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EXAMINING THE CONTRIBUTION OF INTERNAL FACTORS OF AN INVESTOR IN DRIVING THE INVESTMENT DECISION

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ABSTRACT

The purpose of this study is to investigate the impact of internal psychological factors driving on investor's investment decision making. The internal psychological factors of investor discussed as the research objects are financial literacy, loss aversion, and overconfidence. Data were collected from questionnaires and fulfilled by investors registered at securities companies in Central Java, Indonesia. Applying multiple regression approach, the results suggest that investor's financial literacy drives positively in making investment decision; investor's loss aversion drives negatively in making investment decision, and investor's overconfidence does not drive in making investment decision. As the implication, market participants should consider financial behavior of investors in observing stock price movement to achieve higher stock returns. Moreover, stock exchange institutions should include the internal psychological factors of investor in formulating their policy to enhance stock market development.

KEYWORDS: ***investment decision, financial literacy, loss aversion, overconfidence.***

INTRODUCTION

According to conventional financial theory, investors are very rational in their financial decision. However, the reality shows that not all investors are rational, there are some instinct or psychological factors that also influence the financial decision in investing on stock exchange. When investors face a risky situation, there are several subjectivity, emotion, and other psychological factors that could influence their decision making. Decision dominated by psychological factors would certainly lead to more biased decision because emotional factors in a person are more influential than consideration of risk factors from an investment.

Traditional financial theory assumes that investors always act rationally in their investment decision. This is contrary to real actions of investor so that it emerges a science called as behavioral finance which the purpose is to learn and predict the systematic implications of financial markets from a psychological perspective. It attempts to explain things that mostly could not be explained in traditional financial theory where investors are not always rational in making every investment decision because it is influenced by various psychological factors (Ricciardi & Simon, 2000).

The development of Indonesia capital market as an alternative investment is growing rapidly, especially after the government intensively decides various policies and regulations on financial and banking sector. Figure 1 informs that PT Indonesian Custodian Securities (KSEI) has recorded a significant growth in the number of Single Investor Identification (SID) from year to year. In 2014, there were 364,465 SID and it grows to 434,107 SID in 2015. Furthermore there was an increase significantly to a number of 894,116 SID in 2016, number of 1,122,668 SID in 2017, and until December 26th, 2018 it grew to 1,617,367 SID (www.ksei.co.id, 2019).

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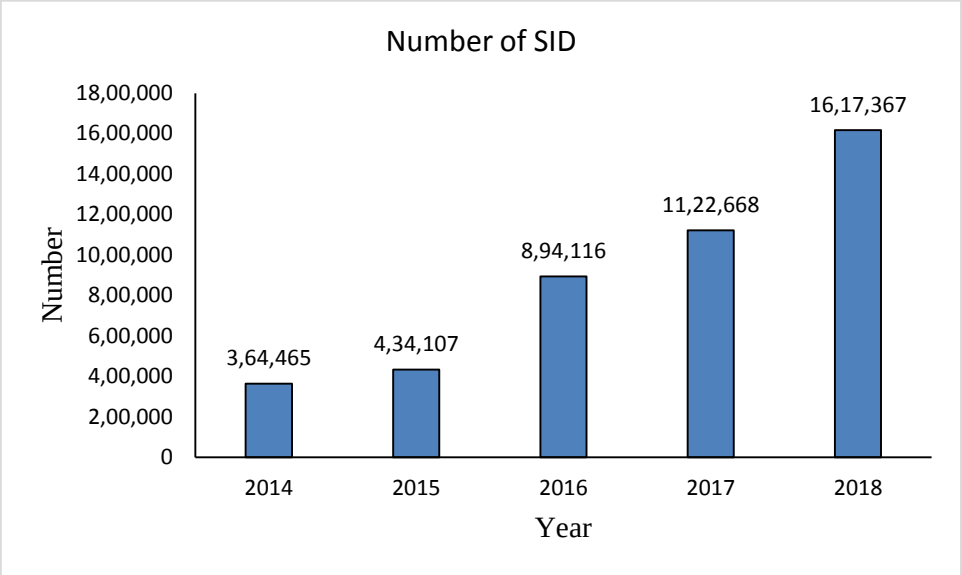

Figure 1. Development of Number of Single Investor Identification (SID) in Indonesia Stock Exchange during 2014 to 2018.

Investment decision according to Asri (2015:220) is a decision to invest a number of funds in an asset with the hope of obtaining certain returns with a willingness to bear certain risks as well. Not only are rational attitudes showed by the investors, but there are also several emotional factors in investors that can influence the investment decision making. One factor influencing on investment decision according to Aren and Zengin (2016) is the level of financial literacy of investors. Financial literacy is a knowledge about fundamental financial concepts such as compound interest, distinguish of nominal and real values, basic knowledge of risk diversification, and time value of money (Lusardi & Mitchell, 2008). Furthermore, Oteng (2019) and Abdeldayem (2016) provide evidence that financial literacy has a positive effect on individual investment decision. This research implies that investors classified in a higher financial literacy group have a higher level of awareness for several financial products including stock. It could help the investors to make a rational decision with all of their financial resources. The higher the financial literacy they hold, the higher the investment decision they make.

