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THE EFFECT OF STOCK PRICES ON INVESTING DECISIONS IN BANDARMOLOGY MODERATION IN TERMS OF STUDENT PERCEPTIONS

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Abstract

The capital market becomes an effective means for a country's economic development. Because with the progress of the world, the Indonesian capital market will increase the amount of capital in the country and the development of the capital market also plays an important role in encouraging the country's economy. Currently, the number of investors in Indonesia continues to increase every year, most recently at the end of 2022, the number of investors in Indonesia has reached 10.31 million investors. Where the majority of investors in the capital market are dominated by young people with an age range under 30 years, and with an educational profile are high school graduates. This is a positive signal, considering that with these demographics, the capital market in Indonesia in the future will still have the next generation. However, in reality the growing investment in Indonesia is often dominated by price manipulation practices, such as fried stocks. So that in this study descriptive quantitative research methods were used. Where this study aims to determine the perception of students who will become potential investors in understanding related to Bandarmology influencing decision making in investing. The sample collection technique in this study uses *proportionate random sampling* in adolescents with undergraduate education at the Faculty of Economics, who have invested in East Java.

Keywords: Student perception, Stock price, Bandarmology, Investment Decision.

INTRODUCTION

Investment has a positive relationship with Gross Domestic Product, while gross domestic product itself is also the most important aggregate variable for assessing size and performance in a country's economy. Whereas, according to Harrod-Domar that to improve the country's economy, capital formation is needed to increase the capital stock in business. Capital formation stocks are used as a source of financing and the country's ability to increase its production capacity in light of the growing demands of society. Harrod-Domar's theory of economic growth explains that compliance is a necessary necessity for economic growth and to develop consistently and evenly over the long run [1] [2], [3] [4], [5] [6], [7], [8]

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Based on a Press Report by KSEI *Indonesian Central Securities Depository* in November 2022, it shows data from the Indonesian Securities Center Depository (KSEI), that the number of capital market investors in Indonesia has reached 10.31 million, an increase of 37.68% compared to 2021, where the number of investors in Indonesia only reached 7.49 million investors. Among the 10.31 million investors, it is dominated by investors. This can be seen in the age of investors, which is currently dominated by young investors with the age of less than 30 years continues to increase with a proportion reaching 58.71% with total assets owned amounting to Rp83.52 trillion. Followed by investors aged 31-40 years with a proportion of 22.46%. The total assets owned by this age group were recorded at Rp112.80 trillion. The increase in the number of investors is a potential for the Indonesian economy, this is because investment has a positive relationship with Gross Domestic Product and national income. If investment increases, then Gross Domestic Product will increase. The same is true for national income, where national income will increase if the amount of investment in the capital market also increases. Conversely, national income will decrease if the amount of investment in the capital market decreases. [9] [10] [11], [12] [13] [14]

However, along with the increase in the number of investors in Indonesia, this also encourages the practice of stock price manipulation or better known as the practice of Fried Shares. This stock can be said to be managed by many parties with the aim of maintaining prices. Some of the parties involved in this practice generally come from among wealthy people who want to get big profits from retail investors (novice investors), or commonly called bookmakers. The behavior of the bookie itself is very detrimental to retail investors who do not yet understand the tools and analysis used as consideration for buying products in the capital market. One case of a company has carried out a practice of manipulating stock prices or fried shares, namely Jiwasraya and Asabri. It was even recorded that the Asabri case suffered state losses with a total value estimated at Rp 22.7 trillion, while in the case of Jiwasraya the total loss was estimated at Rp 16.8 trillion. Several other cases were also experienced by PT Hanson Internasional Tbk (MYRX), PT Rimo Internasional Lestari (RIMO), PT Trada Alam Minera (TRAM), PT Sinergi Megah Internusa (NUSA), PT Siwani Makmur (SIMA) and a number of other issuers [15], [16] [15], [17] [18] [19] .

