investors do the herding, the price that resulted in the market does not represent the economic condition. Therefore it will create a fallacy on the market price and leading to the error of expected risk and return assessment. Bikhchandani et al. (2001) also argued that herding behaviour is a phenomenon of group trading on some stocks without any planning before.

The number of Indonesian investors in 2019 grew significantly, by 447% more than the number in 2016 from 535,994 to 2400,000 in only four years. It means that the information about how profitable investing in the stock market is already spreading through the country. However, some of the studies about herding behaviour in Indonesia still indicates herding behaviour in Indonesia in the past few years. Logically, the growth of the number of investor the information spreading in the market. However, it is a fact that the Indonesian market is not efficient enough and still risky for the risk averter investor. Having a similar culture with Indonesia, Malaysia could be an excellent comparison to evaluate the weakness in Indonesian market especially comparing the psychology of investors in both countries because the movement in Malaysian stock market (Bursa Malaysia) is more stable than Indonesian. If someone wants to get better, they need to learn from someone better than them. It is also applied in investment. The best stock market in the ASEAN region is Singapore's stock market. Singapore Exchange (SGX) is already classified as a developed market based on some aspects. Here is the comparison graphic of Indonesia, Malaysia, and Singapore stock exchange.

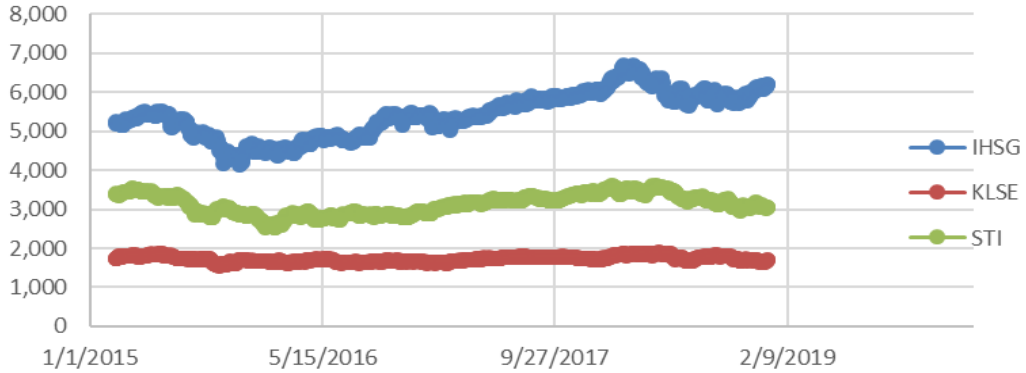


Figure 1. The comparison graphic of Indonesia, Malaysia, and Singapore stock exchange

The movement of Indonesia, Malaysia, and Singapore stock exchange are having similarity from 2016 – 2019. However, the Malaysia and Singapore stock exchange almost had the same volatility. Even though the movement of the Indonesian stock market had a similar pattern with Malaysia and Singapore stock market, but the Indonesia stock market moves more volatile than two others.

Empirical research about the herding behaviour has been conducted by Christie and Huang (1995), Chang et al. (2000), Chiang and Zheng (2010), Noviliya and Prasetiono (2017), Messis and Zapranis (2014), Hwang and Salmon (2004). However, the research conducted by Lai and Lau (2004) shows the result that there was no indication on the Malaysia Stock Market.

This research has three variables to detect herding behaviour; CSAD, Market Return, and Market Return Square. To find the indication of herding behaviour, we examine the data with quantile regression with CSAD as a dependent variable, and others as an independent variable. Using quantile regression to make the time-series data that tend to have truncated distribution, we can proceed without obeying the OLS assumption. In this research, we separate data into three kind market condition, market stress at quantile 0.01 to 0.05, normal condition at 0.5, and high return market at 0.95 to 0.99 as used in the previous studies.

The problem on this research are 1) Do Herding Behavior happened in Indonesia stock market? 2) Do Herding Behavior happened in Malaysia stock market? 3) Do Herding Behavior happened in Singapore stock market? 4) Which country is better at investor psychology based on Herding Behavior between Indonesia and Malaysia? 5) Which country is better at investor psychology based on Herding Behavior between Indonesia and Singapore?

