

THE INFLUENCE OF FINANCIAL CONFIDENCE, HERDING BIAS, AND CONFIRMATION BIAS ON INVESTMENT DECISIONS IN GENERATION Z IN JAKARTA

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ABSTRACT

Interest in investing in the capital market for young investors is increasing. This is reflected in the increasing number of young investors in the capital market. Internet and digital technology have become part of today's society in all aspects. Technological developments in the financial services industry are referred to as Fintech (Financial Technology). Fintech is present starting from as a means of payment, E-Wallet, digital bank, to investment provider brokers. The purpose of this study is to examine and analyse the factors that influence Financial Confidence, Herding Bias, and Confirmation Bias on Generation Z's Investment Decision in Jakarta. The sample in the study were investors born between 1995-2010 called Generation Z and residing in Jakarta. The purposive sampling method was used to collect 205 respondents through Google Forms shared online on social media. The research data was analysed with a structural equation system using SmartPLS.3.2.9 software. The results showed, Financial confidence has a significant effect on investment decision making, Herding Bias has a significant effect on investment decision making, Confirmation bias has no effect on investment decision making.

Keywords: Financial Confidence, Herding Bias, Confirmation Bias, Investment Decision

1. INTRODUCTION

In the atmosphere of the Covid-19 Pandemic that began to spread in Indonesia from March 2020 to 2022, financial market conditions have the potential to experience high volatility. The government issued the National Economic Recovery stimulus policy to mitigate the impact of the Covid-19 pandemic on the Indonesian economy (Fiscal Policy Agency-Ministry of Finance, 2021). In addition, the implementation of the WFH and PSBB (social distancing) policies affected the dynamics of the Indonesian capital market, which can be seen in the movement of the JCI (Composite Stock Price Index) on the Indonesia Stock Exchange [1]. The following is a graph of the movement of the JCI (Composite Stock Price Index) in 2019-2023.



Figure 1. JCI Movement Chart in 2019-2023

Based on Figure 1, it can be seen that the JCI (Composite Stock Price Index) experienced a significant decline during the pandemic. This is due to the panic of the public and business people at the beginning of the pandemic which resulted in the wheels of economic rotation slowing down.

In a study conducted by [2] stated that every 1% increase in Covid-19 cases will cause a correction to the Composite Stock Price Index by 0.03%.

The decline in the JCI (Composite Stock Price Index) during the pandemic is inversely proportional to the number of Single Investor Identification (SID) registered at KSEI (PT Kustodian Sentral Efek Indonesia). The following is a graph of SID growth at KSEI.

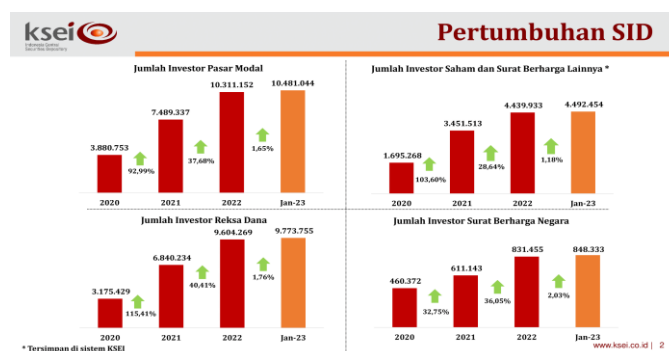


Figure 2: Growth Chart of SID at KSEI in 2020-2023

Based on Figure 1.2, the number of investors from 2020 to 2021 has increased significantly by 92.99%. From this data, Indonesian capital market investors with jobs as students or college students were recorded at 28.03% or with an asset value of IDR 17.42 Trillion, which shows that students are quite interested in investing their funds in the Indonesian capital market. Students are one of the potential individuals to invest. Armed with the learning gained during lectures. Students can apply the theory they have obtained during lectures with real investment practices [3].