Some previous studies that discussed the practice of stock price manipulation include and only discuss preventive measures and important roles by certain agencies to overcome this, but the study did not clearly mention what is behind the investors affected and ultimately trapped in the practice of stock price manipulation. Meanwhile, in research that has been conducted by and has informed how to detect stock price manipulation behavior using the help of machines and the consequences of punishment obtained by perpetrators who commit stock price manipulation actions. So in this study will analyze more deeply the confidence of generation Z investors in investment decisions moderated by bandarmology into an interesting topic to be researched. This research will provide a better understanding of the basis of investing with bandarmology analysis for generation z so that it can be used as a consideration in making a decision to invest in the capital market, as well as how bandarmology analysis moderates the relationship between these

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variables. Therefore, this study will examine Generation Z in their investment decisions moderated by bandarmology. [20] [21] [22] [23]

LITERATURE REVIEW

1. Share Price

Stock prices are formed through the mechanism of demand *(bid*) and supply (*ask*) in the capital market. If a stock is oversubscribed, the stock price tends to rise. Conversely, if it is oversupplied, the stock price tends to fall. While in another theory states that the stock price is the price that occurs on the exchange at a certain time determined by market participants and determined by the demand and supply of the shares concerned in the capital market. There are several understandings, that the stock price is the closing price of the stock market during the observation period for each type of stock that is sampled and its movement is always observed by investors. One of the basic concepts in financial management is that the goal to achieve financial management is to maximize the value of the company. For companies that have [24], [25] [26], [27] [28] [29] *gone public*, this goal can be achieved by maximizing the market value of the stock price concerned. Thus, decision making is always based on consideration of the maximization of wealth of shareholders. Darmadji & Fakhruddin (2012) stated that stock prices occur on the exchange at a certain time and stock price movements on the exchange can change in a very fast time such as changing per hour, per minute, or per second. Stock prices on the exchange are largely determined by [30], [31] the forces of demand and supply or the forces of sellers and buyers during the hours the exchange operates in a country.

Stock prices also have a positive influence on decision-making patterns. As stated above, in accordance with the law of demand. If the price of an investment product rises, the price of the goods requested will decrease. The same is true the other way around. So it can be concluded, that if the demand for a stock decreases. Then this will result in an increase in the price of a commodity or stock sector.[32]

Based on the understanding of the experts above, it can be concluded that the stock price is a price formed in accordance with demand and supply in the market which is influenced by the volume of buying and selling carried out by market participants and moves fluctuatingly every minute or even every second, and is usually the closing price.

2. Bandarmology

Bandomology analysis is the direction of stock price movements, but it also involves focusing on the individuals or institutions that are behind those movements. By using bandarmology analysis, investors can predict the goals of brokers who have large capital to move stock prices.

A broker has access to more detailed and fast information compared to a retail investor, so retail investors will try to follow the broker's movements. Therefore, bandarmology analysis is one of the investment strategies that can help investors in making the right investment decisions. (Kurniadi, 2012)

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In the concept of bandarmology thinking, there is a term "follow the giant" which assumes that the direction of price movement of an issuer is controlled by big players or stock dealers (Mishkin and Eakins, 2013). These *Big players* are believed to have accurate information and good planning, and have the power to move issuer prices. Therefore, retail investors should follow the movements made by brokers. Stock bookies themselves refer to individuals or institutions that can direct prices at a certain period of time (Defrio, 2013). The purpose of this price formation is to achieve profitability that begins through the process of price accumulation and distribution within a certain period of time.

According to Ivan (2018), the application of bandarmology analysis is relatively easy for individual investors. This concept involves understanding the behavior of bookmakers who manage large capital when buying or distributing shares. Investors who use bandarmology analysis assume that stock price movements can be controlled by big players, as revealed by Filbert (2014). Stock movements by bookmakers are considered reliable because they gather accurate information and have a strong plan in moving stock prices. Individual investors can follow the bookie's movements because they reflect the technical and fundamental analysis of the issuer.

However, the drawback of bandarmology analysis is that retail investors cannot know when bookmakers will increase stock prices in real time, as revealed by Viswanathan and James (2004). Even if the bookie begins to accumulate purchases on a stock, there is no guarantee that the price of the stock will increase. Sometimes, the condition of shares collected by bookmakers is stagnant or even experiences a significant price decline, as stated by Rahmawati (2012).