Based on those problems, we would like to examine as follows; 1) To detect any Herding Behavior indication in Indonesia stock market. 2) To detect any Herding Behavior indication in Malaysia stock market. 3) To detect any Herding Behavior indication in the Singapore stock market. 4) To compare which country is better based on Herding Behavior existence between Indonesia and Malaysia. 5) To compare which country is better based on Herding Behavior existence between Indonesia and Singapore.

CONCEPTUAL FRAMEWORK AND HYPOTHESIS

Analyzing Herding Behavior in Indonesia Stock Market

Even though the investors have their own choice in analyzing stocks, they keep following other investor decision and ignore their instinct (Banerjee,1992). Herding Behavior of a country's stock market can be detected by testing the relationship between Cross-Sectional Absolute Deviation (CSAD) with a country's market return. If the stock market indicates herding behaviour, then the rate of spread of stock returns represented by CSAD will increase lower than the increase in market return (Chang et al. 2000). Chang et al. (2000) showed a significant relationship between market returns to CSAD, and the coefficient γ2 is negative in emerging markets where the Indonesian market is classified as an emerging market. Based on this statement, the hypothesis first hypothesis is:

H1: There is an Indication of Herding Behavior in Indonesia Stock Market.

Analyzing Herding Behavior in Malaysia Stock Market

Herding Behavior of a country's stock market can be detected by testing the relationship between Cross-Sectional Absolute Deviation (CSAD) with a country's market return. If the stock market indicates herding behaviour, then the rate of spread of stock returns represented by CSAD will increase lower than the increase in market return (Chang et al. 2000). Chiang and Zheng (2010) tested the existence of herding behaviour on the global stock market, one of which samples were taken from the Malaysian stock market. Malaysian stock market is not indicated by herding behaviour are the United States and Latin American countries where Malaysia is also a research sample that indicated by herding behaviour.

H2: There is an Indication of Herding Behavior in Malaysia Stock Market.

Analyzing Herding Behavior in Indonesia Stock Market

Herding Behavior of a country's stock market can be detected by testing the relationship between Cross-Sectional Absolute Deviation (CSAD) with a country's market return. If the stock market indicates herding behaviour, then the rate of spread of stock returns represented by CSAD will increase lower than the increase in market return (Chang et al. 2000). Based on Noviliya and Prasetiono (2017) which examines the detection of herding behaviour on the Asian stock market, one of which is taken from the Singapore stock market, a country that is not indicated by herding behaviour is a country that has a Developed Market. This result means that Singapore, which is also a research sample, demonstrated herding behaviour. The statement was proven from the results of the CSAD regression test and market return with positive and significant coefficients. Based on the arguments and the results of the above research, it can be formulated following hypotheses.

H3: There is No Indication of Herding Behavior in Indonesia Stock Market.

Comparison of Herding Behavior between Indonesia and Malaysia

The Indonesian and Malaysian stock markets are classified as a weak form efficiency market. The weak form means that the stock prices listed in the Indonesian and Malaysian stock markets have reflected all historical data that occurred, so information about prices, volumes or analysis of trend movements cannot be used to gain more profits. Data on stock prices and available volumes can be obtained easily so that if the data available provide signals and investors can use these signals as a basis for investment decision making. Research conducted by Yao and Tangjitprom (2019) in testing the herding behaviour of the ASEAN stock market proved that the coefficient of the Indonesian

stock market regression was higher than the coefficient of the Malaysian stock market regression. Based on the statement, the hypothesis proposed is:

H4: Indonesia Stock Market is better than Malaysia Stock Market Based on Herding Behavior.

Comparison of Herding Behavior between Indonesia and Singapore

The Indonesian and Singapore stock markets are two different types of stock markets. The Indonesian stock market is classified as a weak form market. Weak form refers to that the stock prices listed in the market reflect all historical data. Hence, the information about prices, volumes or analysis of trend movements cannot be used to gain more profits. While the Singapore stock market is not only influenced by the volume and price of previous shares, but also information about companies that are listed on the stock exchange. Data on stock prices and available volumes can be obtained easily so that if the data available provide signals and investors can use these signals as a basis for investment decision making.

