Testing of behavior bias: Gamblers' fallacy, halo effect and familiarity effect on investors

Herman Darwis ^(a) Suwito ^(b) Zainuddin ^{(c)*}

^(a,b,c) Economic and Business Faculty, Universitas Khairun, Jusuf Abdulrahman Street, 97719, Ternate, Indonesia

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ABSTRACT

This study aims to (i) test the behavior bias of gamblers fallacy occurs at the time of uptrend and downtrend conditions; (ii) test the behavior bias of halo effect occurs at the time of uptrend and downtrend conditions; and (iii) test the behavior bias of familiarity effect occurs at the time of uptrend and downtrend conditions. The number of samples in the study was as many as 41 people. The test equipment used is One-Sample t-Test and Paired t-Test by using statistical package for social scientists (SPSS) as a static test tool. The results of this study show that: (i) Gamblers' fallacy that occurs when the uptrend condition is greater than when the condition is downtrend; (ii) Halo effect that occurs when the uptrend condition is greater than when the downtrend condition; (iii) Familiarity effect that occurs when the uptrend condition is greater than when the downtrend condition.

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Introduction

The capital market in this era of globalization is increasingly developing in encouraging economic growth and national development (Muklis, 2016). The ease and speed of obtaining funds in the capital market is the main attraction for investors. However, securities investment in the capital market cannot be separated from various factors that influence buying and selling activities that occur such as information, risk, politics, security, issues, rumors, policies, global markets, news and considerations of market participants' beliefs in making an intention to invest (Septyanto, 2013). Investment decision making is always associated with the concept that investors are rational, where in the decision-making process investors use utility maximization and risk averse (Weber & Hsee, 1998).

Behavioral finance theory is a theory that explains how psychological phenomena affect financial behavior Sherin (2000) in (Sumtoto & Anastasia, 2015). The concept of behavioral finance is an approach that explains how people who invest or relate to finance are influenced by psychological factors, investors in investing not only use estimates of the prospects of their investment instruments but psychological factors also have a role in determining decision making (Sidrah, 2018). Capital market conditions are also one of the factors that can cause behavioral bias because there is a relationship between investor sentiment that depends on uptrend and downtrend conditions. Mehmood & Hanif (2014) in (Dian Wijayanti et al., 2019).

When market conditions are downtrend, it allows traders to get negative returns but also have high volatility. compared to when the market is in an uptrend, it will give positive results to investors (Dian Wijayanti et al., 2019). Investors will trade excessively in an uptrend compared to a downtrend because stock prices tend to increase during an uptrend (Odean, 1999). So, it can be concluded that there are differences in investment decision making made by investors when capital market conditions experience an uptrend and downtrend which can lead to behavioral bias. Behavioral bias can be characterized by the emergence of various behaviors including the gambler's fallacy, the halo effect and the familiarity effect (Djojopranoto & Mahadwartha 2016)

* Corresponding author. ORCID ID: 0000-0002-8829-2110

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Researchers replicate the research conducted by Djojopranoto & Mahadwartha (2016). The difference between this research and previous research lies in the object, where previous research conducted by Djojopranoto & Mahadwartha (2016) examined domestic investors in the Indonesian capital market based on KSEI data as of July 2015. While in this study, the object of this research is novice investors who open stock accounts at Phintraco Sekuritas through the Investment Gallery of the Indonesian Stock Exchange, University of Khairun Ternate. The reason the researcher chose the object at the Khairun University Indonesia Stock Exchange Investment Gallery is that the researcher wants to see the behavior of investors registered through the GI-BEI when making investment decisions because the gallery is a medium for introducing the capital market from an early age in terms of theory and strategy in investing in stocks.

Based on the description of the background above, the researchers conducted a study entitled: Behavioral Bias Testing: Gambler's Fallacy, Halo Effect and Familiarity Effect on investors at the Investment Gallery of the Indonesian Stock Exchange, Khairun University, Ternate City. Based on the background above, the formulation of the problem is:

- i. Does the gambler's fallacy behavior bias occur during uptrend and downtrend conditions in the capital market?
- ii. Does the halo effect behavior bias occur during uptrend and downtrend conditions in the capital market?
- iii. Does the familiarity effect behavior bias occur during uptrend and downtrend conditions in the capital market?

