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DO FIRM VALUE AND INSTITUTIONAL INVESTORS AFFECT ON HERDING BEHAVIOR?

Fenny Marietza*, Salsabila Tifani
Ayuningsih

Department of Accounting, Faculty
of Economics and Business,
University of Bengkulu

*Mari3tza@gmail.com

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ABSTRACT

This research aims to determine the effect of firm value and institutional investors on herding behavior. The newness of this research to add an indicator that have never been used for herding measurement to firm value. The existence of previous research result on herding that have not been conclusive raise empirical gaps and population gaps that are worthy of re-study. The measurement of firm value is carried out using the Book to Market Ratio and Firm Size. The size of institutional investors uses the company's institutional ownership, and the measurement of herding behavior uses the Cross-Sectional Absolute Deviation (CSAD) method. The sample in this study are LQ45. The data analysis method used in this study was carried out with multiple regression analysis. The study results show that there is indication of the occurrence of Herding Behavior in LQ45 companies in sample. Firm Value and institutional investors do not influence Herding Behavior.

INTRODUCTION

The rapid development of the Indonesian capital market shows that investment in Indonesia is growing and in demand. According to the Decree of the Minister of Finance of the Republic of Indonesia Number 1548/kmk/1990 concerning Capital Market Regulations, which is meant by: "An organized financial system, including commercial banks and all financial intermediaries, as well as all securities in circulation." The capital market can be an alternative investment. According to data from the Indonesian Central Securities Depository, the number of investors in Indonesia in 2019-2020 reached 3.615 million registered investors. This number is an increase of 45.51 percent compared to the end of 2019. There are 2.484 million investors. In this case, it can be seen that there is an increase in capital market interest in investing.

In determining his decision in investing can be influenced by several factors. Changes in the actions of investors' decisions can be influenced by psychological factors that can change the decisions taken by investors that can be called financial behavior [1]. The tendency of investor behavior to follow the actions of other investors can be called a herding [2].

Factors causing the occurrence of herding behavior. The existence of Firm Value in [3];[4];[5];[6]. Institutional investors also have a role in the occurrence of herding behavior shown in [7];[8];[9];[10];[11]. The herding behavior generated by rational investors because the processing of information can be based on fundamental and non-fundamental factors Based on the basic information or value of the same company assessed by the investor, investors make homogeneous trading decisions according to the fundamentals of the company. measured by the ratio of Book to Market and Firm size [3].

Firm value is an important aspect in the occurrence of Herding Behavior. The value of the company as an investor's view of a company with certain conditions of the results achieved by the company in a process of cell activityama several years [12]. The herding perilaku caused by rational investors due to information processing can be based on fundamental and nonfundamental factors [3]. Based on the same basic information or Firm Value assessed by investors, investors make

homogeneous trading decisions in accordance with the fundamentals of the company. Previous research stated that the Firm Value indicator affects herding behavior. In this study, the value of the company was measured by the ratio of Book to Market and Firm size.

In addition to the Firm Value, the role of institutional investors can also trigger inappropriate behavior. This becomes even more important because large investors (institutional investors) are dominating the market. The performance of institutional investors is measured by looking at the performance of other institutional investors and they also base their investment decisions on the trading decisions of professional market participants [13] US, Hong Kong, Japan, South Korea, and Taiwan.

This study focuses on the value of companies and institutional investors to detect herding behavior due to empirical gaps and population gaps in previous studies, this study wants to prove the Firm Value and institutional investor values on herding behavior.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review

1. Prospect Theory

Prospect theory defines the theory when a person will look for sources of information and will then make some decision concepts indecision making [14]. Prospect theory suggests that a different reaction occurs in each individual between potential losses and gains. If a person is in a profit position, the character has a tendency to stay away from risks, while in a loss position, the character has a tendency to dare to take risks. The relevance between prospect theory and this research is that in this study the prospect theory is able to explain the risk preferences of the value of companies and institutional investors that can influence investment decisions that can affect herding behavior when they believe that herding behavior can help them to obtain useful and reliable information.

2. Herding Behavior

Herding Behavior steered a group of investors in the same direction of yang in the same period [15]. Herding Behavior as a psychological condition

when investors ignore their personal beliefs and assume it's beliefs of the other [2]. There are several ways to measure Herding behavior. However, for the approach in looking at herding behavior, the researcher uses measurements from [13] US, Hong Kong, Japan, South Korea, and Taiwan, as the inventors of the Cross Sectional Absolute Deviation (CSAD) method to detect herding, there is a relationship between Cross Sectional Absolute Deviation (CSAD) and the market variable squared. (RM2).