Figure 1: Graphs and Phases in Bandarmology

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Image Source: Data processed

In the graph, there are several phases in bandarmology analysis, including the accumulation phase, mark-up phase, distribution phase, and mark-down phase. Based on the chart, ARCI issuers in February to April have experienced this cycle. So it can be concluded that the issuer is experiencing a bandarmology cycle. [33]

3. Investment Decisions

Investment decisions are decisions that concern the allocation of funds, both from inside and outside the company, into various forms of investment. Where generally, this process is carried out by financial managers related to allocating a number of funds owned by investors into investment instruments that are considered to be profitable for a long period of time. [34]

Investment decisions can also be interpreted as a process of selecting one or more investment alternatives that are considered more profitable than a number of other alternatives. Of course, this process includes a risk analysis process to minimize losses that may occur in investment placement.

RESEARCH METHODOLOGY

1. Types of Research

This study is a descriptive quantitative research, using an explanatory approach that has an *ex post facto* design, where in this study it tries to explain the causal relationship between stock prices and decision-making patterns in gen Z investors moderated by bandarmology. As revealed by quantitative research, descriptive is a study that aims to reveal the relationship of variables involved in the study. Descriptive quantitative research also has several advantages, including that researchers can give deeper meaning to some previous research. Thus, descriptive quantitative research also encourages a fairly high level of validity. This study also provides some flexibility in conducting research activities so that researchers achieve cost and time savings, as well as facilitate the utilization of existing resources by conducting initial investigations before starting a more in-depth analysis. [35]

This research using the scheme also has the same goal, so that the validity of the results is more accurate, and can be completed and realized faster than some other research schemes. Some other reasons for using this method are to see the causal pattern of variable X (stock price), variable Y (investment decision), moderated by Z (bandarmology) and reviewed using perceptions from students of the Faculty of Economics in East Java. Here is the scheme in this study.

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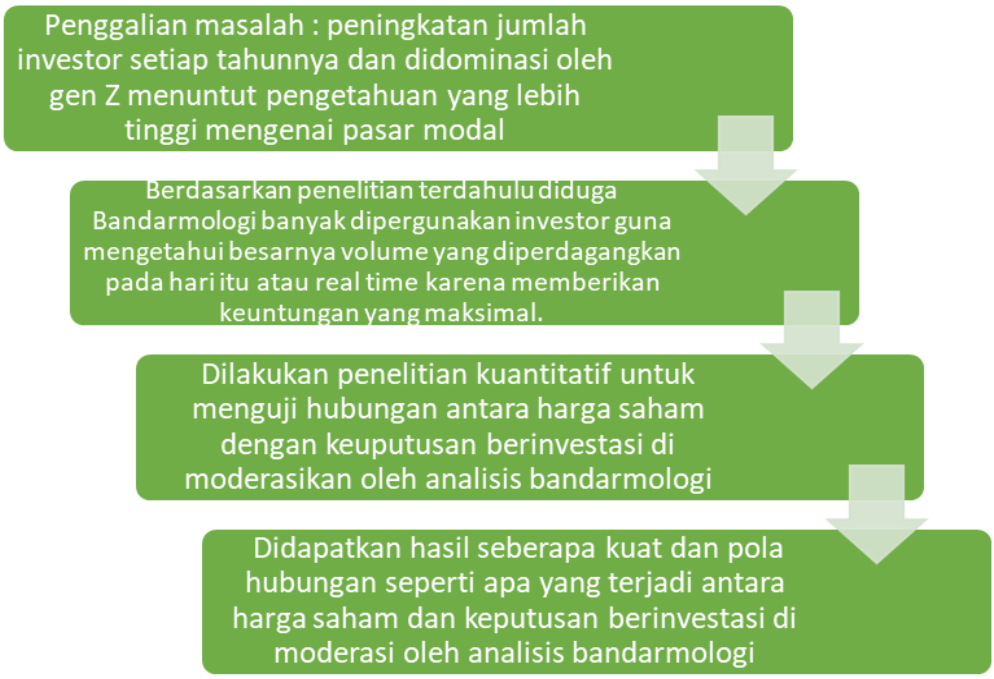

Figure 2: Research Flowchart

Image Source: Data processed

Therefore, several sources are needed to support that bandarmology is widely used by investors to study the magnitude of trading on that day.