Another factor that could influence investment decision is loss aversion bias which was being introduced first on prospect theory by Kahneman & Tversky (1979). The aim of prospect theory is to describe how an individual makes a decision when there is an uncertainty condition on the consequence of his choice. Pompian (2012:38) illustrates that in prospect theory, loss aversion occurs when someone tends to prefer to avoid losses rather than achieve a certain profit. Manuel & Mathew (2017) and Areiqat et al. (2019) reveal that loss aversion could have a negative effect on investment decision. Investors affected by loss aversion bias tend to prefer to maintain an asset that is detrimental for too long and they sell their assets too early because of their fear that their profits would decrease unless they sell the assets. This behavior has serious negative consequence on the investment portfolio return and so that it causes a lower number of investment decision.

The third factor that could influence investment decision is overconfidence behaviour. Overconfidence is one aspect of emotional bias that affects a person in making investment decision. Emotional bias is related to .how people feel in making decisions rather than how they think. Overconfidence occurs when an individual tends to feel that his condition is better than the real because of too higher confidence he feels (Baker dan Nofsinger, 2002). Gill et al. (2018) work a research on Lahore Stock Exchange and conclude that overconfidence has a positive effect on investor's investment decision. This shows that investors feel very confident in their experience and ability in choosing investment assets because they believe that the result would be in line with the expectation. Investors who are too confident will utilize the superior ability they feel to get a large return. Thus, investors who are too confident will often trade and they underestimate the risk (Baker and Nofsinger, 2002).

Decision making that is only based on irrational considerations will also generate irrational returns. According to the data, the number of investment on the stock exchange by investors in Banyumas District in the last five years has shown a drastic decline. Therefore, we are interested to discuss the topic of behavioral finance and investigate investment decision making of investors. The purpose of this study is to investigate the impact of financial literacy, loss aversion, and overconfidence to investment decision made by investors in Banyumas Distric, Indonesia.

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LITERATURE REVIEW

Behavioral Finance. As the development of financial science until now, new theories emerge in the field of finance, especially in investment theory. One of the theory that develops is the theory of economics psychology which is emerged based when researchers and academics began to intensively observe the behavior of investors that occurs in the capital market. According to conventional financial theory, investors are very rational in their financial decision making process. But in fact, existing research and literature state that investors are not always rational in their decision making. Therefore, based on this discrepance, a new science emerges which called as a behavioral finance.

Behavioral finance received its first international recognition after Daniel Kahneman and Vernon Smith won the Nobel Prize of economics in 2002 for their dedication over the years to develop a field that is considered a perfect harmony between the science of psychology that studies human psychological behavior with financial science which mostly uses mathematical calculations and statistics. It is a new advance in economic research to be able to explore and understand how a feeling or emotion can affect individual decision making in general, especially in conditions that contain risks and uncertainties.

According to Shefrin and Statman (2000) behavioral finance is a study that learns how individual psychological phenomena can influence its financial behavior. Ricciardi & Simon (2000) argues that behavioral finance explains and enhances understanding of how investors' reasoning patterns, especially the emotional patterns involved, and explains how far that factor influences an investment decision. Furthermore, Pompian (2006:9) divides behavioral finance into two parts, namely: macro behavioral finance which explains anomalies on the financial markets behavior in a broad scope that the patterns of volatility can be explained by behavioral models and micro behavioral finance which describes the psychological (irrational) bias behavior of individual investor as opposed to rational behavior assumed by traditional (classical) economic theory, portfolio theory and efficient market theory.

Prospect Theory. Kahneman and Tversky (1979) develop the prospect theory as a more accurate description of psychological factors in decision making. The theory states that individuals are not always consistent and rational in assessing and choosing alternative decision. According to prospect theory, people tend to give smaller values (underweight) to outcomes that are possible to occur compared to outcomes that are certain to occur and tend to give more value to losses than gains.

Prospect theory is basically a theory that explains how a decision that an investor will take is seen from the view of the risk regarding to his behavior towards risk. The decision making process is carried out in two stages. In the first stage, the results obtained from a decision are sorted by certain criteria and a certain number as the reference point is specified. If the results obtained are smaller than the point then it will be considered as a loss, whereas if the results obtained exceed the point then it will be considered as a profit (Asri, 2015).

Financial Literacy. According to Lusardi & Mitchell (2007), financial literacy is defined as financial knowledge that has the goal of achieving prosperity. Financial literacy is a set of skill and knowledge that influences an individual to make effective decision with all financial resources they have. According to the financial services authority, a person's level of financial literacy is classified into four types, namely: a). Well literate. At this stage, individuals have knowledge and beliefs about financial services institutions and financial services and products, including features, benefits and risks, rights and obligations related to financial products and services, and have skills in using financial products and services, b). Sufficient literate. At this stage, individuals have knowledge and beliefs about financial services institutions and financial services and products, including features, benefits and risks, rights and obligations related to financial products and services, c). Less literate. At this stage, individuals only have knowledge of financial services institutions and financial products and services, d). Not iterate. At this stage, individuals do not have knowledge and beliefs about financial services institutions and financial services and products, and do not have skills in using financial products and services.