Research conducted by Yao and Tangjitprom (2019) in testing the herding behaviour of the ASEAN stock market proves that the coefficient of the Indonesian stock market regression lower than the coefficient of the Singapore stock market regression. Based on this statement, the hypothesis is proposed is:

H5: Singapore Stock Market is better than Indonesia Stock Market Based on Herding Behavior.

RESEARCH METHODOLOGY

Sample and Population

Population data used in this research are data of companies listed on the Indonesia Stock Exchange (IDX) for testing on the Indonesian stock market, listed on the Kuala Lumpur Stock Exchange (KLSE) for testing on the Malaysian stock market, and listed on the Singapore Strait Times Index (STI) for testing on the Singapore stock market. In this study, we used a purposive sampling method. Purposive sampling technique is a sampling technique based on considerations that focus on specific objectives. In other words, the selected population is a population that has specific criteria according to the desired researchers following the problems to be studied. This study using a sample of companies with the highest market cap in the stock market of each country. The criteria for the sample of this study are as follows; 1) Issuers registered in the LQ 45 index consistently for three consecutive years in the 2015 - 2018 period. 2) Issuer which occupies the position of 30 highest market capitalization on the Kuala Lumpur Stock Exchange (KLSE) and has been listing since 2015. 3) Issuers that occupy the top 30 market capitalization positions in the Singapore Strait Times Index (STI) and have been listing since 2015. 4) Shares that are considered active move during the study period and the required data are available according to the research period.

Dependent Variable
Cross-Sectional Absolute Deviation

This method first used by Christie and Huang (1995) to test the presence or absence of herding behaviour. The formula for calculating CSAD is as follows:

$CSAD_t = \frac{1}{N}\sum_{t=1}^{N}\left|R_{i,t} - R_{m,t}\right|$ (1)

$R_{i,t}$ = *return of* stocks at t period
$R_{m,t}$ = *return* of market at t period
N = amount of sample

Independent Variable
Market Return

Market return value in this research the intended stock return is capital gain (loss) with the following method or formula (Jogiyanto, 2010):

$$R_{m,t} = \frac{P_{t-} P_{t-1}}{P_{t-1}} \quad (2)$$

t = time period (*daily*)
$R_{m,t}$ = *Market* return in t period
P_t = Market value day t
P_{t-1} = Market value day t-1

Data Analysis Method

In this research, the data analysis model used quantile regression analysis and independent-sample t-test by using EViews 10 and Microsoft Office Excel for Windows. Thus, the formula was written in the following

$$CSAD = \alpha + \gamma_1 \left|R_{m,t}\right| + \gamma_2 \left|R^2{}_{m,t}\right| + \varepsilon_t \quad (3)$$

α = Intercept Variable
γ_1 = Linear coefficient between CSAD and market return
γ_2 = Non-linear coefficient between CSAD and market return
$R_{m,t}$ = Market Return in t period

Hypothesis Test

To test the variable partially or individually, we conducted with the significance test of the individual parameter (t-test) which aimed to find out whether the independents variable partially influenced the dependent variable or not also which variable was dominantly influence the dependent variable (Ghozali 2013).

RESULT AND DISCUSSION

Descriptive Statistic

After assigning the data analysis, then we got the descriptive statistic as follows:

Table 1 Descriptive Statistic

	Indonesia			Malaysia			Singapore		
	CSAD	RM	RMSQ	CSAD	RM	RMSQ	CSAD	RM	RMSQ
Mean	0.01446	0.00600	0.000064	0.00800	0.00388	0.00003	0.0080	0.0056	0.0001
Median	0.01393	0.0045	0.00002	0.00732	0.0029	0.00003	0.0077	0.0042	0.0001
Maximum	0.04074	0.0401	0.001608	0.03277	0.0318	0.00101	0.0243	0.0300	0.0009
Minimum	0.00652	0	0	0.00260	0	0	0.0035	0	0
Std. Dev.	0.00371	0.00537	0.000129	0.00308	0.00358	0.00061	0.0022	0.0049	0.0001
Skewness	1.18932	1.82053	5.47184	2.21492	2.02439	7.30629	1.1445	1.5596	3.9582
Kurtosis	6.83087	7.96919	48.11591	12.5718	10.0503	88.8031	6.1643	5.9837	24.074
Jarque-Bera	820.966	1532.24	87016.59	4519.26	2685.27	307762.9	636.78	777.85	21158
Probability	0	0	0	0	0	0	0	0	0
Sum	14.0065	5.8175	0.062844	7.80307	3.787	0.02721	8.0409	5.5735	0.0553
Sum Sq. Dev.	0.01329	0.02792	0.000016	0.00924	0.01251	0.00003	0.0050	0.0243	0.0001
Observations	969	969	969	975	975	975	1002	1002	1002