2. Population and Sampling

The population in this study amounted to around 6,610,000, which is the number of investors recorded in KSEI as investors under the age of 30 years. So to find out the sample in this study, the slovin formula is used to find out the minimum number of samples. In calculating the minimum number of samples using the slovin formula, an e value of 10% is used. The purpose of using the 10% e value is to facilitate sampling due to the very large population. [36]

The sampling technique in this study itself uses *proportioned random sampling techniques,* this aims to show the representation of the population.

3. Data Collection Methods

The data collection method in this study used an instrument in the form of a questionnaire. Investment decision variables raise indicators based on previous research including 1) the level of expected return, 2) the level of risk and return, and 3) the relationship between the level of risk and return [13]. Stock price variables adapt from several indicators contained in technical analysis to determine the fair price of stocks at the right momentum, where the indicators consist of: 1) MACD, 2) Bollinger bands, and 3) RSI [14], [15]. Bandarmology variables using indicators include *Net foreign buy sell, Bandar volume,*

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Bandar value [16]. Instruments on variables of stock price perception, investment decisions and bandarmology use a Likert scale with answer choices of 1 to 5. Data analysis techniques using SEM assisted by *SmartPLS* software.

While the variables used in the study include the dependent variable, namely Investment Decisions and independent variables, namely Stocks, and Moderation Variables, namely Bandarmology. With the description of variable measurements can be presented in the following table:

Table 1: variable measurement

Variable	Definisi	indicator	Measurement scale
Investment decision [13]	Investment decisions are policies taken on two or more investment alternatives in the hope of getting profits in the future	1. The level of return of hope, 2. Risk level and return 3. The relationship between return and risk.	Scale liked 1-5 (Strongly disagree, disagree, hesitate, agree, strongly agree)
Share Price [14], [15]	According to Jogiyanto (2017), the stock price is the price that occurs on the stock exchange at a certain time determined by market participants and determined by the demand and supply of the shares concerned in the capital market.	1. MACD 2. Bollinger Bands 3. RSI	Scale liked 1-5 (Strongly disagree, disagree, hesitate, agree, strongly agree)
Citymology [16]	Bandarmology is a science or analysis that tries to identify where stock trading or stock transaction movements occur.	1. Net foreign buy sell 2. Bandar bindi 3. Bandar value	Scale liked 1-5 (Strongly disagree, disagree, hesitate, agree, strongly agree)

4. Data Analysis Techniques

In this study, moderation variables will be used, where this variable is a variable that changes the relationship between dependent and independent variables by strengthening or weakening the effect of intervening variables. Moderator variables are an important consideration when the relationship between the independent variable and the dependent variable indicates a reinforcing relationship, but is often more relevant when there is an unexpected or weak relationship, or an inconsistency between the predictor and the dependent variable. With the analysis approach, it can be illustrated through the following formulas and illustrations

$$Y = a + b1X1 + b2X2 + b3\ X1X2 + e$$

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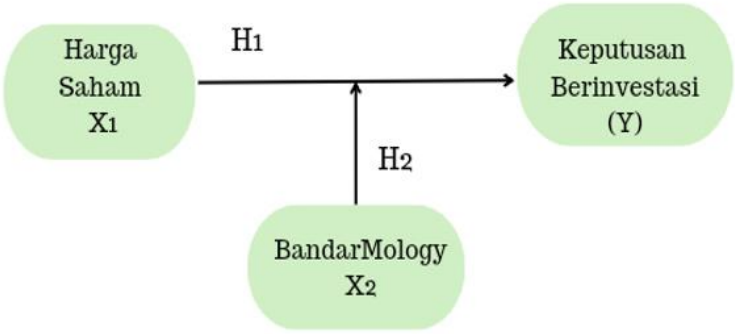

Figure 3: Research Conceptual Model

Image Source: Data processed

RESULTS AND DISCUSSION

1. Description of Data Results

Data is obtained by *proportionate random sampling*. In the description of this data, the data of the independent variable will be described, namely the stock price as X1 and the bandarmology variable as a moderation variable (XM) and the dependent variable is the investment decision (Y).