The financial literacy aspect according to Chen and Volpe (2002) is divided into four parts, namely: a). General personal finance knowledge. It is a science of the basis of personal finance owned by each individual in general. General knowledge about finance is based on several things such as an understanding of the level of exchange rate changes and inflation, b). Saving and borrowing. Saving is an activity to raise, collect or find funds (money) from the wider community. Borrowing is one of the tasks of banks, namely channeling funds to the public in the form of loans or credit, c). Insurance. It is a guarantee given by the guarantor (insurance company) to the insured (customer) for handling the risk of loss as stipulated in the agreement (policy) in the event of a natural disaster, loss, damage, etc. or regarding loss of life (death) or other accident, instead the insured (customer) is required to pay a premium equal to the policy agreement each month, d). Investment. It is a commitment to a number of funds or other resources made at this time, with the aim of obtaining a number of benefits for the future.

Loss Aversion. One bias that occurs according to prospect theory is the loss aversion bias behavior. The concept of loss aversion states that getting a loss will have a far greater valuation than when getting a profit

from the same item. Pompian (2012:191) illustrates that in prospect theory, loss aversion occurs when people tend to avoid losses rather than achieve gains. Loss aversion makes people hold their losses longer even if an investment has little or no chance of return. Investors can hold investments in losses for longer than is justified by fundamental analysis. This confirms a consistent argument about prospect theory, that is, people do not always behave rationally in making a decision.

Kahneman and Tversky (1979) specifically revealed the inconsistency of human behavior towards risk in order to gain benefits and behavior when facing the risk of loss. People tend to behave in risk aversion when offered to get more benefits, and prefer definite benefits over benefits uncertain. The indicator used in the loss aversion bias variable is referring to research conducted by Waweru et al. (2008): a). When investors get a definite profit, they tend to avoid risk, and b). When they face a definite loss, they tend take risk.

Overconfidence. Pompian (2006:83) defines overconfidence as a belief that not based on intuition, adjustment, or cognitive ability. Overconfidence causes someone to overestimate their knowledge and underestimate the risk and overestimate their ability to exercise control over what happens (Nofsinger, 2005). According to Asri (2015:144) there are two causes of overconfidence in investors. First, the experience factor that investors have, which makes them more confident in their ability because it has been tested many times. Over time, excessive self-confidence will form and accumulate into behavior in dealing with the same problem. The second factor is the lack of understanding of investors about the problems they face, or even in fact they do not have the proper and relevant capabilities to deal with the problems. But they were not aware of the limitations they had, so the decision they made became irrational.

In general, investors who are prone to overconfidence bias are investors with male characteristics, young age, low income, and low portfolio level (Tekce and Yilmaz, 2015). Overconfidence can make investors tend to follow stock trading strategies in the past in the hope that they will get the same gain in the future so that they will continue to increase his trading volume. Investors who hold an overconfidence attitude have a high confidence that they will get a large return, so they tend to be blind to risk, even though the benefits cannot be guaranteed and will not necessarily be the case because they can miss estimates.

The mistakes that usually arise as a result of overconfidence behavior in relation to investments in the financial market according to Pompian (2006:54), namely: a). Overconfidence causes investors to do excessive trading (excessive transactions) as an effect of the assumption that they have special knowledge that they actually do not have, b). Overconfidence causes investors tend to overestimate their ability to invest, c). Overconfidence causes investors tend to underestimate the risk of an asset and tend to ignore risk, d). Overconfidence causes investors tend to do not diversify their investment portfolios properly. The indicators used for overconfidence variable are referring to research conducted by Jannah and Ady (2017), namely: a). Confident in the capabilities and knowledge possessed, b). Can predict future events, c). The risks posed are not very significant, d). Very confident to get a big profit, e). Very confident to make the investment choices.

Investment Decision. According to Asri (2015: 220) an investment decision is a decision to invest a number of funds in an asset with the hope of obtaining certain returns, with a willingness to bear certain risks as well. Investment decision is an important factor for investors because they take part in determining the success or failure of an investment in order to produce the expected returns.

The basis in making investment decision according to Tandelilin (2010:9), are: a). Return. The main reason someone invests is that one day he will get a return or a profit. Investors' expected returns are the compensation for opportunity costs and the risk of decreasing purchasing power due to the influence of inflation, b). Risk. Rational investors in making an investment decision certainly not only focus on the return, but also take into account the level of risk that will be faced. The direct correlation between return and risk is the higher the rate of return, the higher the risk borne, c). Time. The timeframe plays an important role in investing because it relates to the initial purpose for what someone is investing. Investors allocate their capital in the short term, medium term, or long term. The choice of investment period is actually a matter that shows the expectations of investors. Investors are expected to be able to measure the time period that can meet the expectations of the consideration of return and risk. Based on the explanation, investment decision indicators used in this study are return, risk, and time factors.

HYPOTHESIS DEVELOPMENT

1. Effect of financial literacy on investment decision

Lusardi dan Mitchell (2008) argue that low financial knowledge has an impact on weak financial planning in the future. While, ignorance of basic financial concepts can cause a person's low investment interest. The higher the level of financial knowledge (financial literacy) an individual has, the wiser he will be in determining his investment decisions.