Interest in investing in the capital market for young investors is increasing. This is reflected in the increasing number of young investors in the capital market. Based on data from the Indonesian Central Securities Depository [4], the number of investors under 30 years old dominates the Indonesian capital market today with a portion of 60.18%. In the Nasdaq 2022 survey, young generation Z investors in the United States became more active in trading on the stock exchange, with 34% of generation Z trading stocks several times a week compared to 26% for millennials, 19% for gen X, and 7% for baby boomers. [4] generational theory categorises five human generations based on their year of birth, namely: (1) the baby boomer generation, born 1946-1964; (2) generation X, born 1965-1979; (3) generation Y, born 1980-1994, often called the millennial generation; (4) generation Z, born 1995-2010, and (5) generation alpha, born 2011 to the present. Generation Z is the first generation to become digital natives. Generation Z has been accustomed to adapting to the internet and digital technology since an early age.

The subject of this research is the Generation-Z community in Jakarta. Of course, Gen-Z in the city of Jakarta specifically understands the capital market and investment and has sufficient understanding in making investments, but in practice there are still many who use speculators or rely on recommendations from certain communities or groups of stock investors in making investment decisions. Based on the survey, Generation Z is also a considerate generation in investing. As many as 78% of Generation Z admitted to seeking financial information and advice from both professionals and non-professionals before deciding to invest (Business Insider, 2022). Generation Z spends more time learning about investments before making a transaction. Generation Z investors are five times more likely than other generations to seek financial advice from social media and 28% turn to friends and online influencers for guidance [5]. This suggests

that the majority of Generation Z requires a level of confidence before making an investment decision. However, the freely circulating investment information and knowledge makes Generation Z investors tend to rely on other investors' decisions when choosing investments. Generation Z's lack of experience and personal ability to evaluate the market results in herding behaviour. Herding is the behaviour of imitating the actions of others and can make decisions change at any time because they are influenced by other investors [7].

Investors do not always make investment decisions rationally because they are influenced by several factors, one of which is social factors such as herding bias. Herding bias is a behaviour in which a person makes a decision by following the decisions of many people. Herding bias occurs in junior or novice investors who have little experience so that they ignore the information they have and follow other investors to minimise risk [8]. Apart from social factors, psychological factors also influence investment decisions. This causes bias in behaviour so that a person loses objectivity in decision making [9].

According to [10], financial confidence is the self-belief needed to make the right financial decisions. Financial confidence is a feeling of confidence in personal financial capabilities, this confidence increases as the financial decisions taken turn out to be beneficial [11]. Based on the results of research by [12] related to student investment decisions in Illinois, United States, financial confidence can have a significant influence in increasing investment decisions. [13] research reveals that financial confidence can significantly influence investment decisions in the Netherlands. The results of research by [14] in the United States found that financial confidence significantly influences investment decisions. Previous research reveals that confidence in investing, either in personal financial capabilities or because of good economic conditions, can increase the probability of investors to invest in capital markets that tend to be higher risk.

According to research conducted by [8] and [15] explains that herding bias has a positive and significant effect on investment decisions. Meanwhile, research conducted by [16] and [17] states that herding bias has no effect on investment decisions. According to [16] Confirmation bias is an action that seeks proof of the choices or beliefs, or expectations or hypotheses that the person has determined, both in terms of information and existing news. According to [18], [19], [20], [21] confirmation bias has a positive effect on investment decision making behaviour. Meanwhile, according to [22] confirmation bias has a negative influence on investment decision-making behaviour. Reflecting on previous research presented in the research background, things that influence stock investment decision making show conflicting results. So, further research was conducted on "The Effect of Financial Confidence, Herding Bias, and Confirmation Bias on Generation Z's Investment Decision in Jakarta".