This study aims to (i) test the bias of gambler's fallacy behavior occurs during uptrend and downtrend conditions in the capital market, (ii) test the halo effect behavior bias occurs during uptrend and downtrend conditions in the capital market and (iii) test the behavior bias, the familiarity effect occurs during uptrend and downtrend conditions in the capital market

Theoretical benefits are expected to be useful as a learning tool, can implement the knowledge gained during lectures and can increase knowledge about behavioral biases in the capital market, especially in the 3 biases studied, namely Gambler's Fallacy, Halo Effect and Familiarity Effect. So that in making investment decisions, you can make the best decisions when trading or investing in the capital market. Additionally, academic benefits, the results of this study are expected to be an additional reference and become the basis for further researchers to conduct similar research in the future. Finally, practical benefits, these benefits relate to usefulness in solving problems that will be faced. This usefulness can be useful for writers, investors, the public in making investment decisions so that they are not wrong in making decisions and can reduce biased behavior in decision making.

Literature Review

Theoretical and Conceptual Background

Behavioral finance theory coined by GC Salden in 1912, which is based on classical and neoclassical economic theory (Wijayanthi, 2015). According to Shefrin (2000) quoted in Sumtoto & Anastasia (2015) defines that behavior finance is a study that studies how psychological phenomena affect financial behavior. The concept of behavioral finance is an approach that explains how people who invest or relate to finance are influenced by psychological factors, investors in investing not only use estimates of the prospects of their investment instruments but psychological factors also have a big role in determining decision making (Sidrah, 2018).

According to Suartana (2010:32) prospect theory was developed by Kahneman and Tversky (1974) in this theory the word usefulness in the desired utility theory is replaced with a value where the value is defined in profit and loss even though the value for profit is different from the loss value. This theory is used to measure the measurement perspective on the behavior of people or organizations in making decisions (Mahastanti & Wiharjo, 2012). The prospect theory is in line with the financial mindset that focuses on making targeted financial decisions (Delliana, 2016).

Croson & Sundali (2005) states that gamblers fallacy is a belief in a relationship that is in the opposite direction (negative correlation) from an uncorrelated random sequence. This means that if something happens repeatedly over several periods, then it is likely that it will not happen again or the possibility of it happening is getting smaller in the future.

The halo effect was first introduced by Wells (1907) and Webb (1915) which is a phenomenon of "error" in the assessment process (Jacobs & Kozlowski, 1985). According to Ackert & Deaves (2010) The halo effect is a cognitive bias in which a person is more likely to judge individuals and have a general picture of individuals based on certain characteristics.

Familiarity Effect is a tendency to judge something that is known in advance better than something that has not been known before. In terms of investment, investors are more likely to invest in companies or investment products that are known or known. People tend to feel safer if they invest in companies that have been known before or have previously used investment products (Nofsinger, 2016).

Empirical Review and Hypothesis Development

Gambler's Fallacy Behavioral Bias during Uptrend and Downtrend Conditions

Biased behavior causes errors in predicting random events. So that this prediction error can be manifested in the form of behavior, one of which is the gambler's fallacy. The Gamblers fallacy arises from updating a negative experience. Where investors have a logical concept that shows that stocks that in previous periods experienced a decline in price and even stayed at the same price will

most likely experience the opposite event in the future. So, this will affect investors in making investment decisions. When making investment decisions, investors are also influenced by external factors, such as capital market conditions (Odean, 1999). During an uptrend, investors tend to avoid buying stocks that experienced an increase in price in the previous period because investors believe that it is likely that these shares will experience a greater price decline. Likewise, during a downtrend, investors assume that stocks that have previously experienced a price decline are more likely to experience an increase in price.