Any decision made by an investor based on misinformation or based on poorly analyzed information can lead to imperfect returns. Making a good investment is a challenge for people who lack of knowledge and experience in investing. Severe losses may be the result of making inappropriate decisions because investment is

always associated with risk. One of the ways that investors can minimize existing risks is to increase their financial literacy (Awais et al., 2016).

Research conducted by Aren and Zengin (2016) found that financial literacy has a positive effect on investment decision. When the level of financial literacy is low, then investors tend to choose low-risk assets with stagnant returns, such as deposits. It's different when the investors have a high level of financial literacy, they tend to diversify their assets in a portfolio and buy equity asset or stock. The similar results were found by Oteng (2019) in Ghana capital market and Abdeldayem (2016) in the Kingdom of Bahrain.

Financial literacy is one of the important and vital attitudes in making risky investment decision. The level of financial literacy possessed by each investor certainly varies according to the background of each individual. Investors belonging to a high financial literacy group will have a higher level of awareness for all financial products and investment assets, and can help to make rational decision with all financial resources they have. The higher the level of financial literacy of the investor, the better he will manage the risk of investment assets. By diversifying the assets, the higher the frequency of investment decision made will produce high returns as well.

H_1: Financial literacy has a positive effect on investment decision.

2. Effect of loss aversion on investment decision

Gachter et al. (2007:2) states that loss aversion is a psychological tendency of investors who feel that losses appear to be greater than profits with relatively the same reference point. Kahneman and Tversky (1979) developed prospect theory as an accurate theory of economic psychology in the decision-making process. Prospect theory describes human decision-making in uncertain situations. This theory assumes that humans can be irrational in their investment decisions, and losses have a greater emotional effect than gains, even if the end result is no different.

Research from Manuel & Mathew (2017) finds that loss aversion has a negative effect on investment decision. In addition, Alquraan et al. (2016) find similar result in Saudi Stock Exchange. Moreover, Areiqat et al. (2019) state that the higher the level of loss aversion that an investor has on the Amman Stock Exchange, then he will focus more on the risk of an asset than the level of return that an asset can produce. Investor who embraces loss aversion attitude tends to survive with stagnant asset profit rather than to buy other assets with greater profit opportunities.

Research conducted by Rekik and Boujelbene (2013) states that loss aversion has a negative effect on investment decision. Where investors in Tunisia who experience loss aversion will be reluctant to separate from their assets whose value is less than market prices even if the decline in value clearly reflects the condition of assets that continue to deteriorate. This bias reflects the idea that losing the amount of value has a more important effect on investors than the positive effect of getting a profit in the same decision.

Loss aversion is a behavioral bias found in an investment decision making which can lead to inefficient investment returns. The higher the level of loss aversion that an investor has, the more he will look at risk excessively so he will avoid the opportunity to get a higher return from a particular asset. The more he avoids the risk of loss of an asset, the lower the number of investment decision made.

H_2: Loss aversion has a negative effect on investment decision.

3. Effect of overconfidence on investment decision

Overconfidence is one of the behavioral biases in investment decision making that tends to result in not maximum investment returns. Investors who embrace overconfidence are very confident in their own abilities that they will get a high return and tend to override the existing risk, even though this cannot be guaranteed and may not necessarily happen because it may miss expectations. The cause of overconfidence is excessive self-confidence which assumes that the information obtained can be put to good use because a person considers himself to have accurate and precise analytical skills. However, this is actually an illusion of knowledge and ability due to several reasons such as lack of experience and limited expertise in interpreting information (Baker and Nofsinger, 2002).

Alquraan et al. (2016) found an evidence in Saudi Stock Exchange that investor's overconfidence has a positive effect on investment decision. This evidence is similar with the result from Areiqat et al. (2019) on Amman Stock Exchange. This shows that the investors in the research overestimate their abilities and knowledge so that they will continue to increase their trading volume. The research also implies that investors also believe that they are able to predict market volatility and assume they will get a large return on their investment.

In line with research conducted by Gill et al. (2018) who states that overconfidence has a positive influence on investors' investment decision on the Lahore Stock Exchange of Pakistan. It means the higher the level of investor overconfidence will lead to excessive trading that reduces market efficiency because they do

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not focus on risk in investing in the right way, instead they only care about the high returns generated and do not pay attention to market realism.

Overconfidence makes investors tend to follow stock trading strategies in the past with the assumption that they will get the same gain in the future so they will continue to increase their trading volume. Overconfidence causes investors to over-trade as an effect of the belief that they have special knowledge that they don't really have. This means that the higher the level of investor overconfidence, the higher the investment decision made but the result in a return is not optimal as well.

H_3: Overconfidence has a positive effect on investment decision.

DATA AND METHOD

This research was conducted at various securities in Purwokerto as the location to collect the data from investors. The data collection technique is questionnaire which was contained the level of financial literacy, loss aversion attitudes and overconfidence of investors in making investment decision on shares. The questionnaire was distributed to investors who actively trade shares domiciled in Purwokerto. It uses a Likert scale calculation in which the respondent is allowed to choose one answer from several answer choices.

The population in this study are stock investors who are domiciled in Purwokerto, namely students, the public, securities employees, and so on. To determine the sample in this study, we use purposive sampling method based on certain considerations. The criteria for respondents as the sample used in this study are: a). Investors who are at least 17 years old, b). Investors domiciled in Purwokerto City who actively trade shares in various securities companies, c). Investors who purchase at least 2 lots of shares every month.