3. Firm Value

Firm Value is defined as a special condition that has been achieved by a company as an illustration of public trust in the company after running a process of activity for several years from the beginning of the company's establishment to the present [12]. The company's value in this study was measured by the ratio of BTM and Firm Size. The Book to Market ratio compares the book value per share and the market value of the stock [16]. Book to market ratio is a ratio that is often used in analyzing the amount of profit from stocks.

Firm Size is a ratio that can reflect the level of success of a company [17]. Firm Size can be measured Firm Size can be measured by the company's total assets or significant assets by using the calculation of the logarithmic value of the total assets. The large Firm Size reflects that the company is experiencing development and the growth of yang is good for increasing the value of the company.

4. Institutional investors

Institutional investors are people who have institutional ownership. institutional ownership is a percentage of shares owned by institutions [18]. Institutional share ownership can be owned by mutual funds, corporations, securities companies, pension funds, insurance companies, institutions. Institutional investors are measured by the percentage proportion of shares that institutions own at the end of the year.

Hypothesis Development

Some studies detect herding behavior on stock exchanges in different countries. Herding behavior during the monetary crisis. [19]. In [9] says that there is herding behavior in the Romanian exchange. In [20] show the presence of herding

behavior on the Chinese stock exchange. In [8], [11], In [7] also found the same thing with herding behavior in the results of their study.

On the other hand, [18] and [21] showed that there was no herding behavior in the Indonesian and Singaporean stock markets. The results of this study are in line with research by [18], which states that there was no herding behavior on the Indonesian stock exchange during the research period. Based on the results of previous studies, the hypothesis of this study is as follows:

H1: There are indications of herding on the Indonesia Stock Exchange

Several studies have tested the effect of Firm Values on herding behavior with various variables. This study measures the value of the company with Firm Size and book to market ratio. Several studies have shown a relationship between these variables and herding behavior. In [22] show that past measures and returns correlate positively with herding behavior, but the ratio of book to market and market beta is negatively related. In [20] showed that herding behavior is positively correlated with market capitalization, BTM, stock returns, and company liquidity. Volatility of size trading volume has a positive effect on herding behavior, and returns negatively affect herding behavior [23]. Size has no effect on herding behavior; However, for eps variables, BTM, Volatility has a positive effect on herding behavior [5]. herding behavior correlates positively with company size, sales herding is positively influenced by a larger Book to Market Ratio [8]. From the results of the previous research above, the hypothesis of this study is as follows:

H2.a: Book to Market Ratio positively affects Herding behavior

H2.b: Firm Size has a positive effect on Herding Behavior

Several previous studies have examined the influence of institutional investors on herding behavior. Hanafi (2015) says that there is herding behavior among institutional investors. Foreign institutional investors mitigate the January effect, but domestic institutions exacerbate it in Taiwan [24]. Institutional investors engage in herding behavior because they infer information from trading with each other [8]. Significant relationship

between institutional investors and herding behavior in mutual fund investment in Romania [9]. Research by [25] states that the rate of sell-herding varies according to changes in institutional ownership.. [7] states that herding behavior between institutional investors and correlated signals of fundamental information drives this. Based on the results of previous studies that have been described above, the hypotheses made are as follows:

H3: Institutional investors positively affect herding behavior

RESEARCH METHODS

Types of Research. This type of research is quantitative research. Quantitative research is a type of research based on concrete data in the form of numbers measured by using certain statistical test tools [26] This research analyzes the influence of the value of companies and institutional investors on herding behavior

Population and Research Samples. The population and research sample are LQ45 companies listed on the Indonesia Stock Exchange for the 2019-2020 period. The purposive sampling method is used in the selection of research samples. The method used is purposive. sampling that has certain properties and characteristics. The features of this sample are as follows:

1. Companies listed on the Indonesia Stock Exchange and their shares are consistently listed in the LQ-45 index for the 2019-2020 period.
2. The company has completed data research during that time 2019-2020.

Data Collection Methods. This study used secondary data from companies indexed in the LQ-45 Indonesia Stock Exchange. The data used are financial statements, stock prices, JCI. The research period starts from quarter 1 of 2019 – quarter 4 of 2020 or lasts for 2 years. The data is obtained from the official website of the Indonesia Stock Exchange, www.IDX.co.id Investment sites, www.investing.com and official websites of each company registered with LQ45.

Operational Definitions and Variable Definitions.

1. Herding Behavior

The bound variable in this study is herding

behavior, what is measured is the relationship of Cross-Sectional Absolute Deviation (CSAD) with the variable squared market return (RM^2).