Based on Table 1, we can conclude some statistics comparison between these countries. Cross-Sectional Absolute Deviation (CSAD) as the dependent variable highest mean is on Indonesia stock market with 0.014455, and the lowest is on Malaysia stock market with 0.008003. The highest CSAD also found in Indonesia stock market with 0.040735 and the lowest low is in Malaysia stock market with 0.002597 while the highest standard deviation is in Indonesia Stock market with 0.003705 and the lowest is in Singapore stock market with 0.002237.

Market return (RM) as the independent variable shows the highest mean is in Indonesia stock market with 0.006004, and the lowest is in Malaysia stock market with 0.003884. The highest high of RM variable also found in Indonesia stock market with 0.0401 and Singapore's is the lowest low. The highest standard deviation is in the Indonesian stock market, while the lowest is in the Malaysia stock market. Market Return (RM) has the same rank for the highest and lowest with Market Return Square (RMSQ) variable.

Jarque Bera Normality Test

Data normality test is using Jarque Bera normality test with $\alpha = 0.05$. Suppose the Jarque Bera value is not significant (< 2), it can be concluded that the data has a normal distribution. If the Jarque Bera value is significant, and the probability value is greater than 0.05, then the data can be classified as normal distribution data. Following are the results of normality test data in this study.

Figure 2. Normality Test in Indonesia Stock Market

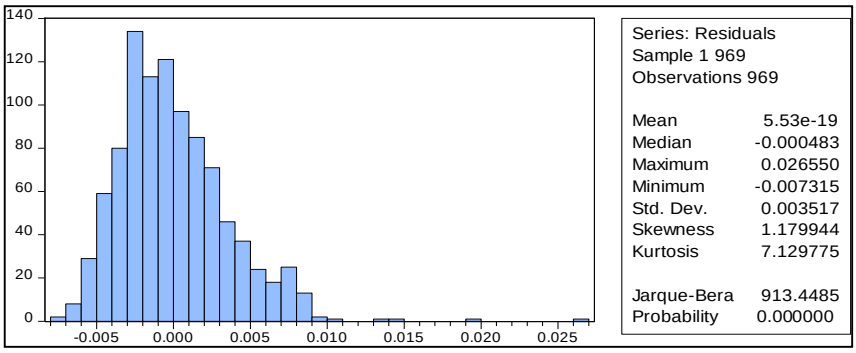


Figure 3. Normality Test in Malaysia Stock Market

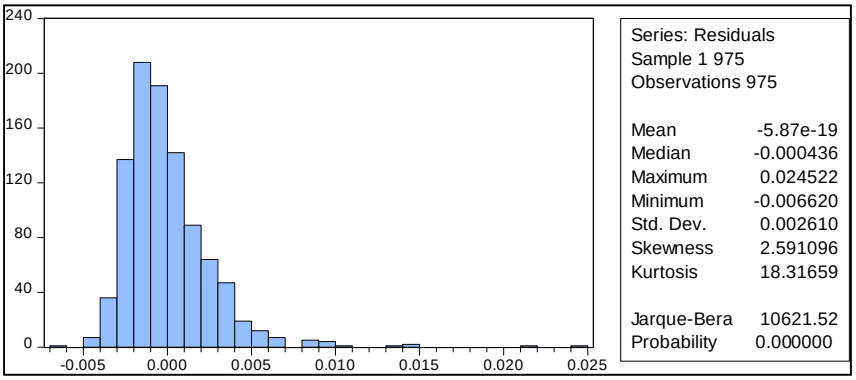
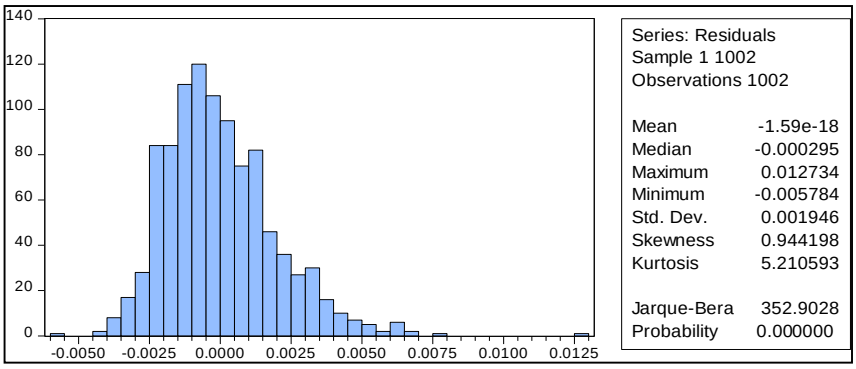


