THE EFFECT OF OVERCONFIDENCE AND BEHAVIOURAL MOTIVATION ON STOCK INVESTMENT DECISIONS

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Abstract: This study aims to determine the effect of Overconfidence, Self-image/ firm image, Social Relevance, Advocate Recommendations, Personal Financial Needs on Stock Investment Decisions. The population of this research is stock investors who are trading shares on the Indonesia Stock Exchange (BEI). The type of data in this research is quantitative. The sampling technique in this study was purposive sampling. There were 386 respondents taken using a questionnaire through the survey method. This study used PLS-SEM (Partial Least Square-Structural Equation Model) as a data analysis technique. The results showed that the variables of Overconfidence, Self-image/firm image, Social relevance, Advocate recommendation, Personal financial needs, each have a positive and significant influence on stock investment decisions.

Index Terms - Overconfidence, Self-image/ firm image, Social Relevance, Advocate Recommendations, Personal Financial Needs, Stock Investment Decision, Structural Equation Models.

I. INTRODUCTION

The capital market is a market that investors can buy and sell shares of a company, which is this activity is one type of investment. The types of investment in Indonesia vary widely, depending on the needs and characteristics of each investor. Investors can become "owners" of certain business entities whose stocks have been purchased. In recent years, the Indonesian Stock Exchange (IDX) has been aggressively holding a "Yuk Nabung Saham (YNS)" campaign. This campaign is intended to change the habits of the Indonesian people from saving to investing.

Based on capital market statistics of Reports 2020, stock trading on the Indonesia Stock Exchange (IDX) until 2019 has moved positively. However, the performance of the Jakarta Composite Index (JCI) in 2020 appears to be declining. This assessment is made based on observations of the fluctuation of the Jakarta Composite Index (JCI) on the IDX where the JCI reflects the overall performance of the IDX. Many things caused the stock index to drop, both from within and outside the country. One of them is the spread of the Covid-19 pandemic. Investors finally responded to this pandemic to determine the direction of their investment decisions. Responding to these emerging problems, the Government and the financial sector authorities were issued policies in order to stabilize domestic economic conditions. Although economic activity is overshadowed by the pandemic, this has not deterred investors from engaging in the capital market in Indonesia.

Investment is an activity related to finance or economy for both individuals and organizations. There are 2 types of investors, namely institutional investors and retail investors. Institutional investors are people or organizations that sell and buy securities, while retail investors are people who buy and sell securities through a brokerage firm. Investors take advantage of investing in the capital market as a means of improving the standard of living in the future, such as individual investors who can be identified by Single Investor Identification (SID). The function of the SID is to find out or track the number of investors registered in Indonesia based on just one Identity Card (KTP). The Indonesian Central Securities Depository (KSEI) explained that the number of investors from April 2019 to March 2020 grew by 44% to 2,679,039 SID. This amount is the consolidated number of SIDs

consisting of investors in Shares, Bonds, Mutual Funds, State Islamic Instrument and other securities that are registered in KSEI. The number of investors who own share assets is 1,160,542 SID, while the rest own mutual funds and State Islamic Securities. Even in the midst of a pandemic, it can be seen that investor interest in investing has increased. However, on the other hand, the increasing number of retail investors is quite encouraging because it can increase the resilience of the stock exchange. The role of domestic investors is very important to keep the stock market stable, when many foreign investors have been selling stocks quite a lot since early 2020.

The increasing number of investors and high trading activity will increase more investment decisions. In determining investment decisions, investors are faced with several considerations, including: company bona fides, company financial reports, company performance, track records or portfolios, economic conditions, risks, reviews of financial and economic conditions published in the media, the business prospects of the issuer, and etc. These considerations can influence the actions of an investor in making investment decisions (Pradhana, 2018).