If there is an indication of herding behavior, then the relationship between the squared market return (RM^2) and the dispersion value (CSAD) is non-linear and significantly negative ($\beta_2 < 0$). The variables used in this study refer to the Cross-Sectional Absolute Deviation (CSAD) method of [13]US, Hong Kong, Japan, South Korea, and Taiwan, namely an independent variable (Variable X) consisting of absolute market return ($|R_{mt}|$) and the squared market return (RM^2), and the bound variable (variable Y) in this study is the dispersion value of the stock return or cross-sectional value

Absolute market return ($|R_{mt}|$) is the absolute value of the difference between the prices listed in the composite stock price index at the end of the period and the beginning of the period. Absolute market return ($|R_{mt}|$) can be measured using the following measurements:

$$|R_{mt}| = \left| \frac{P_{it} - P_{i(t-1)}}{P_{i(t-1)}} \right|$$

Market Return Square (RM^2) is the squared value for the difference between the prices listed in the composite stock price index at the end of the period and the beginning of the period. (RM^2) can be measured using the following measurements:

$$\left(R_{mt} \right)^2 = \left(\frac{P_{it} - P_{i(t-1)}}{P_{i(t-1)}} \right)^2$$

Dispersion Value (CSAD) is a value for measuring how far the return difference of an individual asset is when compared to the average market return. Thus, to find the value of stock return dispersion (CSAD) it is necessary to return individual stocks and market returns that can be measured by the following measurements:

$$R_{it} = \frac{P_{it} - P_{i(t-1)}}{P_{it-1}}$$

$$R_{mt} = \frac{P_{it} - P_{i(t-1)}}{P_{it-1}}$$

After obtaining individual stock returns and market returns, the dispersion value of stock returns (CSAD) can be measured by the following measurements:

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

2. Firm Values

In this study, Firm Value was measured by Book to Market ratio and Firm Size

Book to Market ratio =
 $\frac{\text{Book Value Equity}}{\text{Equity Market Value}}$

Firm Size = Ln (Total Aktiva)

3. Institutional investors

Institutional investors are measured by institutional ownership, which is the percentage of the number of outstanding shares held by institutional investors at the end of the year [27]. Institutional Investor Calculations can use measurements using the following formula:

INSWN = Number of institutional shares / Number of shares outstanding x 100%

4. Data Analysis Methods

The study variables were tested using multiple linear regression analysis with the eviews-9 application. Data analysis methods in this study include descriptive statistical analysis, classical assumption test and hypothesis test. which consists of an F significance test, a coefficient of determination test, and a t test.

In this study using multiple linear regression analysis, with the following equation:

$$CSAD_t = \alpha + \beta_1 |R_{m,t}| + \beta_2 (R_m)^2 + \varepsilon_t$$

Information:

CSAD = Cross Sectional Absolute Deviation

α = Constant

β = Regression coefficient of each independent variable

R_m = Market price in period

FS = Firm Size

BTM = Book to Market Ratio

KI = Institutional Ownership

ε = Error element

RESULTS OF RESEARCH AND DISCUSSION

Descriptive statistics

Descriptive statistics in this study used minimum, maximum, mean and standard deviation values for all research variables. This data analysis method is used in describing the object under study with the population and research sample.

Table 1. Descriptive Statistical Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
CSAD	176	0.101412	0.265193	0.146818	0,049793
ABSRM	176	0,004975	0.318728	0.101563	0.111109
RM2	176	0,00002	0.1101588	0,022590	0,037249
BTM	176	0,071447	6.530545	1.036891	0.928402
FS	176	29,51278	34.61163	31.56228	1.078797
Which	176	0,005422	0,925000	0,568995	0.173531
Valid N (based on list)	176				

Normality Test

Table 2. Normality Test

N	Model	Jarque-Bera	Significance	Test
176	Model 1	5.866365	0,053227	Data is normal
176	Model 2	4.612874	0,099616	Data is normal

Table 3 above shows the observation period from January 2019 to December 2020. Nis the probability of statistical models JB 1 and 2 greater than the significance level of 0.05, then the assumption of normality is met, or the data are normally distributed.