Theory of planned behaviour by [23] explains the emergence of a behaviour or action is the result of planning and consideration. Investment decisions can be predicted by the results of planning and consideration derived from the theory of planned behaviour consisting of attitudes, subjective norms, and perceived behavioural control [24]. Perceived behavioural control is influenced by individual beliefs about their resources, such as competence and opportunity (control belief strength) and the role of resources (power of control factors) in realising behaviour. Behavioural control can be caused by internal factors and external factors. Internal factors can be personal abilities, emotions, or psychological factors, while external factors can be the environmental situation around the individual. [24] revealed that environmental factors and access to information have a strong effect on investment decisions. [25] and [26] found that attitudes and subjective norms significantly influence investment intention. This research wants to see the relationship

between individual investment decisions that can be predicted by the attitudes of financial confidence, mental accounting, herding, and financial socialisation.

Investment is a process of investing money in the hope of a return that should be done rationally to make the investment successful [27]. Using appropriate analyses on various investment alternatives can help investors think rationally in making decisions. An investor who is affected by other factors such as bias in analysing an investment will result in irrational investment decisions. Investment is the process of making decisions by investing investors' money with the aim of maximum return [28]. Investment is the process of investing funds in the hope of future returns. Every investor has their own goals, but no investor wants to experience any losses. However, investors in making decisions can be swayed so that they use various conveniences that make investment decisions irrational. Investment is a commitment in entrusting the investor's funds to the issuer of investment instruments within a certain period of time [29]. This suggests that to be rational, an investor must resist the influence of their own biases.

Investment decision is a problem faced by someone in allocating their funds into forms of investment that will generate profits in the future. There are two investor attitudes in making investment decisions, rational and irrational attitudes. A rational attitude is the attitude of someone who thinks based on common sense, while an irrational attitude is the attitude of someone who thinks that is not based on common sense. An investor with a rational attitude will make a decision based on financial literacy. For example, when someone is going to invest their funds in a certain type of investment, they will use existing information, such as the benefits and risks that exist in that type of investment. Meanwhile, an investor with an irrational attitude will base his decision on several factors, such as psychology and demographics. According to [30], one of the psychological factors that influence financial behaviour is locus of control. While in demographic factors, according to [31] race and ethnic background have a tendency to influence financial behaviour.

[32] states that there are several things that underlie a person in making investment decisions. First is the return which is the main reason that makes someone invest. Second is risk, the greater the expected return from a type of investment, the higher the risk. Third is the relationship between return and risk. The relationship between the level of risk and the level of return is expected to be linear or unidirectional. [33] categorises investment types according to the level of risk, namely: bank accounts, capital markets, and real assets. Bank account is an investment in the money market is an investment made in assets included in banking products such as savings, deposits, and current accounts. Capital markets are investments in capital markets are investments made in assets such as stocks. Real assets are investments in fixed assets are investments made in assets that can be seen and can be measured clearly such as houses, land, gold, and so on.

Investment decision refers to the assets that will be invested by an individual or corporate body [34]. According to [35], investment decisions are funding decisions made to obtain more profitable returns in the future by ruling out immediate profits with certain specific objectives must be met for each investment, such as security against liquidity, growth and inflation and have a choice of risks and returns. So it can be concluded that investment decision is a financial decision in allocating funds owned to be invested to get better returns in the future.

Newman (1982) suggests that feelings of confidence are beliefs in what is known and felt. Self-confidence is self-awareness about his cognition [36]. According to [10] financial confidence is the self-belief needed to make the right financial decisions. Financial confidence is a feeling of

confidence in personal financial capabilities, this confidence increases as the financial decisions taken turn out to be beneficial [11]. Financial confidence when translated into Indonesian is financial confidence. So, it can be concluded that financial confidence is the belief in personal knowledge and ability to manage and control finances is good.

Based on the results of research by [12] related to student investment decisions in Illinois, United States, financial confidence can have a significant influence in increasing investment decisions. [13] research reveals that investor confidence is able to significantly influence investment decisions in the Netherlands. The results of research by [14] in the United States found that investor confidence significantly influences investment decisions. Previous research reveals that self-confidence in investing, either in personal financial capabilities or because of good economic conditions, can increase the probability of investors to invest in capital markets that tend to be higher risk. Based on the theoretical framework above, the hypotheses that the authors propose are:

H1: There is a significant effect of Financial Confidence on Investment Decision.