Data collection in this study used a research instrument in the form of a scale questionnaire that was distributed randomly. The data obtained through the research will be used for the purpose of testing hypotheses that have previously been tested for validity and reality.

Stock Price Data (X1) is obtained through a questionnaire consisting of 5 questions, Bandarmology Data (XM) consisting of 5 questions, and Investment Decision (Y) consisting of 5 questions. The score scale for each item is 1-5. The scale used is the Likert scale with the following details:

1 = strongly disagree

2 = disagree

3 = hesitation

4 = agree

5 = strongly agree

The number of respondents is as many as 100, each respondent can get a maximum score of 60-75 and a minimum score of 5-6. Based on tests that have been carried out through SPSS software, using MRA data analysis. The test results were obtained as follows

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2. Test Results

1) Validity Test Results

Validity test is a test that serves to see whether a measuring instrument is valid or invalid. The measuring instruments referred to in this study are questions in the questionnaire. A questionnaire is said to be valid if the question on the questionnaire can reveal something measured by the questionnaire. The validity test is carried out with the help of the SPSS program. In this validity test, the level of significance used is 0.05 and r table = df (62-2, 0.05) is 0.2108. The results of the X1 variable validity test are as follows:

Table 3: Validity Test Results

Item	R.Calculate	R.Table	Validitas
Y.1	0,1608	0,764	VALID
Y.2	0,1608	0,775	VALID
Y.3	0,1608	0,834	VALID
Y.4	0,1608	0,806	VALID
Y.5	0,1608	0,754	VALID
X1.1	0,1608	0,752	VALID
X1.2	0,1608	0,702	VALID
X1.3	0,1608	0,772	VALID
X1.4	0,1608	0,733	VALID
X1.5	0,1608	0,776	VALID
XM.1	0,1608	0,738	VALID
XM.2	0,1608	0,614	VALID
XM.3	0,1608	0,730	VALID
XM.4	0,1608	0,757	VALID
XM.5	0,1608	0,790	VALID

2) Reliability Test Results

According to Notoatmodjo (2005) in Widi R (2011), reliability is an index that shows the extent to which a measuring device can be trusted or reliable. So that the reliability test can be used to determine the consistency of the measuring instrument, whether the measuring instrument remains consistent if the measurement is repeated. In this study, a reliability test will be used with Cronbach's Alpha method using SPSS. The results of the reliability test are as follows:

Reliability Statistics	
Cronbach's Alpha	N of Items
.921	15

Figure 4: Reliability Test Table

Based on calculations using the Cronbach's Alpha formula*, if* the calculation of Cronbach's Alpha *value* > a limit value of 0.60. From the table above, it can be explained that 0.921 > 0.600 which shows all the data is reliable or reliable and consistent.

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3) Normality Test Results

The normality test aims to determine the distribution of research data is normally distributed or not. The results of the normality test using the help of SPSS are as follows:

	Unstandardized Residual
Test Value[a]	-.12558
Cases < Test Value	49
Cases >= Test Value	51
Total Cases	100
Number of Runs	52
With	.205
Asymp. Sig. (2-tailed)	.837
a. Median	

Figure 5: Normality Test Results

Based on the SPSS output, the Asymp value is known. Sig (2-tailed) of 0.837 which is greater than 0.05. Thus indicating that there is no problem of autocorrelation symptoms that cannot be resolved with Durbin Watson can be resolved through *run tests* so that analysis *(moderation)* can continue.