H1a: Gambler's fallacy behavior occurs during uptrend conditions in the capital market

H1b: Gambler's fallacy behavior occurs during downtrend conditions in the capital market

Halo Effect Behavior Bias during Uptrend and Downtrend Conditions

Biased behavior can also cause a halo effect. The halo effect occurs when an individual does not get enough information so that it will make someone assume that based on the most prominent information, the salient information makes other information that may be more relevant be covered up because of this prominent information (Djojopranoto & Mahadwartha, 2016). Investors are often interested in buying stocks included in LQ-45 because investors assume that companies included in LQ-45 will generate large returns and certainly have good fundamental values so that it will be more profitable for investors. If reviewed, in fact this is not necessarily the case due to market anomalies that often occur in the capital market. However, this salient characteristic makes investors biased in making investment decisions and information asymmetry occurs. When making investment decisions, investors are also influenced by external factors, such as capital market conditions (Odean, 1999). So, this makes investors trade irrationally when an uptrend occurs, because they assume that they will get a bigger profit during an uptrend than during a downtrend. Therefore, the appropriate hypothesis for the halo effect is:

H2a: The behavior of the halo effect occurs during uptrend conditions in the capital market

H2b: The behavior of the halo effect occurs during downtrend conditions in the capital market

Familiarity Effect Behavior Bias during Uptrend and Downtrend Conditions

Investors tend to give better weighting to familiar investments. This familiar factor makes investors more likely to believe in familiar or familiar companies and investment products that are considered less risky than other companies.

When making investment decisions, investors are also influenced by external factors, such as capital market conditions (Odean, 1999). Capital market conditions cause investors to also influence investor sentiment which causes a familiarity effect. In line with prospect theory, risk averse investors in an uptrend will tend to be more aggressive in a downtrend. If the condition is uptrend, investors are likely to experience a behavioral bias in the form of a familiarity effect because investors are more optimistic about the domestic capital market and tend to be risk aversion. On the other hand, during a downtrend, investors become more aggressive, which allows investors to take greater risks, resulting in a familiarity effect happen smaller. Therefore, the hypothesis that corresponds to the familiarity effect is:

H3a: The behavior of the familiarity effect occurs when investors are in an uptrend in the capital market

H3b: Familiarity effect behavior occurs when investors are in a downtrend in the capital market

Research And Methodology

Data

The type of data used in this study is quantitative data, namely data obtained and presented in the form of numbers. This study is a descriptive study that examines whether behavioral bias occurs in uptrend and/or downtrend conditions in the capital market or neither occurs. The source of research data using primary data is taken directly from the object of research, namely educators who are members registered in the Indonesian Stock Exchange Investment Gallery.

The data collection technique used in this research is a questionnaire/questionnaire. Data collection is done in a way that is presented in the form of statements to respondents. This questionnaire is used to obtain data from respondents regarding the condition of investors who are members of the Khairun University Indonesia Stock Exchange Investment Gallery when trading in the capital market that is experiencing an uptrend or downtrend. The questionnaire in this study contains statements that describe the behavior of member investors listed at the Khairun University Indonesia Stock Exchange Investment Gallery in making trading decisions in the capital market when Indonesia's capital market conditions fluctuate, both uptrend and downtrend.

Analysis

The data analysis model used to test and analyze the data in this study is by using the statistical method of one sample t-test and paired t-test.

Analysis Techniques

Test One Sample t-Test

One Sample t-Test is a test used to test whether a certain value used as a comparison is significantly different or not with the average of a sample. This test is used to test the average value of each statement capable of providing the expected outcome. This study uses the number 3 as a comparison value because it is a Likert scale used based on the middle value. If the average value is greater than 3 and $t_{count} > t_{table}$ at $\alpha = 0.05$, it can be said that the respondent is experiencing behavioral bias. If the average value is less than 3 and $t_{count} > t_{table}$ at $\alpha = 0.05$. So, it can be said that respondents do not experience behavioral bias. If, $t_{count} < t_{table}$ at $\alpha = 0.05$. Then the statement in the questionnaire is able to provide the expected outcome or if the value of Sig. (2-tailed) is less than 0.05 then the statement in the questionnaire is able to provide the expected outcome. If the data is not normally distributed, then the One Sample t-Test parametric statistical test is replaced with a non-parametric statistical test, namely the Chi Square Test, this test has the same usefulness and decision-making basis as the One Sample t-Test test, namely if the Asymp value. Sig. less than 0.05 then the statement in the questionnaire is able to provide the expected outcome. This test has the same usefulness and decision-making basis as the One Sample t-Test, namely if the Asymp value. Sig. less than 0.05 then the statement in the questionnaire is able to provide the expected outcome. This test has the same usefulness and decision-making basis as the One Sample t-Test test, namely if the Asymp value. Sig. less than 0.05 then the statement in the questionnaire is able to provide the expected outcome.