When investor invest in stocks, Investor will get two benefits which is capital gains and dividends in the future. Stocks are known as investments that can provide lucrative returns, but the risk is also greater than other investment instruments. Therefore, investment in sotck is known as high risk - high return. The decision to invest in stocks requires careful and rational thinking. Investors must analyze stocks that are feasible to buy and be able to detect price movements, knowing what are the variables that can determine the share price. Rationally, investors choose stocks that are profitable by considering the rate of return and risk of these stocks. However, the existence of emotional factors makes investors tend to be irrational in choosing unprofitable stocks, either because of errors in analyzing or errors in translating information on inappropriate stock prices. Irrational forms of investors are expressed in behavioral bias.

Overconfidence can occur in investors who want to be fast and want to get high returns based solely on self-confidence. Overconfidence is related to how much prejudice or feeling about how well someone understands their abilities and the limits of their own knowledge (Nugraha, 2016). Overconfidence bias itself is an investor's fault in believing in his analytical ability which leads to wrong predictions. Bias towards overly confident behavior can influence investment decisions. In addition, overconfidence can cause investors to have a risky portfolio. This happens because they miscalculate the risk (Tekce & Yilmaz, 2015).

The longer a person's investing experience, the better the alternative option for evaluating number of alternative stocks. The mostly investors only look accounting information to make investment decisions. Meanwhile, many other factors were not given much attention. On the other hand, an investor's investment decision can be seen from two sides, namely, (1) the extent to which the decision can maximize its wealth (economic) and (2) behavioral motivation, where investment decisions are based on the psychological aspects of the investor or something he believes in. Behavioral motivation includes the factors of Self Image / Firm-Image Coincidence, Social Relevance, Advocate Recommendation, and Personal Financial Needs.

According to Nagy & Obenberger (1994), (i) self-image / firm image is information about the valuation of a company including the company's position in the current industry (new- comers, market followers, or market leaders). This company information also includes predictions of the firm's products and services, reputation of the firm, even company ethics and the past value of the company's shares. (ii) Social relevance is information on the existence of company shares on the stock exchange and social responsibility in the form of stock position on the stock exchange (including second liner stocks or blue-chip stocks). Social relevance can be in the form of investments that move at national and international levels as well as corporate social responsibility (Kusumawati, 2013). (iii) Advocate recommendation is opinions and recommendations received from various sources with different level of knowledge and expertise in the investment area containing friends and coworkers as well as industry experts. They are classified to recommendation from brokerage house, recommendation from individual stock broker, and (recommendation from friends or co-workers). (Elsheikh, 2017 & Akbar et al., 2016). And the last, (iv) Personal financial needs, related to the ability to select and manage investment activities with needs of personal consumption. Flexibility in managing investments and selecting between various investment terms and opportunities allow capitalizing and utilizing the benefits of fast paced investment environment as well as unforeseen investment options. (Elsheikh, 2017)

Based on the background of the problems described, the researcher aims to determine the effect of Overconfidence, Self-image/firm image, Social relevance, Advocate recommendation, Personal financial needs on Stock Investment Decisions.

II. THEORETICAL FRAMEWORK

Based on the previous research, theoretical review and objective this study, this research has theoretical framework as follows:
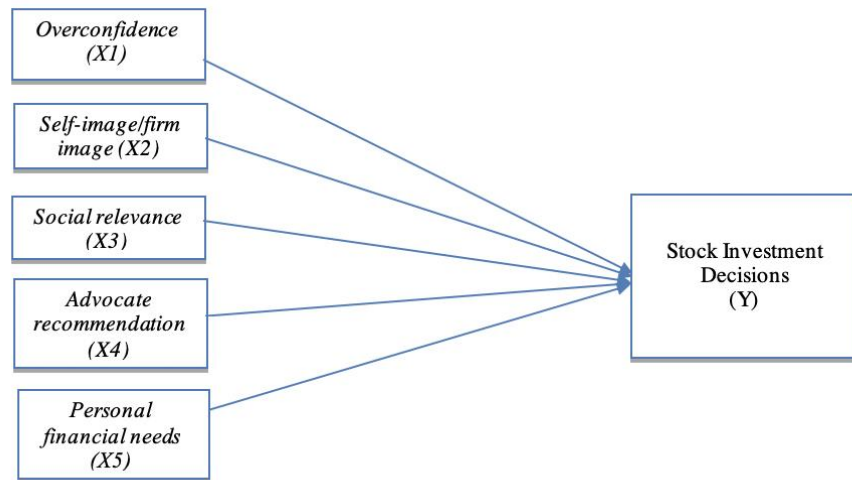