Because the exact number of the population is not known, the sampling is done using the estimated interval formula.

$$n = \left(\frac{z^2\, a/2}{4e^2}\right)$$

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{4(0.10)^2} = 96.04$$

After calculating the estimated interval, the minimum number of samples is 96.04. Since we considered that the rate of the questionnaires being completely re-filled is 90%, we added 10 questionnaires to avoid incomplete or defective questionnaires. The addition of 10 questionnaires was based on an error rate of 10% (0.1 x 96 = 9.6) respondents which were then rounded up to 10 respondents. Thus the questionnaires that will be distributed in this study are 106 questionnaires.

To determine the significance of the effect of each independent variable on the dependent variable, we used multiple regression test. Multiple regression analysis is an analytical technique that aims to examine how the effect of changes in one independent variable on the dependent variable. The following is the multiple regression equation used in this study.

$$ID = \alpha + \beta_1 FL + \beta_2 LA + \beta_3 OC + \varepsilon$$

Where:

ID : Investment Decision
FL : Financial Literacy
LA : Loss Aversion
OC : Overconfidence
β_i : Regression Coefficients
ε : Error Term

RESULTS AND DISCUSSION

In distributing the questionnaires, we used two methods, namely direct and indirect questionnaires. For directly method, we visited investment galleries and securities companies in Purwokerto and met face-to-face with respondents. Meanwhile, for indirectly method, we used internet media through google forms which could be filled out online by respondents. The total number of respondents who have filled out the questionnaire is 129 people. However, respondents who meet the research criteria have been obtained as many as 96 people based on the results of the calculation of the estimated interval formula. The following are the characteristics of the 96 respondents as the sample of this study.

Description of Respondents by Gender. Most of the respondents in this study were male with a total of 62 people or 64.58 percent of the total sample. Furthermore, for the female sample, 34 people or 35.42 percent of the total sample were obtained. We think it is natural that there are more male investors because of a basic

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assumption that men are the heads of families so they must understand the importance of an investment, where they must ensure the welfare of their families.

Description of Respondents by Occupation. The data shows that most of the respondents in this study worked as private employees with a total of 34 people, as many as 21 people as self-employed professionals, as many as 18 civil servants/BUMN professions, 16 students in other occupations, and 7 people in other occupations. We think it makes sense if there are more active stock investors in individuals who already have jobs and income because the funds for investing in stocks are more secure than students who mostly still rely on monthly income from their parents.

Description of Respondents by Age. Active stock investors in this study were dominated by the age range of 26 to 35 years with a total of 41 individuals, the age range of 36-45 years with a total of 29 individuals, the age range of 17-25 years with a total of 22 individuals and an age range of > 45 years with a total of 4 individual. According to this study, the largest number of active stock investors in Purwokerto are aged 26-35 years. One of the reasons is because they have more experience and a broader view of the importance of an investment. In addition, most investors at that age already have a definite monthly income.

Description of Respondents by Income. The majority of active stock investors in Purwokerto have an income of Rp. 3,000,000 – Rp. 5,000,000 with a total of 35 individuals, income range of Rp. 1.000.000 – Rp. 3,000,000 totaling 30 individuals, income range of Rp. 5,000,000 – Rp. 10,000,000 totaling 16 individuals, income range of less than Rp. 1,000,000 totaling 8 individuals, and income range of more than Rp. 10,000,000 with a total of 7 individuals.

Description of Respondents by Length of Investing. The observation result shows that most of the active investors have invested in stocks for a period of 2-5 years with a total of 44 individuals and 39 individuals in less than 1 year. In addition, the investors who have invested in stocks for more than 5 years are 13 individuals. This means that active investors in Purwokerto have, on average, invested in stocks for 2–5 years. Thus, most of the respondents on average already have sufficient experience in investing in stocks.

Description of Respondents by Return Target. The observation result shows that most of the active investors in Purwokerto tend to invest for the medium term, ie 2-5 years with a total of 46 individuals. For investors who invest for long-term returns, there are 27 individuals, and investors who invest for short-term returns, which are at least 1 year with the lowest number, are 23 individuals. This observation implies that most of the active investors in Purwokerto invest for medium-term returns, which are 2–5 years. This return target has a different timeframe according to the initial goals of each investor.

Respondents' Answers Distribution. The investment decision variable consists of three indicators which are described in five statements. The distribution of respondents' answers for investment decision variable was shown in table 1.

Table 1. Answers Distribution for Investment Decision

Statement Number	Frequency					Mode	Index	Category
	1	2	3	4	5			
1	0	0	0	48	48	4 and 5	90.00	High
2	0	0	12	52	32	4	84.17	High
3	0	0	10	65	21	4	82.29	High
4	0	0	2	63	31	4	86.04	High
5	0	2	23	62	9	4	76.25	High
Average						4	83.75	

The results of the index calculation in table 1 show that the respondents' answers are in the high category, which is 83.75 percent. This shows that the majority of stock investors have understood the basics of investing in stocks, for example in terms of the returns to be received and the risks to be borne.