Herding behaviour is the tendency of investors to imitate the decisions of other investors because it is considered more profitable [37]. Herding is the desire to follow other people's decisions because investment policies by many people can reduce risk. [38]. Herding is the behaviour of imitating the actions of others [6]. Herding is the behaviour of imitating other investors' decisions when an individual is unsure of the investment he wants to make [39]. So, it can be concluded that herding is the behaviour of investors following other people's investment decisions for both irrational and rational reasons.

Research by [40] herding produces a significant influence with a positive direction on the selection of investor investment decisions in Vietnam. Based on [41] research in India, herd behaviour has a positive and significant influence on investment decisions. Research by [42], herding is able to significantly influence investment decisions on investor respondents in Pakistan. Previous research explains that herding is caused by investors who want to avoid personal losses and try to gain profits by following the investment decisions of other investors who are considered more established. [43] in their research on millennial investors in Semarang, stated that investors consider herding in making investment decisions. One of them is by looking at the number of shares (volume of shares) traded by other investors in order to find out whether the shares have the potential to be purchased or vice versa. [43] has the result that herding has a positive and significant effect on investment decision making. This means that if herding increases, herding will be increasingly considered in making stock investment decisions. Therefore, if there is herding that makes other investors not buy, then investors will not make investment decisions on these shares and if other investors' decisions buy certain shares, it will influence investors to make investment decisions in these shares.

According to [44] herding is one of the important factors that positively influence investment decisions with one of the statements that investors seek nests from brokers before investing in order to make better investment decisions. According to [45] herding has a positive effect on investment decision making in the UAE and is one of the five factors that influence investment decision making. According to [46] investors in Indonesia are positively influenced by herding when making investment decisions. Because investors in Indonesia tend to ignore their own abilities and rely more on the investment decisions of others who are considered experts in investing. According to [47] herding has a positive and significant effect on Pakistani investors. This happens because many people do not have access to the same information, therefore investors tend to follow the investment decision making of large companies, because they are considered to

have more information and can make better investment decisions. Based on the theoretical framework above, the hypotheses that the authors propose are:

H2: There is a significant effect of Herding Bias on Investment Decision

Confirmation bias is an action that seeks proof of the choices or beliefs, or expectations or hypotheses that the person has determined, both in terms of existing information and news [16]. Confirmation bias is one of the cognitive biases or cognitive errors that will affect the investor's understanding of the stock, because it only seeks justification of the expectations that the investor has, and will avoid or reject information or news that contradicts the expectations or hypotheses that the investor has.

[20], in their research stated that confirmation bias has a positive influence on investment decision making. Thus, if confirmation bias increases, confirmation bias will be increasingly considered in making investment decisions. According to [19], confirmation bias has a positive and significant influence on investment decision making. In the study, it is explained that investors only seek information that is in accordance with their investment choices and ignore information that contradicts their beliefs. So that if the investor already believes that the stock is good, then the investor will look for good information about the stock and ignore conflicting information and the investor will be more confident to make an investment decision on the stock. Likewise, if investors already have the belief that the stock is not good, then investors will look for bad information about the stock and ignore good information about the stock and will be more confident not to make investment decisions on the stock.