FIGURE 1. THEORETICAL FRAMEWORK

III. RESEARCH METHOD

The type of data in this study is quantitative, that data obtained from primary data which is send questionaire to investor. Primary data obtained by distributing questionnaires. The population used in this study are stock investors who are currently trading shares on the Indonesia Stock Exchange (IDX), especially retail investors. The sampling technique was purposive sampling in this study. Purposive sampling is a sampling method based on criteria that are related to the research objectives. The criteria for the sample used is investor retail. The sample of this research is stock investors who are calculated using *Raosoft sample size calculator*. This study uses error tolerance (e) of 5% and the total population (N) of 1,160,542 SID who owns stock assets. The sample data of this study were 385 samples. While the respondents who were collected were 386 respondents. The data measuring instrument in this study uses a Likert scale. The data analysis method used the PLS approach through the smartPLS 3.0 application to test SEM. This method uses bootstrapping or random multiplication in which the assumption of normality will not be a problem for PLS.

IV. RESULT AND DISCUSSION
4.1. Analysis of Research Data
4.1.1. Outer Model Analysis

The outer model sees the relationship between variables and their indicators. Tests carried out on the outer model analysis are Convergent Validity, Composite Reliability, Average Variance Extracted (AVE), and Cronbach's Alpha.

Convergent validity can be seen from the loading factor for each construct indicator. Hair (2011) said that If the loading factor value is > 0.7, it is considered that the indicator measuring this latent variable is significant. Table 1 It can be seen that all indicator items have a loading factor value above 0.7, so that all question items used in this study are valid. And it can be seen that the AVE value for all variables meets the requirement value. Hair et al. (2011) stated that AVE must be higher than 0.5. The lowest AVE value is in the stock investment decision variable with a value of 0.613. The data from this study can be declared to have met the requirements of the convergent validity test.

Table 1 *Loading factor*

Variable	Indicators	Items	Loading factor	Notes
Overconfidence	X1.1	Trust in own ability to start and manage investments	0.833	Valid
	X1.2	Feeling that own decisions are often correct	0.873	Valid
	X1.3	Can predict future happening	0.867	Valid
	X1.4	Know the right time to enter and exit the investment in the capital market	0.838	Valid
Self-image/firm image	X2.5	Reputation of the firm's	0.819	Valid
	X2.6	Political party affiliation	0.814	Valid
	X2.7	Perceived ethics of firm	0.852	Valid
	X2.8	Firm status in industry (market leader, market follower, new comers,	0.816	Valid
	X2.9	Get rich quick	0.808	Valid
	X2.10	Feelings for a firm's products and services	0.848	Valid
Social relevance	X3.11	Stock position on the stock exchange list (blue chip, second liner)	0.814	Valid
	X3.12	Corporate social responsibility (CSR)	0.839	Valid
	X3.13	Choose the type of investment that operates local	0.771	Valid
	X3.14	Prefer the type of investment that operates in international	0.776	Valid
Advocate recommendation	X4.15	Broker recommendation	0.870	Valid
	X4.16	Family member opinions	0.861	Valid
	X4.17	Friend or co-worker recommendations	0.804	Valid
	X4.18	Opinions of the firm's majority stockholders	0.752	Valid
Personal financial needs	X5.19	Minimizing risk	0.792	Valid
	X5.20	Estimated investment funds	0.833	Valid
	X5.21	Target investment returns that are desired to meet personal financial needs	0.830	Valid
	X5.22	Availability of other investment alternatives besides stocks (bonds, gold, deposits, etc.	0.795	Valid
Stock investment Decision	Y1	Take into account the security and risk in investing (security in an investment means minimal risk of loss)	0.759	Valid
	Y2	Able to predict the components of risk factors, namely those related to specific investments that change	0.812	Valid
	Y3	Be able to predict the income from the investment made	0.814	Valid
	Y4	Can understand investment growth (increase in value)	0.754	Valid
	Y5	Can analyze the level of liquidity (rate of return on capital) of the investment that I make?	0.773	Valid