The largest index is located on statement item number 1, which is 90.00 with the form of the statement "I realize that the risk of stock investment cannot be eliminated, but can be managed". This means that most of the respondents have understood that the risk of investing in stocks cannot be eliminated, even every type of investment will never be free from risk. Respondents have realized that the risk in stocks can be managed in order to minimize the chance of losses that will occur.

The financial literacy variable consists of four indicators which are described in four statements. The distribution of respondents' answers to the financial literacy variable is described in table 2.

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Table 2. Answers Distribution for Financial Literacy

Statement Number	Frequency					Mode	Index	Category
	1	2	3	4	5			
1	0	3	17	50	26	4	80.63	High
2	0	6	22	62	6	4	74.17	High
3	0	5	42	40	9	3	71.04	Medium
4	0	0	3	58	35	4	86.67	High
Average						4	78.13	

The results of the index calculation in table 2 show that the respondents' answers are in the high category, which is 78.13 percent. This shows that investors have used their financial knowledge in making decisions to sell or buy a stock, and most of them have a good level of financial literacy.

The largest index is in statement item number 4, which is 86.67 in the form of the statement "I know that stocks have a high risk, so I diversify stock assets in order to minimize that risk". This implies that investors in Purwokerto have understood one way to reduce the fluctuating risk of shares, namely by diversifying their shares which will reduce the risk of losses incurred.

The loss aversion variable consists of two indicators which are described in four statements. The distribution of respondents' answers to the loss aversion variable is described in table 3.

Table 3. Answers Distribution for Loss Aversion

Statement Number	Frequency					Mode	Index	Category
	1	**2**	**3**	**4**	**5**			
1	4	41	24	21	6	2	56.67	Medium
2	11	47	6	22	10	2	54.37	Medium
3	5	25	22	29	15	4	65.00	Medium
4	0	21	13	46	16	4	71.87	Medium
Average							61.98	

The results of the index calculation in table 3 show that the respondents' answers are in the medium category, which is 61.98 percent. The highest index is in statement item number 4, which is 71.87 with the statement "You will hold back from selling shares even though the issuer's fundamental condition tends to show bad conditions continuously". Most of the respondents chose the option to disagree with statement number 4, so it can be assumed that when the issuer's fundamental condition tends to show a continuous bad condition, the majority of stock investors will sell their shares.

The overconfidence variable consists of five indicators which are described in five statements. The distribution of respondents' answers to the overconfidence variable is described in table 4.

Table 4. Answers Distribution for Overconfidence

Statement Number	Frequency					Mode	Index	Category
	1	**2**	**3**	**4**	**5**			
1	4	15	38	31	8	3	65.00	Medium
2	4	40	31	21	0	2	54.37	Medium
3	0	39	20	32	5	2	60.62	Medium
4	0	40	26	24	6	2	59.17	Medium
5	1	14	28	45	8	4	69.37	Medium
Average						2	61.71	

The results of the index calculation in table 4 show that the respondents' answers are in the medium category, which is 61.71 percent. The highest index is found in statement number 5 which shows "I am very confident in the stock investment decisions I make and the available market information does not really influence my decisions". The majority of respondents chose the answer to disagree. This means that market information is one of the important factors influencing the investment decisions of active stock investors in Purwokerto.

To test the validity level of the questionnaire in this study, the product moment correlation method was used. The result of the questionnaire validity test shows that the values of product moment correlation (r statistic) for all variables appear greater than the value of r table = 0.374. This suggests that all statement items

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for all indicators in this study are valid. The method used to test the reliability of the questionnaire in this study is Cronbach alpha. The result of the questionnaire reliability test suggests that the reliability coefficients of the investment decision variables, financial literacy, loss aversion, and overconfidence are greater than r table = 0.374. This suggests that all statement items in each variable of this study are reliable.

According to result of multiple regression analysis, the output was obtained as shown in table 5. The regression equation can be expressed as follows:

$$ID = 13.713 + 0.456\ FL - 0.110\ LA + 0.094\ OC$$

The coefficient of determination was used to determine how much influence financial literacy, loss aversion, and overconfidence have on investment decisions. Based on the regression output in table 5, it can be seen that the value of adjusted R square (coefficient of determination) is 0.307 or 30.7 percent. This means that 30.7 percent of the variation of changes in investment decision variables in this study can be explained by financial literacy, loss aversion and overconfidence variables. While the other 69.3 percent could be influenced by other variables that are not examined in this study such as herding behavior, anchoring bias, and risk perception.

Table 5. Multiple Regression Estimate

No.	Variable	Coefficient	P-value
1.	Financial Literacy	0.456	0.000
2.	Loss Aversion	-0.110	0.014
3.	Overconfidence	0.094	0.057

Constant = 13.713
Adjusted R^2 = 0.307
F_{Stat} = 14.997
Sig F = 0.000

The effect of financial literacy on investment decision. Based on the result of statistical test, it can be concluded that the financial literacy variable has a positive effect on investment decision. This indicates that the higher the level of investor financial literacy, the better the decision to sell or buy shares made. This means that the better the stock investment decision is made, the higher the return obtained.