Paired Sample t-Test

Paired Sample t-Test is used to test two paired samples whether they have significantly different averages or not. Paired Sample is a sample with the same subject but experiencing two different measurements or treatments. This test is used to compare statements with positive and negative sentences to see the consistency of respondents in filling out the questionnaire with different sentences. If the value of Sig. less than 0.05 means that there is a significant difference between statements with positive and negative sentences. This means that the respondent does not answer the statement consistently. On the other hand, if the value of Sig. greater than 0.05 means that there is no significant difference between statements with positive and negative sentences. This also means that the respondents have answered the questions consistently. In addition, this test is also used in comparing statements with uptrend and downtrend conditions. If the value of Sig. less than 0.05 means that there is a significant difference in uptrend and downtrend conditions, which indicates that the behavioral bias is greater in one of the conditions, namely uptrend and downtrend. On the other hand, if the value of Sig. greater than 0.05 means that there is no significant difference in uptrend and downtrend conditions, which indicates that the behavioral bias occurs equally in uptrend and downtrend conditions. If the data is not normally distributed, then the Paired Sample t-Test parametric statistical test is replaced with a non-parametric statistical test, namely the Wilcoxon Signed-Rank Test. The Wilcoxon Signed-Rank Test has the same usefulness and decision-making basis as the Paired Sample t-Test, which is if the Asymp value. Sig. (2-tailed) less than 0.05 means that there is a significant difference and if the Asymp value. Sig. (2-tailed) greater than 0.05 means that there is a significant difference.

Variable Operational Definition

Independent Variable

The independent variable is a variable whose value variation will affect the value of other variables. The independent variables in this study were measured using the instrument in the study (Djojopranoto & Mahadwartha, 2016). This study uses a Likert scale in the instrument which contains five levels of answer preferences with the choice of the scale used consisting of Strongly Disagree (STS), Disagree (TS), Doubtful (R), Agree (S) and Strongly Agree (SS). The independent variables used in this study are as follows:

Gambler's Fallacy

Gambler's fallacy is a decision-making technique based on the belief in the negative correlation of an uncorrelated random sequence. Questionnaire statements related to gambler's fallacy are divided into 2 conditions, namely uptrend and downtrend. Statements in uptrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements. Statements in downtrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements.

An example of a statement when an uptrend is in an uptrend and my stock has made a profit several times, I will immediately sell the stock because I believe the probability of the stock price falling will be greater. An example of a statement in a downtrend is when there is a downtrend and my stock has experienced a loss, I will hold the stock because I believe that after the stock price has decreased several times, the probability of a price increase will be greater.

Halo Effect

Halo effect is a decision-making technique that tends to make general perceptions and images based on certain characteristics.

Questionnaire statements related to the Halo effect are divided into 2 conditions, namely uptrend and downtrend. Statements in uptrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements. Statements in downtrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements. An example of a statement when the condition is uptrend is when the capital market is in an uptrend, I am sure I will get a high stock return so I will trade more. An example of a statement when conditions are downtrend is when the capital market is in a downtrend, a good company is a profitable investment place.

Familiarity Effect

Familiarity effect is a decision-making technique based on belief or preference for things that have been previously known or familiar to the individual. Questionnaire statements related to the familiarity effect are divided into 2 conditions, namely uptrend and downtrend. Statements in uptrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements. Statements in downtrend conditions are divided into 4, consisting of 2 positive statements and 2 negative statements. An example of a statement in an uptrend is that even though the capital market is in an uptrend, I am reluctant to buy stocks whose names I have never heard of. An example of a statement when a downtrend is when the domestic and international capital markets are in a downtrend,

Findings and Discussion

Overview of Research Objects

The object of this research is a member of the Indonesian Stock Exchange Investment Gallery, Khairun University who is active or at least has made transactions. The determination of the sample used was through the purposive sampling method. Member data at the Khairun University Indonesia Stock Exchange Investment Gallery shows that the total members at the GI-BEI Khairun University are 201 people, then sorted by non-student/alumni members totaling 91 people, the student/alumni members at GI-BEI Khairun University are 110 people. Then minus the 68 students/alumni members who have never had transactions, so that 42 students/alumni transactions are obtained.