According to [48], investors tend to ignore information that conflicts with the investment choices they will make. This shows that confirmation bias, increases the accuracy of investment decision making by investors. With a lot of news and information that supports the investor's stock choice opinion, it will increase the influence of making investment decisions because they hope to make better decisions. Vice versa, if there is little news and information that supports investors' stock choices, they will not be influenced to make investment decisions because they believe they cannot make good investment decisions. According to [21], confirmation bias has a positive effect on investment decisions for investors in India. According to [18] Confirmation bias has a positive effect on community investors at Singaperbangsa University in Karawang. Based on the theoretical framework above, the hypotheses that the authors propose are:

H3: There is a significant effect of Confirmation Bias on Investment Decision

2. RESEARCH METHOD

This study uses a population of investors from people who are active in DKI Jakarta who have invested for at least 6 months with the hope that investors already have enough knowledge in investing. Because respondents do not get the same opportunity, the research conducted will use convenience sampling. Which uses the criteria: Respondents are active in Jakarta, Respondents are stock investors, Respondents have invested in stocks for at least 6 months.

Researchers obtained 225 respondents obtained by researchers from distributing google form questionnaires through personal chat and various social media groups starting on 17 October 2023 until an estimated 10 November 2023. [49] wrote that Nullaly, the sample is taken based on how many items of measuring instruments are used and then multiplied by 5 or 10. In this study, the number of measuring instruments that researchers used was 22 items, therefore the respondents

needed were 220 samples. Alwi's journal, (2012) also wrote that Crocker & Algina (1986), stated that for 20 measuring instruments, it requires a minimum of 220 respondents to maintain stability.

According to Greer and Stephens (2001), the measurement of Financial confidence in decision making is the knowledge and ability of investors. Knowledge concerns how individuals believe their knowledge and resources can help them make decisions. [50] measure financial confidence based on respondents' self-assessment of their financial capabilities and knowledge, which is presented in the form of statements into indicators. Financial confidence in this study is measured using the following indicators:

Tabel 1. Operationalisation of Financial Confidence Variables

Variable	Indicator	Code	Source
<i>Financial Confidence</i>	I have a clear idea of the type of financial products I need.	FC1	Greer & Stephens (2001) Ramalho & Forte (2018)
	I know how to get professional help and advice for financial matters.	FC2	
	I know how much money I will earn and how much I will spend.	FC3	
	I am good at budgeting and managing my money.	FC4	
	I am confident that I can solve money problems on my own.	FC5	
	I feel able to cope with the stress and worry caused by money problems.	FC6	

Based on research by [51] and Kimeu [52], the measurement of herding is carried out through the tendency of respondents to react and make investment decisions based on other investors' decisions which are presented in the form of statements as indicators. Herding in this study is measured using the following indicators:

Tabel 2. Operationalisation of *Herding Bias* Variables
 Source: Cao, Nguyen,dan Tran (2021)

Variable	Indicator	Code	Source
<i>Herding</i>	Other investors' decisions in choosing the type of investment have an impact on my decision.	H1	Cao, Nguyen, dan Tran(2021)
	I will react quickly to changes in other investors' decisions and follow their reactions to the stock market.	H2	
	Other investors' decisions to buy shares have an impact on my investment decisions.	H3	Kimeu(2016)
	Other investors' decisions to sell stocks have an impact on my investment decisions	H4	

Tabel 3. Operationalisation of Confirmation Bias Variables

Variable	Indicator	Code	Source
<i>Confitmation Bias</i>	Other investors' decisions in choosing the type of investment have an impact on my decision.	H1	Arthauli (2019)
	I will react quickly to changes in other investors' decisions and follow their reactions to the stock market.	H2	
	Other investors' decisions to buy shares have an impact on my investment decisions.	H3	
	Other investors' decisions to sell stocks have an impact on my investment decisions	H4	

Confirmation bias is the tendency to obtain or evaluate new information that is the same as existing beliefs [53]. The measurement of this confirmation bias variable will be carried out on a Likert scale, which uses Arthauli's (2019) research with 4 items. The statements used as indicators in this variable are, not using information and opinions that are not in line with opinions and using information and opinions that are in line with investors' opinions.

