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Research on the Ways the Herd Behavior Effect Affecting People's Decision-Making

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Abstract: A few crazy things happened in the stock market; it is interesting to start research on Herd Behavior through an experiment that was done by the author at Rutgers University. After 120 Rutgers students' help, author was able to prove that Herd Behavior occurred because of the social pressure from other people and the lack of the knowledge of from the person and it is important to figured out how can Herd Behavior impact people's decision-making process, so we can diminishing the Herd Behavior effect when we are making the decision.

Keywords: Herd Behavior, ASCH Conformity Experiment, Group Reference Effect, Non-Probability Sampling, Capital Market.

1. Introduction

After a huge shrinkage in the stock markets at the beginning of the year 2020 because of the coronavirus, tremendous growth in the stock market after that. Until December 2021, S&P 500 index has been growing from 2304 to 4766 which is double what it was at beginning of the year 2020. During the past one and half years, WallStreetBets is an unforgettable memory in the Stock market, a group of people rushed into the stock market, and just irrationally raise prices of stocks such as GameStop, AMC, and others[3]. As more and more people gather on Reddit, an increasing amount of people rushed into the stocks to raise its price. GameStop's stock price is from 19 dollars fly to 483 dollars in just three days. AMC's stock price is also from 12 dollars to 60 dollars in 5 days. Those numbers are just incredible to any person who have some kind of knowledge of finance. During the rapid growth of the stock period, many people in the stock market do not know what is going on, and they were buying GME, and AMC stocks just like other hot stocks, which further pushed the stock price to go higher. It is reasonable for me to spend my time and have close research about Herd Behavior in our financial world because it is a behavior that we constantly see in our financial world, especially in the stock market, and by understanding Herd Behavior we could learn about what is the internal emotion in every individual investor when they are making decisions. Learning Herd Behavior could help us to realize the existence of this kind of behavior in our world, so we should include this behavior in our analysis before we make any of our decision, then we can provide a more accurate decision in our investment.

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2. Meaning of Herd Behavior

It is true that some people also call it "The Effect of the Sheep Flock". Herd Behavior states the behavior of individuals acting things collectively the same without planning. Herd Behavior always occurs in animals such as herds, fish schools, bird flocks, and so on. Therefore, it is not surprising that it can also happen to human beings[E7].

3. Herd Behavior in Capital Market

In the capital market, Herd Behavior is a single individual investor will take action based on another similar investor's actions. When other investors buy the stock, they will also buy. When other investors sell the stock, they will also sell[E2]. The reason why Herd Behavior happens in the capital market is that some investors believe that other investors would have more information advantage and make the decision just like they do could achieve the best outcome[E2]. Therefore, we always see hot stocks' prices grow higher and higher, and when there is a drop in the price, we see a huge drop. People sell fast when they see other people selling the stock.

4. Herd Behavior's Existence-ASCH Conformity Experiment

There is a very famous and classic experiment that talks about Herd Behavior called the ASCH Conformity Experiment[E1]. This Conformity Experiment is done by Solomon Asch, and he is looking at the extent to which social pressure from a large group of people could impact individuals' willingness to conform. Solomon Asch is using a line judgment task in this experiment, which means there will be one target line and three different lengths of comparison lines. One comparison line (Line A) will be shorter than the target line, another comparison line (Line B) will be longer than the target line and the rest comparison line (Line C) will be the same length as the target line (see Figure 1, Asch's experiment).

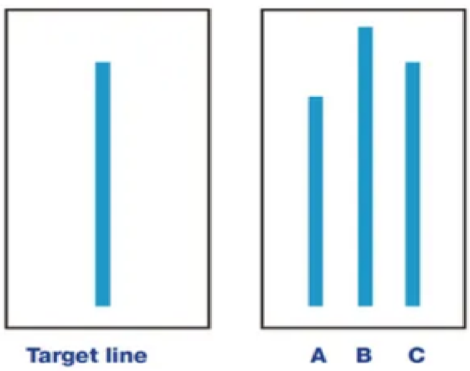

Figure 1: Asch's experiment.

The participant's job is to find which comparison line is the same length as the target line. It seems like a very easy judgment, and people always know the correct answer. During the experiment, there are eight total participants but only one of them is a real participant and the rest of the seven people are confederates. Confederates had agreed in advance about what answer they would choose during the experiment, and the only innocent participant did not know that[E1].

When the experiment begins, every one of the participants is required to speak out loud of their answer whether they choose lines A, B, or C. The real participant is always one of the last few people to give their answer, so Solomon Asch is interested in seeing the response of the real participant's

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answer after he/she sees the confederates' wrong answer. There are 18 trials in total, and 12 of them are confederates who give the wrong answer. The result is that 32% of the real participants decide to give the wrong answer as the majority of other people do. The innocent participants conform with the majority of people even though they have different answers. Solomon Asch also has a control group, and in the control group the participants were giving their answers on their own without seeing other people's answers, and the result was less than 1% of the participants gave their answers incorrectly. Solomon Asch's experiment shows the existence of Herd Behavior in human beings, and we see how other people influence other people's decision-making[E1].