Based on the results of the sample selection in accordance with the criteria that have been made, it can be selected as many as 42 respondents who have made transactions, respondents who are not willing to fill out the questionnaire are 1 person, so, the questionnaires processed in this study were 41 samples.

Descriptive Demographics of Respondents

Respondent data obtained at GI-BEI shows that male respondents are 19 people with a percentage of 46% and women are 22 people with a percentage of 54%. Age of respondents 100% ranged from 21-30 years. Respondents who traded 1 time were 13 people with a percentage of 32%, respondents who traded 2-3 times were 11 people with a percentage of 27%, respondents who traded 4-5 times were 6 people with a percentage of 15% and respondents who traded more than 5 times totaling 11 people with a percentage of 27%.

Validity test

A questionnaire is said to be valid if the questions on the questionnaire are able to reveal something that will be measured by the questionnaire. If the value of sig (2-tailed) is less than 0.05 or if $(R\text{-Calculate}) > R\text{-Table}$ then the questionnaire compiled is valid. The R-table is sought at a significance of 0.05 and the amount of data $(n) = 41$. Then the R-table value is 0.312 and then compared with the R-count value for the items in each variable.

Based on the validity test, it can be seen that the value of the Pearson correlation (R-count) for the gamblers fallacy variable in the positive and negative statement sentences when the uptrend is 0.345 and 0.863 is greater than the R-table, which is 0.308, the positive and negative statement sentences when the downtrend is 0.541 and 0.757 is bigger than the R-table which is 0.308. This means that the gamblers fallacy variable with positive and negative statement items when uptrend and downtrend conditions are said to be valid.

The halo effect variable in the positive and negative statement sentences when the uptrend is 0.779 and 0.770 is greater than the R-table, which is 0.308, in the positive and negative statement sentences when the downtrend is 0.656 and 0.770 is greater than the R-table, which is 0.308. This means that the halo effect variable with positive and negative statement items when uptrend and downtrend conditions are said to be valid.

The familiarity effect variable in positive and negative statement sentences when the uptrend is 0.627 and 0.714 is greater than the R-table, which is 0.308, positive and negative statement sentences when the downtrend is 0.755 and 0.756 is greater than the R-table, which is 0.308. This means that the familiarity effect variable with positive and negative statement items when uptrend and downtrend conditions are said to be valid.

Reliability Test

A questionnaire is said to be reliable or reliable if a person's answer to the statement is consistent or stable from time to time. A construct or variable is said to be reliable if it gives a Cronbach alpha value greater than 0.60 (Sugiono, 2007). The greater the value of (α) , the greater the reliability.

Based on the results of the instrument reliability test, it shows that the value of Cronbach's neglect of the gamblers fallacy variable is 0.753, the halo effect is 0.789, the familiarity effect is 0.784, which is greater than 0.60. So it can be concluded that the average instrument above is reliable.

Normality test

Based on the normality test shows that Asymp. Sig (2-tailed) on the gamblers fallacy variable of 0.074 is greater than 0.05. In the halo effect variable, the Asymp value. Sig (2-tailed) of 0.108 is greater than 0.05. The familiarity effect variable is 0.094, which is greater than 0.05, so it can be concluded that of the three variables the data is normally distributed.

Test One Sample t-Test

Table 1: One Sample T-Test

Test Value = 3					
Variable	N	Flat-Flat	Std Deviation	T	Sig (2 tailed)
GF_Uptrend_Positive	41	4.1463	0.82344	8,914	0.000
GF_Uptrend_Negative	41	3.7073	1.26972	3,567	0.001
GF_Downtrend_Positive	41	3.7073	0.92854	4,878	0.000
GF_Downtrend_Negative	41	3.5854	1.24450	3.012	0.004
HE_Uptrend_Positive	41	4.0244	0.75789	8,655	0.000
HE_Uptrend_Negative	41	3.9268	0.64770	9,163	0.000
HE_Downtrend_Positive	41	3.5854	0.97405	3,848	0.000
HE_Downtrend_Negatif	41	3.9268	0.64770	9,163	0.000
FE_Uptrend_Positive	41	4.0244	0.93509	7,015	0.000
FE_Uptrend_Negative	41	3.7805	1.17286	4,261	0.000
FE_Downtrend_Positive	41	3.7561	1.06725	4,536	0.000
FE_Downtrend_Negative	41	3.4634	1.16399	2,549	0.015

Source: Processed SPSS data (2021)

In table 1 it can be seen that the value of sig (2 tailed) is smaller than 0.05. So it can be concluded that there is a difference in the average value of the 12 statements used in the questionnaire capable of showing the outcome as it should be.