Research by [54] and [55] measures respondents' investment decisions based on investment objectives, profit expectations, length of time, and respondents' understanding of the investment decisions chosen which are then presented in the form of statements as indicators. Investment decision in this study is measured using the following indicators:

Table 4. Operationalisation Investment Decision Variable

Variable	Indicator	Code	Source
<i>Investment Decision</i>	I invest to meet emergency needs.	ID1	Dash K. M. (2010)
	I am confident that I can solve the investment problem that I made.	ID2	
	Investment is important to do.	ID3	
	I believe investing in the capital market is profitable.	ID4	
	I have both short-term and long-term investment plans.	ID5	
	I study the risks that will be accepted before making investment choices.	ID6	
	Investment is a protection from inflation.	ID7	Dan Kadariya (2012)
	I invest to fulfil my future needs.	ID8	
	I will look for the most favourable return from existing investments.	ID9	
	The results of my investment decisions are in accordance with my investment objectives.	ID10	
	The expected return and risk are based on consideration of the length of time of the investment.	ID11	
	I know when to sell or buy an investment.	ID12	

The data analysis technique used to answer the problem formulation contained in the study uses PLS-SEM with the help of Smart PLS software due to limited samples. In PLS-SEM analysis there are 3 stages, the first stage is model specification, then the second stage is outer model evaluation and the last stage is inner model evaluation.

At the model specification stage, the inner and outer models will be determined to explain the relationship between each indicator and the most appropriate variable concept. In determining the inner and outer models, you must first determine the inner model, then in determining the outer model, you need to pay attention to the selection of a multi-item scale or single-item scale.

3. RESULTS AND DISCUSSIONS

Based on the data processing that has been done, the results can be used to answer the hypothesis in this study. Hypothesis testing in this study was carried out by looking at the T-Statistics value and the P-Values value. The research hypothesis can be declared accepted if the P-Values value <0.05. The following are the hypothesis test results obtained in this study:

Table 5. Hypothesis Analysis Result

Variabel	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Financial Confidence → Invesment Dicism	0,532	0,528	0,077	6,873	0,000
Herding Bias → Invesment Dicism	0,219	0,211	0,092	2,388	0,019
Confirmation Bias → Invesment Dicism	0,230	0,245	0,094	2,435	0,237
GOF (Goodness of Fit) = 0,715		R-Square = 0,727		Q Square = 0,520	

Based on the results of testing through the table above, it can be concluded that H1 is not rejected because Financial Confidence has a t-statistic value of 6.873 and a p-value of 0.000, so it can be said that the Financial Confidence variable has a significant effect on Invesment Dicism, H2 is not rejected because Herding Bias has a t-statistic value of 2.388 and a p-value of 0.019, so it can be said that the Herding Bias variable has a significant effect on employee Invesment Dicism. Meanwhile, H3 is rejected because Confirmation Bias has a t-statistic value of 2.435 and a p-value of 0.237, so it can be said that the Confirmation Bias variable has no significant effect on Invesment Dicism.

The results of hypothesis testing explain that there is a significant influence between herding bias on investment decisions. Generation Z tends to have a herding attitude because of their environment and based on this study, the majority of respondents are students with a percentage of 75.5%, which means that most of them are still in the learning stage so it is possible to exchange ideas and discuss the investments they choose, so students who are classified as herding behaviour can let their personal information and follow the information of other investors who are considered to have more ability and knowledge and invest in the same dire.

ction. This research is in accordance with the theoretical basis of the herding bias variable, namely behavioural finance theory which explains that psychological factors arise due to the inability of efficient market theory to provide some explanation for observations in financial markets. Because of this inability, investors behave irrationally by following the decisions of investors who are considered to have more ability and knowledge so that they can influence investment decisions. The results of this study are in line with the results of research from [56], [8], [57], [58], and [47] which states that herding bias has a significant influence on investment decisions.