Multicholnearity Test

Table 3. Multicholnearity Test

	ABSRM	RM2	RM2BTM	RM2FS	RM2KI
ABSRM	1.000.000	0,935069	0.506230	0.810280	0,755366
RM2	0,935069	1.000.000	0,529051	0.825163	0,769934
RM2BTM	0.506230	0,529051	1.000.000	0.677056	0,626042
RM2FS	0.810280	0.825163	0.677056	1.000.000	0.936700
RM2KI	0,755366	0,769934	0,626042	0.936700	1.000.000

Source: Data processed using Eviews-9

Table 3 above shows that the value of R^2 for all variables < 0.94 . This is in accordance with the test criteria that the results of the multicholnearity test do not have a correlation coefficient value between variables (R^2) which is more than 0.94. it can be concluded that the data have no multicholnearity problems in the regression model in this study.

Autocorrelation Test

Autocorrelation testing on non-time series data, both cross section data and panel data, will only be useless [28]. This is because, especially in the data panel, although there is time series data, it is not a pure time series (time). Therefore, the autocorrelation test was not carried out in this study. so, in this study it is assumed that for certain free variables no autocorrelation occurs.

Heteroskedasticity Test

The Heteroskedasticity test aims to determine whether in a regression model there are differences in variance from one residual difference to another [29]. In this study, for models 1 and 2, there is no need to test heteroskedasticity because this model is a REM (Random Effect Model) model. The REM model uses the Generalized Least Squares (GLS) estimation method. The GLS approach is useful for treating symptoms of heteroskedasticity. So, the REM model is free from the symptoms of heteroskedasticity.

Significance Model Test (F Test)

Table 4. Test Results Sinifikansi F

N	Model	F	Significant	Explanation
176	Model 1	137.3496	0,000000	Fit Regression Model
176	Model 2	60.29658	0,000000	Fit Regression Model

Based on Table 4 on models 1 and 2, it can be seen that this F test produces F values of 137.3496 and 60.29658 with significance values of 0.00000 and 0.00000, the Sig value < 0.05 then it can be concluded that model 1 and fit so that all variables simultaneously affect the dependent variables.

Coefficient of Determination Test Result (R^2)

Table 5. Coefficient of Determination Test Results

N	Model	Adjusted R Square	Coefficient of Determination
176	Model 1	0,609112	60,91%
176	Model 2	0.628831	62,88%

Table 5 in model 1 shows that the adjusted R square value of the independent variable in the study was 0.609112 or 60.91%. This value can be interpreted to mean that the market return variable explains the CSAD of 60.91%, the remaining 39.09% is influenced by other factors. in model 2 showed that the adjusted R value of the independent variable square in this study was 0.628831 or 62.88%. This value means that the CSAD variable is able to explain the relationship between variations in Firm Value (BTM and Company Size) and Institutional Ownership of 62.88%, the remaining 37.12% is influenced by other factors.

T. Statistical Test

a. T Test Results for Hypothesis 1

Table 7. T Test Results for Hypothesis1

Variable	Coefficient	T-Statistics	Significant	Result
ABSRM	1.876803	14.360	0,0000	
RM2	-5.105342	-13.096	0,000	H1 accepted

Based on table 7, in model 1 the $rm2$ coefficient value is -5.105342 , and the p -value is smaller than 0.05 which means that there are indications of herding behavior on the Indonesia Stock Exchange during 2019 to 2020. It can be concluded that $H1$ is accepted.

b. T Test Results for Hypotheses 2 and 3

Table 8. T Test Results for Hypotheses 2 and 3

Variable	Coefficient	T-Statistics	Problem.	Result
RM2BTM	-0,073179	-1.659498	0,0989	H2a Rejected
RM2FS	0,014382	1.878217	0,0621	H2b Rejected
RM2KI	-0.029778	-0,0888	0,9293	H3 Rejected

Hypothesis testing 2 aims to test whether the company's value (BTM and Firm Size) has a positive effect on herding behavior. Table 8 shows the coefficient of interaction of market return and BTM (RM2BTM) is -0.073179 and p -value is 0.0989 (p -value $e > 0.05$). The value of the coefficient of interaction of the square of market return and Firm Size (RM2FS) is 0.014382 and the p -value is 0.0621 (p -value > 0.05). The results of hypothesis testing show that the value of the company (BTM and Firm Size) h has no effect on herding behavior. So, it can be concluded that $H2$ a, b is rejected

Hypothesis testing 3 aims to test whether institutional investors have a positive effect on herding behavior. The value of the coefficient of interaction of market return and Institutional Ownership (RM2KI) is -0.029778 and the p -value is 0.9293 (p -value > 0.05). The results of hypothesis testing show that Institutional Investors have no effect on herding behavior. So, it can be concluded that $H3$ is rejected.