Figure 4. Normality Test in Singapore Stock Market



According to Figure 4, we can conclude that there is no country fulfilling the standard requirement of Jarque Bera Normality Test, so the regression model in this research is not fulfilling the normality element. Based on those normality test result, the data in this research are feasible to be examined with Quantile Regression method.

RESULT OF DISCUSSION AND TESTING

Herding Behavior in Indonesia

Table 2. Quantile Regression in Indonesia Stock Market

Market Condition	Quantile	R-Squared		α	γ_1	γ_2
Market Stress	0.01	0.066076	Coefficient	0.007531	0.21271	-2.13119
			t value	28.38203	2.691135	-0.5608
			Significance	0	0.0072	0.5751
	0.05	0.063682	Coefficient	0.008253	0.294771	-5.3389
			t value	25.40643	3.219604	-1.13185
			Significance	0	0.0013	0.258
Normal	0.5	0.045599	Coefficient	0.013099	0.120494	3.228703
			t value	38.16646	1.214887	0.626399
			Significance	0	0.2247	0.5312
High Return	0.95	0.058054	Coefficient	0.01936	0.338276	-2.93582
			t value	27.45292	1.931108	-0.42955
			Significance	0	0.0538	0.6676
	0.99	0.151661	Coefficient	0.021222	0.234637	19.3263
			t value	20.87974	0.476174	0.59932
			Significance	0	0.6341	0.5491

Source: EViews 10 (2020) Analysis Data

According to Table 2, there is no negative and significant γ_2 value in every market condition. The negative and not significant value found in market stress and high return condition, but it is not the sign of herding behaviour. The result shows that there is no herding behaviour indication in all of the market condition, and then H1 is rejected.

These findings support the Efficiency Market Hypothesis where if investors act rationally and get enough information, the prices formed in the market are not only influenced by historical data, but also the information available. It can be concluded that Indonesian investors have begun to progress in the absence of an indication of herding behaviour in which investors in the Indonesian stock exchange have started to behave and are rational in investing, primarily investing in stocks. Various factors can influence investor rationality.

One of the most significant factors influencing investors is information available. Nowadays, the development of information technology in the country of Indonesia is

developing rapidly. It can be seen from almost all residents of Indonesia already have at least one smartphone and other gadgets such as laptops with internet features available. Internet service provider companies support this situation by maximizing the quality and speed of the internet at minimal prices. With adequate devices and supporting features, the information will be easier to obtain anytime, anywhere.

In previous studies on the analysis of herding stock market behaviour, such as the Noviliya and Prasetiono (2017) and Chiang and Zheng (2010) studies, there were still indications of herding behaviour from 1989 to 2015. The results of this study support previous research conducted by Ramadhan and Mahfud (2016), Yao and Tangjitprom (2019), and Chandaningrat (2018) that there is no indication of herding behaviour on the Indonesian stock exchange.