Paired t-Test

The test is confirmed by conducting a paired t-test, This test is used to compare statements with positive sentences and negative sentences to see the consistency of respondents in filling out the questionnaire with different sentences.

Table 2: Paired T Test between Positive and Negative Statements When Conditions are Uptrend and Downtrend

Variable	mean	Std Deviation	Average Error	Std T	Sig. (2-tailed)
Pairs 1 GF Uptrend Positive GF Uptrend Negative	0.4390	1.43263	0.22374	1,962	0.057
Pair 2 GF Downtrend Positive GF Uptrend Negative	0.1211	1.45250	0.22684	0.538	0.594
Pair 3 Hey Uptrend Positive Hey Uptrend Positive	0.0976	0.76827	0.11998	0.813	0.421
Pairs 4 He Downtrend Positive He Downtrend Negative	-0.3415	1.10927	0.17324	0.197	0.056
Pair 5 Fe Uptrend Positive Fe Uptrend Negative	0.2439	1.44535	0.22573	1.081	0.286
Pairs 6 Fe Downtrend Positive Fe Downtrend Negative	0.2927	1.32748	0.20732	1,412	0.166

Source: Processed SPSS data (2021)

In table 2 it can be seen that the value of sig. (2-tailed) is greater than 0.05, this means that there is a significant difference between positive and negative statements which indicate that respondents are consistent in answering the statements given.

Finally, a paired t-test was conducted between statements in uptrend and downtrend conditions.

Table 3: Paired T-Test between Uptrend and Downtrend conditions

Variable		mean	Std Deviation	Average Error	Std df	Sig. (2-tailed)
Pairs 1	GF_Uptrend	0.280	0.791	0.124	40	0.029
	GF_downtrend					
Pair 2	HE_Uptrend	0.219	0.462	0.072	40	0.004
	HE_downtrend					
Pair 3	FE_Uptrend	0.292	0.632	0.099	40	0.005
	FE_downtrend					

Source: Processed SPSS data (2021)

Based on the test results can be seen in table 4.3. In pair 1, the value of sig (2-tailed) is less than 0.05, H1 is accepted and H0 is rejected. This means that the gamblers fallacy occurs in making investment decisions in uptrend and downtrend conditions. In pair 2, the value of sig (2-tailed) is less than 0.05, H2 is accepted and H0 is rejected. This means that the halo effect occurs in making investment decisions in uptrend and downtrend conditions. In pair 3, the value of sig (2-tailed) is less than 0.05, H3 is accepted and H0 is rejected. This means that the familiarity effect occurs in making investment decisions in uptrend and downtrend conditions.

Discussion

Gamblers Fallacy

Based on the results of the study, the gamblers fallacy occurs to investors during uptrend and downtrend conditions. There is a difference in decision making when conditions are uptrend and downtrend, gamblers fallacy is greater when conditions are uptrend than when conditions are downtrend. The Gamblers fallacy arises from updating a negative experience. Where investors have a logical concept that shows that stocks that in previous periods experienced a decline in price and even stayed at the same price will most likely experience the opposite event in the future. So this will affect investors in making investment decisions. When making investment decisions, investors are also influenced by external factors, such as capital market conditions (Odean, 1999).

During an uptrend, investors tend to avoid buying stocks that experienced an increase in price in the previous period because investors believe that it is likely that these shares will experience a greater price decline. Likewise, during a downtrend, investors assume that stocks that have previously experienced a price decline are more likely to experience an increase in price.

The results of the study are in line with prospect theory which says that when investors earn profits, investors will tend to avoid risk. On the other hand, when investors lose, they tend to take risks.

The results of this study are supported by research conducted by Hopfensitz (2009) shows that there is a gambler's fallacy on investors during the decision-making process. Research conducted by Amin et al., (2009) shows that investors in Pakistan in their decision making are influenced by the gambler's fallacy. Research results from Anelsa (2019) shows that the gambler's fallacy is greater during uptrend conditions than during downtrend conditions for investors in the Indonesian capital market. Research results from Dian Wijayanti et al., (2019) states that the gambler's fallacy occurs to investors in making investment decisions in uptrend and downtrend conditions in the capital market.