Based on the survey results, most of the stock investors in Purwokerto have a fairly good level of financial literacy, one of which is in managing stock risk factors. The majority of stock investors in Purwokerto have understood how to manage fluctuating risk of shares, namely by diversifying their share assets to minimize losses. The majority of investors have also understood the factors that influence the ups and downs of stock prices, one of which is seen from the factors of high or low interest rates.

Most stock investors in Purwokerto have been aware of the effect of return on assets (ROA) on stock returns, regarding respondents' answers to statement number 1 in the research data tabulation. This means that the higher ROA level of the issuer, the higher the return of stock investment obtained. This finiding is in line with the results of Oteng (2019), Abdeldayem (2016), and Aren & Zengin (2016) who stated that financial literacy has a positive influence on investment decision.

The effect of loss aversion on investment decision. The result of statistical test informs that the loss aversion variable has a negative effect on investment decision. This indicates that the higher the level of investor aversion loss, the more irrational decision to sell or buy shares made. This means that the more irrational stock investment decision is made, the lower the return obtained.

Based on the survey results, most active stock investors in Purwokerto show a loss aversion attitude. Investors who embrace a loss aversion attitude tend to stick with stagnant stock returns rather than to buy other assets with greater profit opportunities. This behavior is caused they tend to be risk averse. The majority of stock investors in Purwokerto tend to be reluctant to sell their share assets that have a value continues to decline even if the actual decline in the value also reflects the issuer's fundamental condition that continues to deteriorate.

The higher the loss aversion level of investors, the lower the number of stock investment decision made. They will only get stagnant stock returns even though they actually have opportunity to get a higher returns. The finding of this study is in line with the results of research conducted by Rekik and Boujelbene (2013) and Areiqat et al. (2019) who state that loss aversion has a negative effect on investment decision.

The effect of overconfidence on investment decision. The result of statistical test informs that the overconfidence variable has no influence on investment decision. The answers of respondents to open-ended questions in the questionnaire suggest that most stock investors in Purwokerto tend to avoid overconfidence on the grounds that stock assets are high-risk investment assets so most of them choose not to be careless in making decision to sell or buy the stocks. This finding is in line with research conducted by Rekik and Boujelbene (2013) who suggest overconfidence has no influence on investment decision.

Based on statements with the highest index numbers, the majority of respondents chose the option to disagree toward statement number 1: "I feel I have better knowledge and ability to invest in shares than other investors and the advice given by others has no effect on my decision" and statement number 5: "I am very confident in the stock investment decisions I make and the available market information does not really influence my decisions". From the open questions that have been filled in, respondents assume that although they are sure of the investment decision on the stock, before making a decision to sell or buy shares they must pay attention to stock market information available in various media. They must also listen to advice from other investors who are considered more experienced because it is an important factor so as not to be mistaken in making a decision. In addition, it enlarges the opportunity to get maximum stock returns.

Overconfidence can has positive and negative aspects, respectively, for investors. Overconfidence has a positive impact on investors if they have long enough experience in investing in stocks and know very well about technical and fundamental analysis so that they are most likely to get the maximum return. In contrast to the overconfidence attitude of new investors who have just invested in stocks and lack experience. This will cause excessive costs while the return obtained is not maximal.

CONCLUSION

The conclusions from the analysis on the impact of financial literacy, loss aversion, and overconfidence on investment decision are:

1. Level of financial literacy has a positive influence on investment decision. It means that the higher the level of investors financial literacy, the better investment decision making on stock. Active investors in Banyumas District show a fairly good level of financial literacy measured by 4 indicators namely general personal finance knowledge, savings and borrowings, insurance, and investment. The majority of active investors have understood what factors influence the rise or fall of stock prices and they have understood about the diversification of financial assets that will minimize losses.
2. Level of loss aversion has a negative influence on investment decision. It means that the higher the level of loss aversion, the more the irrational decision making and the lower the possibility of stock trading activities undertaken. The majority of investors tend to be reluctant to sell their share whose prices continue to decline. This loss aversion behavior will certainly lead to a low stock investment return even though they actually have the opportunity to get a higher return.
3. Level of overconfidence has no influence on investment decision. An overconfidence attitude did not appear in stock investment decision of some active investors. Based on the open questionary, they assume that although they are sure of the investment decision before they make a decision to sell or buy the stock, they must also pay attention to stock market information available in various media, and listen to suggestions from other investors who are considered more experienced because it is an important factor so as not to make mistakes in decision.

The implication of this study is to provide input for body of science in general regarding to develop literature on the topic of behavioral finance. It is an important topic to study because some of the capital market anomalies in Indonesia is caused by irrational investor psychological behavior. In addition this study provides an overview for investors about the important role of financial literacy in stock investments so that they will be motivated to develop their financial knowledge in order to get the maximum return. Furthermore, this study provide an illustration for investors that the attitude of avoidance of excessive losses is an irrational behavior which is contrary to the general investment principle that is when they want to get return from an investment, then they must also be brave to bear the risk. By avoiding loss aversion, investors can create opportunities to get higher stock returns.