Table 2. Results of Average Variance Extracted (AVE) and the Square Root of AVE

Variable	*Average Variance Extracted* (AVE)	AVE square root
Overconfidence	0.728	0.853
Self-image/firm image	0.683	0.826
Social relevance	0.641	0.801
Advocate recommendation	0.678	0.823
Personal financial needs	0.661	0.813
Stock investment Decision	0.613	0.783

Table 3. Composite Reliability (CR) and Cronbach's Alpha (CA)

Variable	Composite Reliability	Cronbach's Alpha
Overconfidence	0.914	0.875
Self-image/firm image	0.928	0.907
Social relevance	0.877	0.814
Advocate recommendation	0.893	0.840
Personal financial needs	0.886	0.829
Stock investment Decision	0.888	0.842

Source: Data processing from the SmartPLS output (2020)

Hair et al. (2011) suggested a value > 0.7 as a benchmark. Based on tables 2, it can be seen that the test results for composite reliability and Cronbach alpha show a value > 0.7, which means that the value on each instrument is reliable.

4.1.2. Structural Model (Inner Model)

Based on the results of data processing, the R-Square value for the Stock investment Decision is 0.738, this means that 73.8% of variations or changes in stock investment decisions are influenced by Overconfidence, Self-image / firm image, Social relevance, Advocate recommendation, Personal financial needs, while the remaining 26.2% is explained by other reasons. Based on this, the results of the calculation of R^2 show that R^2 on the variable stock investment decision is good.

Besides looking at the R-square value, the model is also evaluated by looking at the predictive relevance Q-square for the constructive model. The Q-square measures how well the observed value is generated by the model and also the parameter estimates. The magnitude of Q^2 has a range value of $0 < Q^2 < 1$, where the closer to 1 means that the model is getting better. The magnitude of Q^2 is equivalent to the total coefficient of determination in the path analysis. The value of $Q^2 > 0$ indicates that the model has predictive relevance, on the contrary, if the value of $Q^2 \leq 0$ indicates that the model has less predictive relevance.

$$Q\text{-}Square = 1 - [(1-R^2)$$
$$= 1 - [1 - 0.738)$$
$$= 1 - (0.262)$$
$$= 0.738$$

Based on the results of the above calculations, it is known that the Q-Square value is 0.738. This shows that the large diversity of research data that can be explained from this study is 73.8% and the remaining 26.2% is explained by other factors outside of this study.

4.2. Path Coefficients Analysis
This Subsection will discuss Path Coefficient Analysis.

Table 4. Path coefficients

	Original Sample (O)	*Sample Mean (M)*	*Standard Deviation (STDEV)*	*T Statistics (|O/STDEV|)*	*P Values*
Overconfidence → Stock investment decisions	0.127	0.126	0.044	2.887	0.004
Self-image / firm image →Stock investment decisions	0.172	0.174	0.051	3.344	0.001
Social relevance →Stock investment decisions	0.142	0.137	0.071	2.006	0.045
Advocate recommendation → Stocks investment decisions	0.136	0.140	0.065	2.109	0.035
Personal financial needs →Stock investment decisions	0.170	0.172	0.044	3.875	0.000