4) Moderation and Regression Test Results

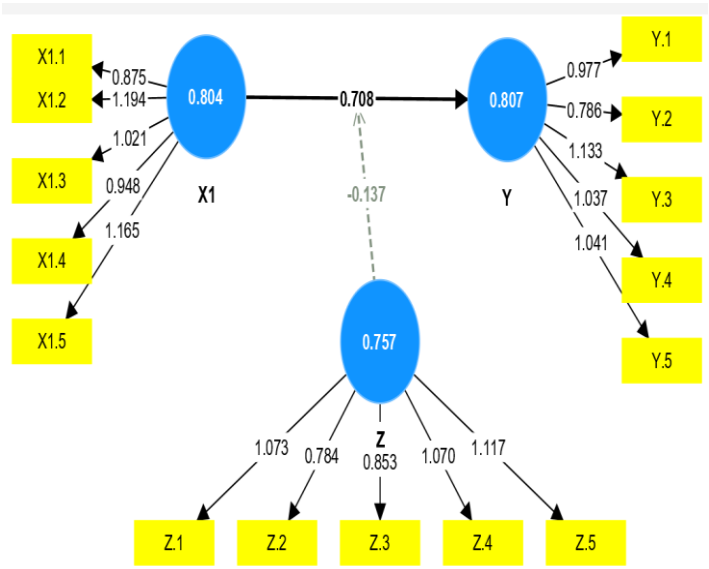

Figure 6: Moderation and Regression Test Results

Based on the results of testing conducted using the Smart PLS application, it is said that the relationship pattern between variable X1 or stock price has a significant relationship and has a positive influence on investment decisions. This means that the higher the stock price, the higher the investor's investment decision will be. Conversely, if the lower the stock price, the lower an investor's investment decision will be. In this variable there is also a moderation variable, where the moderation variable has a negative influence on the stock price with investment decisions. This means that with bandarmology analysis,

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it will weaken the relationship between stock price variables and investment decisions in an investor.

3. Stock Prices and Investment Decisions

Stock prices are formed through the mechanism of demand *(bid*) and supply (*ask*) in the capital market. If a stock is oversubscribed, then the stock price tends to rise. Conversely, if it is oversupplied, the stock price tends to fall. So that the stock price itself can be an indication of when an investor, especially a retail investor, to enter the sector's stocks. In addition, the stock price can also indicate whether the Company is healthy or not. So that stock prices play an important role in the consideration of an investor in deciding the action he will take. [24], [25] [37] –[39] [40], [41]

Stock prices and investment decisions have indications based on the tests conducted above are positive. This means that if the stock price decreases, then an investor will decide to lower his investment decision. This means that an investor will be even more wary of the decline in stock prices. So that later the investor will be able to avoid the risk of a drastic and sudden decline. Meanwhile, if the stock price increases, then an investor will increase and consider adding to the shares he owns. This is because the profits that the investor has the potential to get will increase if the investor takes shares that are or will increase. [42] [43]

This is similar to research that has been done by several researchers before which states that investors tend to watch or *wait and see* when there are stocks that decline. Meanwhile, if there are stocks that have increased, the investor will immediately enter it. [44], [45]

4. Bandarmology Effects on Price and Decisions

Bandarmology in this case has a relationship that weakens the relationship between stock prices and investment decisions. This indicates that if the stock price rises, it is followed by an increase in decisions and a desire to invest. Then this will be weakened by the existence of bandarmology. Meaning someone will be more eye-opening, and alert to price changes with bandarmology analysis. [46]

This bandarmology analysis itself analyzes several aspects of the capital market, for example, this analysis will see how much a market maker will be further involved in transactions in the capital market. To see if there are indications of urban practices and urban movements. Generally, investors will see the broker code owned by large companies or bookmakers. However, if the bookie works in a small group and influences prices significantly then retail investors have a little difficulty tracking and seeing what stocks or instruments are not currently controlled by the bookmaker. Therefore, this bandarmology has a relationship that expands between stock prices and investor decisions in investing. This may happen if a retail investor with unstable emotions, will do everything to get a stock at a high price, without the investor realizing that the stock with a high price will soon be lowered in price by a bookmaker. So that is what makes many senior investors consider and have the experience to see again how far and how good the company will be. [47] [48], [49]

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CONCLUSION

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