DISCUSSION

Indications of Herding Behavior on the Indonesia Stock Exchange

Based on the results of the previously described research, there are indications of herding behavior in LQ-45 stocks in the Indonesian capital market for the 2019-2020 period. This is evidenced by the value of the market return coefficient squared below zero which shows herding behavior on the Indonesia Stock Exchange. This result corresponds to the theory of [13] *US, Hong Kong, Japan, South Korea, and Taiwan*, which states that herding

behavior that occurs based on market consensus will form a non-linear relationship between CSAD and market returns.

Herding behavior tends to occur in stressful market conditions[30]. Market stress itself is a market condition where there is an issue that affects the investor's perspective to worry about future market conditions. During this research period, there was a COVID-19 pandemic which showed that market conditions were not good or market pressures. Market pressures have also caused panic among investors as information is spread unevenly. The information limitations of a market become a dilemma for investors, because with information that is not widespread, investors cannot analyze investments optimally, so rational investment decisions cannot be achieved. The results of this study support in [19] which states that herding behavior is significantly present in the Indonesian capital market during the monetary crisis. This research is also not supported by the research of [18] which states that herding behavior does not exist so far in the Indonesian capital market, especially in LQ45 index stocks.

The Effect of Firm Value on Herding Behavior

The results of hypothesis 2 testing showed that the value of companies with the variables Book to Market ratio and Firm size had no effect on herding behavior. The Book to Market ratio has no effect on Herding behavior. This study shows that the Book to Market Ratio in the sample and the research period is not a variable that is an indicator or cause of herding behavior. It is caused by an average book to market ratio in the overall sample and shows more than 1 which means that the companies in LQ-sample 45 have a high average book to market ratio overall. that companies with a book to market ratio of more than 1 are considered to have a high book to market ratio which indicates that the company's market value is relatively lower than the company's book value [16]. The low market value of stocks makes investors to get a small return. A high Book-to-market ratio indicates that the company is performing poorly. Investors prefer not to engage in herding behavior or follow other investors' decisions to invest in the company.

This study shows that the Firm Size in the sample in the research period is not a variable that is an indicator or cause of herding behavior. This is

due to the average Company Size across the sample which when viewed from the total assets shows a figure of more than ten billion. According to the national standardization body, large enterprises have a wealth (total assets) of more than 10 billion, which means that the companies that are sampled belong to a large category. In [23] shows that large companies have quality and easily accessible information so that investors can read the future investment direction so that investors can think rationally and not engage in herding behavior in making investment decisions. This research also supports previous studies that showing that the Book to Market ratio does not affect herding behavior [22]. The size of the company has no effect on herding behavior [5].

The Effect of Institutional Investors on Herding Behavior

Based on the results of data analysis, it is known that the value of institutional investors has no effect on herding behavior. This research shows that institutional investors are not an indicator of the causes of herding behavior. This is because institutional investors think rationally in making investment decisions. This is based on data describing the institutional ownership rate in the LQ-45 company sample of more than 5%, which means that institutional investors have the ability to monitor management [31], so that they get more information compared to ordinary institutional investors. This information makes them more cautious and rational thinking in making investment decisions.

Institutional investors tend to invest more in small stocks or small companies [32]. This is one of the reasons why institutional investors have no effect on herding behavior because the sample in this study is a large company. The results of this study are in line with the research conducted by [33] shows that institutional investors do not influence herding behaviour on the Indian Stock Exchange.

CONCLUSION

Based on the results of data analysis and discussion, the author obtained conclusions that can be drawn from this study as follows:

1. The results show that there are indications of herding behavior in the company's shares listed on the LQ-45 Index on the Indonesia Stock Exchange for the 2019-2020 period. It can be concluded that during the observation period, investors on the Indonesia Stock Exchange tend to follow market consensus and in making investment decisions.
2. The results showed that the value of the company had no effect on herding behavior in companies listed in the LQ-45 Index for the 2019-2020 period. Variable Book to Market Ratio and Firm Size which has no effect on herding behavior. That is, the Book to Market and Firm Size indicators are not a benchmark for investors in herding behavior. Investors see other indicators beyond book to market and company size in herding behavior.
3. The results showed that institutional investors had no effect on herding behavior in the shares of companies listed on the LQ-45 Index for the 2019-2020 period. This suggests that institutional investor indicators are not a benchmark for investors in herding behavior. Investors looked at other indicators beyond Institutional investors in the research period.

Research Limitations and Suggestions for Subsequent Researchers

Some limitations that can affect the results of the research achieved. In this study, the value of companies (BTM & FS) and institutional investors had no effect on the herding. In later studies, we should add other variables to detect herding behavior for better results.

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