Source: Data processing from the SmartPLS output (2020)

4.2.1. *Hypothesis*

H₁: *Overconfidence affects stock investment decision making*

Based on table 4, H_1 has a t-statistical value of 2.887, which means> 1.96. So, with this H_1 is accepted, which means that Overconfidence has a positive and significant effect on stock investment decisions. This means that changes in the value of Overconfidence have a direct effect on changes in stock investment decisions, or in other words, if Overconfidence increases, there will be an increase in the level of stock investment decisions and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the coefficient value of the Overconfidence pathway to stock investment decisions is 0.127, which means that Overconfidence has a positive relationship with investment decisions on the Indonesian Stock Exchange (IDX).

Tanusdjaja (2018) states that the level of trading activity of an investor is influenced by the level of overconfidence of the investor. The more investors have Overconfidence, the more often they trade. Overconfidence has a positive correlation with participation in the stock market, whereas people who are under-confident are less likely to participate (Xia et al., 2013). Kartini & Nugraha (2015) argue that if an individual has a higher level of overconfidence, it will cause the individual to think more about his skills by thinking that he can earn an increasing income. Conversely, if investors lack overconfidence, it can have an impact on the tendency of individuals to underestimate existing risks. The high level of self-confidence will influence investors to be more courageous in making decisions. Conversely, low overconfidence will cause investors to hesitate to make investment decisions.

The results of this study are in line with research conducted by Tanusdjaja (2018), which shows that Overconfidence Significantly Positively Affects Investment Decisions. The same results were obtained from the research of Alrabadi et al. (2011), whose results show that Jordanian investors are overconfident with skills in transactions and in their investment decision making. Meanwhile, the results of this study contradict the results of research by Rakhmatulloh & Asandhimitra (2019) which show that Overconfidence has no effect on investment decisions.

H₂: *Self-image/firm image affects stock investment decision making*

Based on table 4, H_2 has a value of t - statistics 3.344 which means> 1.96. With this H_2 is accepted, which means that the Self-image / firm image has a positive and significant effect on stock investment decisions. This means that changes in the value of Self-image / firm image have a unidirectional influence on changes in stock investment decisions, or in other words, if Self-image / firm image increases, there will be an increase in the level of stock investment decisions and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the path coefficient value of Self-image / firm image on stock investment decisions is 0.172, which means that Self-image / firm image has a positive relationship with investment decisions on the Indonesian Stock Exchange (IDX).

Investors who have a high self-image / firm image level will conduct their own assessment of the company whether or not it is feasible to be a place to invest (Christanti & Mahastanti, 2011). Self-image / firm image such as company status in the industry, reputation of company shareholders, and feelings of satisfaction with company products & services are factors that influence investment decisions (Ahmad, 2017).

The results of this study are in line with the results of research conducted by Akbar et al. (2016) which shows that self-image / firm image has a significant positive effect on investment decisions. Meanwhile, the results of research by Rakhmatulloh & Asandhimitra (2019) show that self-image / firm image has no effect on investment decisions.

H₃: *Social relevance affects stock investment decision making*

Based on table 4, H_3 has a value of t - statistics 2.006 which means> 1.96. With this H_3 is accepted, which means that social relevance has a positive and significant effect on stock investment decisions. This means that changes in the value of social relevance have a unidirectional effect on changes in stock investment decisions, or in other words, if social relevance increases, there will be an increase in the level of stock investment decisions and statistically has a significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known

that the coefficient value of the social relevance path to stock investment decisions is 0.142, which means that social relevance has a positive relationship with investment decisions on the Indonesian Stock Exchange (IDX).