Herding Behavior in Malaysia

Table 3. Quantile Regression Result in Malaysia Stock Market

Market Condition	Quantile	R-Squared		α	γ_1	γ_2
Market Stress	0.01	0.141831	Coefficient	0.003164	0.313027	1.321192
			t value	24.48541	7.050484	0.572832
			Significance	0	0	0.5669
	0.05	0.147522	Coefficient	0.003812	0.330913	-0.66738
			t value	29.46897	6.863386	-0.23008
			Significance	0	0	0.8181
Normal	0.5	0.159545	Coefficient	0.006078	0.322546	8.926823
			t value	27.40158	2.816417	0.905183
			Significance	0	0.005	0.3656
High Return	0.95	0.21154	Coefficient	0.010159	0.477596	9.471804
			t value	30.86967	4.077415	1.61704
			Significance	0	0	0.1062
	0.99	0.121958	Coefficient	0.014374	0.61409	-5.44237
			t value	0.881768	0.194494	-0.04827
			Significance	0.3781	0.8458	0.9615

Source: EViews 10 (2020) Analysis Data

According to Table 3, there is no negative and significant γ_2 value in every market condition. The negative and not significant value found in market stress and high return condition, but it is not the sign of herding behaviour. The result shows that there is no herding behaviour indication in all of the market condition, and then H2 is rejected**.**

These findings support the Efficiency Market Hypothesis where if investors act rationally and get enough information, the prices formed in the market are not only influenced by historical data but also the information circulating. It can be concluded that Indonesian investors have begun to progress in the absence of an indication of herding behaviour in which investors in the Indonesian stock exchange have started to behave and are rational in investing, primarily investing in stocks. Various factors can influence investor rationality.

In addition to the impact of information circulating, investor rationality can also be adapted from the nature of Singapore's stock exchange investors, which are known to be rational and stable. The situation is due to the geographical location of Malaysia and Singapore, which are close together so that residents of both countries can take turns to visit each country and interact with each other. With insight and an open mindset, a more positive change in investment is an inevitable possibility.

In previous studies on the analysis of Malaysian stock market herding behaviour, such as Lai and Lau (2004) and Tuyon and Ahmad (2016), there were still indications of herding behaviour from 1992 to 2014. The results of this study support previous research conducted by Yao and Tangjitprom (2019), which found no indication of herding behaviour on the Malaysian stock exchange.

Herding Behavior in Singapore

Table 4. Quantile Regression Result in the Singapore Stock Market

Market Condition	Quantile	R-Squared		α	γ_1	γ_2
Market Stress	0.01	0.09485	Coefficient	0.000243	0.051036	2.006456
			t value	14.69583	3.433695	0.218876
			Significance	0	0.0006	0.8268
	0.05	0.096532	Coefficient	0.000155	0.044541	2.721704
			t value	29.27086	3.428586	0.262344
			Significance	0	0.0006	0.7931
Normal	0.5	0.127955	Coefficient	0.000127	0.033014	1.321175
			t value	53.19263	3.386043	4.660577
			Significance	0	0.0007	0
High Return	0.95	0.166795	Coefficient	0.000265	0.083862	4.052104
			t value	38.7495	2.574946	0.490211
			Significance	0	0.0102	0.6241
	0.99	0.153898	Coefficient	0.000774	0.235958	12.2054
			t value	15.93258	0.258055	2.234627
			Significance	0	0.7964	0.0257

Source: EViews 10 (2020) Data Analysis

According to Table 4, there is no negative and significant γ_2 value in every market condition, and then H3 is accepted. These findings support the Efficiency Market Hypothesis where if investors act rationally and get enough information, the prices formed in the market are not only influenced by historical data, but also the information flow.

The majority of investors invested in the Singapore stock exchange are foreign investors or those from outside Singapore. The investment is caused by the condition of Singapore, where its establishment has received foreign citizens so that various races and cultures exist in the country. The existence of many different backgrounds in the country of Singapore causes the exchange of thoughts and changes in mindset can develop rapidly plus the strategic location of the country of Singapore for various parties to carry out their interests such as business, career, and investment. This situation causes Singapore to develop rapidly and leave the surrounding countries in various sectors, especially securities trading.

The results of this study support previous research conducted by Ramadhan and Mahfud (2016) and Noviliya and Prasetiono (2017) that there is no indication of herding behaviour on the Singapore stock exchange.