Financial confidence has a positive and significant influence on the investment decision of generation Z in Jakarta, the results of this study are similar to the research of [12], where confidence has a positive and significant influence on investment decisions. [13] research also revealed that investor confidence has a positive and significant effect on investor investment decisions in the Netherlands. Similar research by [14] which examines the effect of investor confidence in the United States suggests that confidence derived from personal financial capabilities or because of good economic conditions can increase the likelihood of investors to invest in the capital market. However, the results of this study are not in line with the results of [59] which reveals that confidence has no effect on stock investment decisions for investors in Finland.

In this study, the confidence studied is financial confidence which is defined as the belief in the investor's self-knowledge and ability to manage and control finances is good. Generation Z's

confidence in their financial knowledge and abilities will influence investment decisions. The results of the loading factor of the financial confidence indicator show that Generation Z's belief in the knowledge of the types of financial products needed and the belief that Generation Z can solve their own money problems are most dominant in explaining Generation Z's financial confidence. Generation Z who have a clear idea of the financial products they need, their personal financial condition, and are confident in their ability to manage their own money will choose investments that suit their needs. Generation Z who are confident in being able to overcome financial problems if they occur in the future will be more courageous in deciding to invest in the capital market with a higher level of risk.

There is no influence between confirmation bias on investment decision making, which means that confirmation bias has no influence when investors make investment decisions. This is different from the hypothesis at the beginning of the study, which states that confirmation bias has a positive influence on investment decision making. The results of this study may be due to when stock investors seek information but do not find information that is in line. Another reason, it is possible that respondents find most of the information available (both news and opinions), not in line and in accordance with what is in the thoughts and beliefs of respondents so that confirmation bias has no effect on respondents' investment decision making. This is not in accordance with the journals written by [21], and [18], [20], [19], and [48] they state that confirmation bias has a positive and significant effect on investment decisions. Not also in accordance with the research of [22] which states that confirmation bias has a negative and significant effect on investment decisions.

With the results Confirmation bias has no effect on investment decision making, this implies that issuers do not need to spend extra effort to control information circulating in the community because, it will not affect investment decision making.

4. CONCLUSIONS AND SUGGESTIONS

From the data that has been processed, Financial confidence, herding variables, and confirmation bias, have the following results on investment decisions: This situation means that investor confidence does not affect investment decision making, Herding Bias is significantly affected by investment decision making. This means that other investors' decisions in investing are not always followed by investors in making investment decisions, Confirmation bias has no effect on investment decision making. This indicates that stock investors do not just follow information that is in accordance with their beliefs in making investment decisions.

REFERENCES

- [1] Fadly, S. R. (2021). *Aktivitas Pasar Modal Indonesia Di Era Pandemi*. Kementerian Keuangan Republik Indonesia. <https://www.djkn.kemenkeu.go.id/kpkn-kupang/baca-artikel/13817/Aktivitas-Pasar-Modal-Indonesia-Di-Era-Pandemi.html>
- [2] Haryanto, K. P. P. N. R. I. (2020). Dampak Covid-19 terhadap Pergerakan Nilai Tukar Rupiah dan Indeks Harga Saham Gabungan (IHSG). *Jurnal Perencanaan Pembangunan: The Indonesian Journal of Development Planning*, 4(2), 151–165. <https://doi.org/10.36574/jpp.v4i2.114>
- [3] Wibowo, A., & Purwohandoko. (2018). Pengaruh Pengetahuan Investasi, Kebijakan Modal Minimal Investasi, Dan Pelatihan Pasar Modal Terhadap Minat Investasi (Studi Kasus Mahasiswa Fe Unesa Yang Terdaftar Di Galeri Investasi Fe Unesa). *Jurnal Ilmu Manajemen (JIM)*, 7(1), 192–201.