5. Reason Herd Behavior Happened

So why did Herd Behavior happen? Why do so many people choose the wrong answer when they know they have the correct answer? After the experiment done by Solomon Asch, the real innocent participant gets an interview about their decision-making process. Most of them said they are fearful of being a different person from other people because they do not want people to laugh at them, so going along with the majority of people is a very safe plan to do so. Only a very small number of the real participants believed that confederates were giving the correct answers, so they conformed.

Based on Solomon Asch's experiment, social pressure from a bigger group influences people's decision making and that is one of the reasons that Herd Behavior occurred[E1].

6. Group Reference Effect

Beyond this reason occurring Herd Behavior, lack of information is also a very important part of people's conformity[E4].

Group Reference Effect means when individuals believe that they do not have all the information that they need to make their decision, they will often choose to follow the big group because that could help them to realize the true world. When they cannot make their best decision on their own, following other people's decisions could be the best option to do[E4].

Therefore, having a full understanding of one thing in a safe environment, which means people will not have any pressure from other people when they are making the decision could prevent the occurrence of Herd Behavior.

An experiment that the author executed to investigate people's decision-making processes for things that are simple and easy to understand. This experiment aims to prove that Herd Behavior will not happen if people fully understand their decision-making. The experiment has two parts, and the first part of the experiment is doing an online survey that author created, and it is a very simple question. "Right now, you have a chance to flip the coin, and if you guess it correctly, you can win 15 dollars, but if you are wrong then you will lose 15 dollars" The question is really simple, but this research has two groups for this experiment, group A and group B. Group A and B are supposed to be identical, and the only difference is Group B knows the result from Group A before their decision making. For example, if 40% of the people from group A choose to play this coin flip game and 60% will not, then this research will tell group B that 60% of the people from group A do not want to play this game, rather 40% of the people will play this coin flip game, and it is interesting to see how that number could impact the people in group B to make their decisions. It can be predicted that it will not have a big fluctuation from Group B, because it is a really easy game, and people should have no problem understanding it. Also, the decisions that they are making are not right or wrong questions, and everyone is answering the question on their own. There is no pressure from other people, and people should be able to make decisions based on their thinking.

Non-probability sampling is the method that this experiment used during the sample selection. All samples are selected from the Rutgers student's contact list. Contacts are ordered by alphabetic, so

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the last name starting with A will be the first student in the contact. Group A is the first half of the students from the contacts, and Group B is the second half of the students from the contacts. 120 samples have participated in the experiment. There are 60 in Group A, and 60 in Group B. After the first experiment with group A, the result is that 47 participants are willing to pay 15 dollars to play the game, which is 78.33% of the total samples, and the remaining 13 participants, which is 21.67% of the total samples, will not play the game. Before group B students took this experiment, it was said that 78.33% of the students from group A chose not to play this game and 21.67% of the students chose to play this game which is not true based on the result from group A. However, the result from group B is incredible. 47 participants are willing to pay 15 dollars to play the game which is 78.33%, and 21.67% of the students choose to not play the game. Even though there is a piece of fake information before the group B students make their decision, the outcome is still the same, which is incredible. Therefore, when people have a full understanding of one thing, and they do not have the pressure from other people when they could make their decision individually, Herd Behavior is unlikely to happen [6].

7. Conclusion

In conclusion, it is important to have a good understanding of Herd Behavior, because by understand Herd Behavior help us to find the key things that impact our decision when we are not realized. Through our experiment we know that social pressure from a large group of people could impact individuals' willingness to conform. Herd Behavior happened when we do not have enough information to make the decision and when we have the pressures from other people that will force us to conform, so we need to realize those two points when we are making our decision. In our capital market, big investment companies will constantly share their thoughts through social media, televisions, and so on. When they are selling stock they will share their idea everywhere, and some people will start to panic, they believe they do not have as much information as the big investment companies, so they do what those companies do. Those investment companies sell stocks, they sell. However, in the end, they will not do well, because only the very first few people who do that will become successful, the rest of them are just Herd Behavior. Gathering all the information that we have and having our understanding of things is the only way that could help us to become successful[5]. That way could help us to make the best and the most accurate decision. There are a few things in the experiment that are not doing well, the first thing is the author does not have an experiment to prove that group A and group B are identical and also the author's samples are only from Rutgers University, so it is hard to represent everybody. For the future research, the author will find out more interesting topics from the finance world. Topics that are related to behavioral finance, and the author will work more on it.

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