Independent Sample t-Test Result
Herding Behavior Comparison between Indonesia and Malaysia

Table 5. Independent Sample t-Test Result (Indonesia and Malaysia)

t-Test: Two-Sample Assuming Unequal Variances		
	Indonesia	Malaysia
Mean	-1.35404085	10.230678
Variance	59.08005784	563.5618671
Observations	20	20
Hypothesized Mean Difference	0	
Df	23	
t Stat	-2.076257987	
P(T<=t) one-tail	0.024615629	
t Critical one-tail	1.713871528	
P(T<=t) two-tail	0.049231259	
t Critical two-tail	2.06865761	

Source: Microsoft Office Excel (2020) Data Analysis

The behaviour of investors in Indonesia and Malaysia has no similarity in the rationality of thinking and making investment decisions. This situation happens because of differences in the way they respond to information and the openness of information available. The statement can be seen from Table 5, where the t value is significant from t table. The average owned by the Indonesian stock exchange means that Indonesian state investors tend to indicate herding behaviour.

Indonesia and Malaysia are developing countries and are located in Southeast Asia. However, despite sharing the geographical borders, there are significant differences between the two countries, especially in the rationality of thinking of investors in each of the two countries' stock markets.

Herding Behavior Comparison between Indonesia and Singapore

Table 6. Independent Sample t-Test Result (Indonesia and Singapore)

t-Test: Two-Sample Assuming Unequal Variances		
	Indonesia	Singapore
Mean	-1.35404085	6.1553738
Variance	59.08005784	49.719788
Observations	20	20
Hypothesized Mean Difference	0	
Df	38	
t Stat	-3.21963725	
P(T<=t) one-tail	0.001314419	
t Critical one-tail	1.68595446	
P(T<=t) two-tail	0.002628839	
t Critical two-tail	2.024394164	

Source: Microsoft Office Excel (2020) Data Analysis

Investor behaviour, especially herding behaviour in Indonesia, is different from Singapore. Investors who invest in Indonesia determine investment decisions based on less information when compared to investors who invest in the Singapore stock market. This condition supports the Singapore market to be declared as a developed market or developed market with efficient market conditions.

Indonesia is a developing country, including in the implementation of stock trading. This condition can be seen from the absence of an indication of herding behaviour in this study. Unlike Indonesia, Singapore is still at its best since the last few years. The differences presented in Table 6 shows the differences in the behaviour of investors between the two countries, especially in the context of herding behaviour. Indonesia still tends to indicate herding behaviour rather than Singapore. This situation can be an added value for Singapore as an investment destination. Suppose an investor wants to invest and has a choice between the Indonesian and Singapore exchanges. In that case, the Singapore stock exchange will be more favoured because prices formed in the market are based on clearly available information, and investors are more rational when compared to the Indonesian stock exchange. However, the analysis of investment objectives should be carried out by considering various aspects and factors. This condition is following the application of Behavioral Finance theory, where each investor can have differences in making decisions in finance.

CONCLUSION

According to the problems in this research, theoretical framework and hypothesis test result, the author has the conclusions as follows:

Herding Behavior is not found on the Indonesian stock exchange. This situation proves that investors in the Indonesian market have tended to behave rationally in making investment decisions due to investors having enough information to analyse the market

and make investment decisions. This result is following the Efficiency Market Hypothesis, where market efficiency will be increasingly formed if we get enough and accurate information.

Herding Behavior is not on the Malaysian stock exchange. This explanation proves that investors in the Malaysian market have tended to behave rationally in making investment decisions due to investors having enough information to analyse the market and make investment decisions. This argument is under the Efficiency Market Hypothesis, where market efficiency will be increasingly formed if we get enough and accurate information.

Herding Behavior is not found on the Singapore stock exchange. This result proves that investors in the Singapore market have tended to behave rationally in making investment decisions due to investors having enough information to analyse the market and make investment decisions. This situation is under the Efficiency Market Hypothesis, where market efficiency will be increasingly formed if we get enough and accurate information.

There are differences in investor behaviour in the Indonesian and Malaysian stock markets. This result shows that there are differences in nature between investors in the Indonesian and Malaysian stock exchanges in analyzing stocks in certain market conditions to make decisions. This result is following the application of Behavioral Finance theory, where each investor can have differences in making decisions in finance.

There are differences in investor behaviour in the Indonesian and Singapore stock markets. This situation shows that there are differences in nature between investors in the Indonesian and Singapore stock exchanges in analyzing stocks in certain market conditions to make decisions. This argument is following the application of Behavioral Finance theory, where each investor can have differences in making decisions in finance.

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