Halo Effect

Based on the results of the study that the halo effect occurs to investors during uptrend and downtrend conditions. There are differences in decision making when conditions are uptrend and downtrend, the halo effect is greater when conditions are uptrend than when conditions are downtrend.

Investors are often interested in buying stocks included in LQ-45 because investors assume that companies included in LQ-45 will generate large returns and certainly have good fundamental values so that it will be more profitable for investors. If reviewed, in fact this is not necessarily the case due to market anomalies that often occur in the capital market. However, the existence of these prominent characteristics makes investors biased in making investment decisions and information asymmetry occurs (Odean, 1999).

The results of this study are in line with prospect theory which says that investors' preferences (tendency to choose) will depend on how an acquisition is framed or formulated. When the possibilities are positively framed, the profit information is highlighted.

The results of this study are supported by research conducted by Ackert & Deaves, (2010) shows that the halo effect occurs when making investment decisions. Research conducted by Dian Wijayanti et al., (2019) shows that the halo effect behavior bias occurs in investors in the city of Malang when conditions are uptrend and downtrend in the capital market. Research conducted by Shi & Wang (2012) shows that investors are influenced by the halo effect behavior bias, causing investors to trade more often during uptrend conditions than during downtrend conditions in the capital market.

Familiarity Effect

Based on the results of research conducted, it shows that investors experience a familiarity effect when conditions are uptrend or downtrend. However, there are differences in decision making when conditions are uptrend and downtrend. The familiarity effect is greater when there is an uptrend than when it is in a downtrend.

People tend to feel more secure when investing in companies that are known before or whose investment products have previously been used (Nofsinger, 2016). according to Coval & Moskowitz (1999) said that investors tend to give greater valuation weight to shares in companies that they work for or previously known brands.

Investors tend to give better weighting to familiar investments. This familiar factor makes investors more likely to believe in familiar or familiar companies and investment products that are considered less risky than other companies.

The results of this study are supported by prospect theory which says that in predicting that a certain risk-free choice will be preferred over an option that still contains risk even though the probability is very small. (Delliana, 2016). This is what makes investors in making decisions tend to behave in ambiguity aversion.

The results of this study are supported by research Sidrah (2018) which shows that the familiarity effect affects investors in making investment decisions and research conducted by Djojopranoto & Mahadwartha (2016) shows that in uptrend and downtrend conditions there is a familiarity effect. Where, the familiarity effect is greater when conditions are uptrend than downtrend.

Conclusion

Gamblers fallacy occurs to investors when conditions are uptrend and downtrend. *Gamblers fallacy* occurs when conditions are uptrend compared to when conditions are downtrend. *halo effect* occurs to investors when conditions are uptrend and downtrend. The halo effect is greater when there is an uptrend than when it is in a downtrend. *Familiarity effect* What happens to investors when conditions are uptrend and downtrend. The familiarity effect is smaller when there is a trend than when it is in a downtrend.

This research has some limitations: (i) The number of samples is limited because there are still few who carry out stock transactions, (ii) research is not grouped by age, gender and trading experience, (iii) this research can only see whether or not there is a behavioral bias in the capital market, so it does not explain what factors cause bias behavior, (iv) this study can only test the perceptions of investors in the capital market, but cannot be adopted for other types of investments outside the capital market.

Suggestion

For future academics and researchers; (I) increase the scope of the number of respondents so that the results obtained will better explain the picture of the actual condition, (ii) adding variables based on gender, experience, ethnicity and sociodemographic of respondents, (iii) conducting experimental and exploratory research so that it can find out what factors can cause bias, (iv) for the Investment Gallery of the Indonesian Stock Exchange Khairun University to develop more literacy related to analysis such as fundamental and technical analysis in making investment decisions.

In making investment decisions, investors must pay attention to more relevant information to produce more rational investment decisions. Investors can pay attention to the fundamental aspects of the company and are also supported by technical analysis to determine the company they want to invest in. The analysis can be seen by paying attention to the company's financial ratios as well as news related to the company's long-term history or news related to the company's corporate actions.

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