REFERENCE

1. *Abdeldayem, Marwan Mohamed. (2016). Is There a Relationship Between Financial Literacy and Investment Decisions in the Kingdom of Bahrain. Management and Administrative Sciences Review, Vol. 5, Issue 4, 203-221.*
2. *Alquraan, Talal, Ahmad Alqisie, and Amjad Al Shorafa. (2016). Do Behavioral Finance Factors Influence Stock Investment Decisions of Individual Investors? (Evidences from Saudi Stock Market). American International Journal of Contemporary Research, Vol. 6, No. 3.*
3. *Areiqat, A. Yosef, Ayman A. R., Yousef S. A. A., and Alaa A. (2019). Impact of Behavioral Finance on Stock Investment Decisions Applied Study on a Sample of Investors at Amman Stock Exchange. Academy of Accounting and Financial Studies Journal, Vol. 23, Issue 2.*
4. *Aren, Selim and Asiye Nur Zengin. (2016). Influence of Financial Literacy and Risk Perception on Choice of Investment. Procedia - Social and Behavioral Sciences, 235 pages 656 – 663. https://doi.org/10.1016/j.sbspro.2016.11.047*
5. *Asri, Marwan. (2015). Financial Behavior, Second Edition. Yogyakarta: BPFE.*
6. *Awais, M., M. Fahad L., Nilofer R., and Aisha K. (2016). Impact of Financial Literacy and Investment Experience on Risk Tolerance and Investment Decisions: Empirical Evidence from Pakistan. International Journal of Economics and Financial Issues, 6 (1), 73-79. ISSN: 2146-4138.*

7. *Baker, H. Kent and John R. Nofsinger. (2002). Psychological Biases of Investors. Financial Services Review, Vol.11, No. 2, 97-116.*
8. *Chen, Haiyang and Ronald P. Volpe. (2002). Gender Differences in Personal Financial Literacy Among College Students. Financial Services Review, Vol. 11, No. 3, 289 – 307.*
9. *Gachter, Simon, Eric J. J., and Andreas H. (2007). Individual-Level Loss Aversion in Riskless and Risky Choices. IZA Discussion Paper No. 2961.*
10. *Gill, Samina, Muhammad Kashif K., Shahid M., and Arfan A. (2018). Factors Affecting Investment Decision Making Behavior: The Mediating Role of Information Searches. European Online Journal of Natural and Social Sciences, Vol. 7, No. 4, 758-767.*
11. *Kahneman, Daniel and Amos Tversky. (1979). Prospect Theory: An Analysis of Decision under Risk. Econometrica, Vol. 47, No. 2. (Mar., 1979), pp. 263-292. http://www.jstor.org/stable/1914185*
12. *Lusardi, Annamaria and Olivia S. Mitchell. (2007). Financial Literacy and Retirement Preparedness: Evidence and Implications for Financial Education. Business Economics, 42(1), 35-44.*
13. *Lusardi, Annamaria and Olivia S. Mitchell. (2008). Planning and Financial Literacy: How Do Women Fare?. American Economic Review: Papers & Proceedings 2008, 98:2, 413–417*
14. *Manuel, Joychen and George Mathew. (2017). Impact of Cognitive Biases in Investment Decisions of Individual Investors in Stock Market. International Journal of Engineering Technology, Management and Applied Sciences, Vol. 5, Issue 6, ISSN 2349-4476.*
15. *Nofsinger, John R. (2005). Social Mood and Financial Economics. Journal of Behavioral Finance, 6:3,144-160. https://doi.org/10.1207/s15427579jpfm0603_4*
16. *Oteng, Evans. (2019). Financial Literacy and Investment Decisions Among Traders in the Techiman Municipality. Research Journal of Finance and Accounting, Vol. 10, No. 6. DOI: 10.7176/RJFA/10-6-07*
17. *Pompian, Michael M. (2006). Behavioral Finance and Wealth Management. Wiley Finance.*
18. *Pompian, Michael M. (2012). Behavioral Finance and Investor Types: Managing Behavior to Make Better Investment Decisions. Wiley Finance.*
19. *Rekik, Yosra Mefteh and Younes Boujelbene. (2013). Determinants of Individual Investors' Behaviors: Evidence from Tunisian Stock Market. IOSR Journal of Business and Management (IOSR-JBM), e-ISSN: 2278-487X. Vol. 8, Issue 2, PP 109-119. DOI: 10.9790/487X-082109119*
20. *Ricciardi, Victor and Helen K. Simon. (2000). What is Behavioral Finance?. Business, Education and Technology Journal, Vol. 2, No. 2.*
21. *Shefrin, Hersh and Meir Statman. (2000). Behavioral Portfolio Theory. Journal of Financial and Quantitative Analysis, Vol. 35, No. 2, 127-151. DOI: 10.2307/2676187*
22. *Tekce, Bulent and Neslihan Yilmaz. (2015). Are Individual Stock Investors Overconfident? Evidence from An Emerging Market. Journal of Behavioral and Experimental Finance, Vol. 5, 35-45. DOI: 10.1016/j.jbef.2015.02.003*
23. *Waweru, Nelson M., Evelyne M., and Enrico U. (2008). The Effect of Behavioural Factors in Investment Decision-Making: A Survey of Institutional Investors Operating at The Nairobi Stock Exchange. Int. J. Business and Emerging Markets, Vol. 1, No. 1. DOI: 10.1504/IJBEM.2008.019243*
24. *https://www.ksei.co.id, accessed at January 2, 2022.*