The results of this study are supported by research results from Rakhmatulloh & Asandhimitra (2019) which state that social relevance has an influence on investment decisions. This is because investors when making investment decisions always pay attention to the position of the company's shares on the stock market. This shows that investors are more concerned about whether the company they are going to invest in is included in blue chips or second liner stocks which are likely to increase the level of profit in the future. Apart from that, investors also pay attention to the company's social responsibility towards the environment where it is more visible and more positively valued by investors. The results of this study are also in line with research by Ulinnuha et al. (2020) which states that social relevance is an indicator of generating perceptions by beginner investors. So that it will have an influence on beginner investors in making decisions on buying shares.

H4: *Advocate recommendation affects stock investment decision making*

Based on table 4 previously, H4 has a value of t - statistics 2.109 which means> 1.96. H4 is hereby accepted, which means that Advocate recommendation has a positive and significant effect on stock investment decisions. This means that changes in the value of Advocate recommendation have a direct effect on changes in stock investment decisions, or in other words, if Advocate recommendation increases, there will be an increase in the level of stock investment decisions and has a statistically significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the coefficient value of the Advocate recommendation pathway to stock investment decisions is 0.136, which means that Advocate recommendation has a positive relationship with investment decisions on the Indonesian Stock Exchange (IDX).

In the research of Akbar et al. (2016), most investors' decisions depend on recommendations from stocks broker, colleagues, friends and family. The reason is that investors believe that brokers have much more accurate information regarding stock investment opportunities (Ahmad, 2017). The results of this study are in line with research conducted by Akbar et al. (2016) reveal positive significant relationship between advocate recommendations, which states that Individual investor's decision is strongly affected by the broker's advice. Sometime investors are making decision on the basis of family and friends' opinion.

H5: *Personal financial needs affect stock investment decision making*

Based on table 4, H5 has a value of t - statistics 3.875 which means> 1.96. With this H5 is accepted, which means that personal financial needs have a positive and significant effect on stock investment decisions. This means that changes in the value of personal financial needs have a unidirectional effect on changes in stock investment decisions, or in other words, if personal financial needs increase, there will be an increase in the level of stock investment decisions and have a statistically significant effect. Based on the results of data processing with SmartPLS version 3.0, it is known that the coefficient value of the personal financial needs path to stock investment decisions is 0.170, which means that personal financial needs has a positive relationship with investment decisions on the Indonesian Stock Exchange (IDX).

On Personal financial needs, related to the ability to select and manage investment activities with needs of personal consumption. Flexibility in managing investments and selecting between various investment terms and opportunities allow capitalizing and utilizing the benefits of fast paced investment environment as well as unforeseen investment options. (Elsheikh, 2017). The results of this study are in line with research conducted by Kusumawati (2013). Research results from Rakhmatulloh & Asandhimitra (2019) show that personal financial needs affect investment decisions. This is because investors feel that estimating the target yield from these stock investments can meet their personal needs is something that is important to do. Investors tend to prioritize the results or benefits they will get in the future. Meanwhile, the results of research by Akbar et al. (2016) did not find any evidence on relationship between personal financial needs on investment decision.

V. CONCLUSION AND SUGGESTION

Based on the explanation of research results, it can be concluded that Overconfidence, Self-image / firm, Social relevance, Advocate recommendation and Personal financial needs have a positively significant impacts on stock investment decisions. It means that the higher level of overconfidence, Self-image / firm, Social relevance, Advocate recommendation and Personal financial needs in a person, the higher for the person to makes stock investment decisions.

This study hopefully will help investor in stock investment decisions, Investor can consider the reputation of the company (market leader), the position of shares in the stock exchange (blue chip second liner), recommendations from trusted parties and analysis, target return of investments made, and confidence in the abilities of investors so that they can produce decisions to make the right investments and minimize risks.

In future studies, it is suggested to do Interview as a means of collecting data. Hopefully it will produce really valid and deep data. The respondent of research should be client of securities company to ensure that respondent trade stock in capital market. This study only focuses on variables Overconfidence, Self-image / firm image, Social Relevance, Advocate Recommendations, Personal Financial Needs, For the further research may consider adding or using other variables.

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