- [4] Codrington, Graeme and Sue Grant-Marshall, Penguin, 2004. Mind the gap.Nasdaq
- [5] Hawkins L. E., Versace C., & Abssy M. (2022). Generasi Z: What to Know Aboutthe Next Generation ofInvestors. NASDAQ.<https://www.nasdaq.com/articles/gen-z%3A-what-to-know-about-the-next-generation-of-investors>.
- [6] Virigineni, M., & Rao, M. B. (2017). Contemporary developments in behavioural finance. *International Journal of Economics and Financial Issues*, 7(1), 448-459.
- [7] KSEI. (2022). Statistik Pasar Modal Indonesia. KSEI Indonesia Central Securities Depository. www.ksei.co.id. Diakses pada 1 Oktober 2022.
- [8] Afriani, D., & Halmawati. (2019). Pengaruh Cognitive Dissonance Bias , Overconfidence Bias dan Herding Bias terhadap Pengambilan Keputusan Investasi. *Jurnal Eksplorasi Akuntansi, Jurusan Akuntansi Fakultas Ekonomi, Universitas Negeri Padang*, 1(4), 1650–1665. <http://jea.ppj.unp.ac.id/index.php/jea/article/view/168/127>
- [9] Chopde, S., & Kulkarni, N. (2017). Impact of Behavioral Biases on Investment Decisions of Individual Investors in Mumbai A sample study. *International Conference On Emanations in Modern Technology and Engineering(ICEMTE-2017)*,5(3),74–77.
- [10] Palameta, B., Nguyen, C., Hui, T. S. W., & Gyarmati, D. (2016). Link between financial confidence and financial outcomes among working-aged Canadians. *Social Research and Demonstration Corporation* 4(1), 52-64.
- [11] Morris, T., Maillet, S., & Koffi, V. (2022). Financial knowledge, financial confidence and learning capacity on financial behavior: a Canadian study. *Cogent Social Sciences*, 8(1), 1996919.
- [12] Jackson, A. T., Howes, S. S., Kausel, E. E., Young, M. E., & Loftis, M. E. (2018).The reciprocal relationships between escalation, anger, and confidence in investment decisions over time. *Frontiers in psychology*, 9, 11-36.
- [13] Hoffmann, A. O., & Post, T. (2016). How does investor confidence lead to trading?Linking investor return experiences, confidence, and investment beliefs.*Journal of Behavioral and Experimental Finance*, 12, 65-78.
- [14] Cupák, A., Fessler, P., Hsu, J. W., & Paradowski, P. R. (2020). Confidence, financial literacy and investment in risky assets: Evidence from the Survey of *Consumer Finances*. 20, 14-24.
- [15] Fridana, I. O., & Asandimitra, N. (2020). Analisis Faktor Yang Memengaruhi Keputusan Investasi (Studi Pada Mahasiswi Di Surabaya). *Jurnal Muara Ilmu Ekonomi Dan Bisnis, Universitas Negeri Surabaya*, 4(2), 396–405. <https://journal.untar.ac.id/index.php/jmieib/article/view/8729/6006>
- [16] Setiawan, Y. C., Atahau, A. D. R., & Robiyanto, R. (2018). Cognitive Dissonance Bias, Overconfidence Bias dan Herding Bias dalam Pengambilan Keputusan Investasi Saham. *AFRE (Accounting and Financial Review)*, 1(1), 17–25. <https://doi.org/10.26905/afr.v1i1.1745>
- [17] Herlina, H., Hadioanto, B., Winarto, J., & Suwarno, N. A. N. (2020). The Herding and Overconfidence Effect on the Decision of Individuals to Invest Stocks. *Journal of Economics and Business*, 3(4), 1387–1397.
- [18] Situngkir, T. L., Nugraha, & Disman. (2021). *Perilaku Bias Dalam Menentukan Keputusan Investasi*. 7–15. <https://doi.org/10.32528/psneb.v0i0.5145>
- [19] Cheng, C. X. (2018). Confirmation Bias in Investments. *International Journal of Economics and Finance*, 11(2), 50. <https://doi.org/10.5539/ijef.v11n2p50>
- [20] Hameed, W. U., Sabir, S. A., Razzaq, S., & Humanyon, A. A. (2018). The Influence Of Behavioural Biases On Investment Decision Making: A Moderating Role Of Religiosity Among Pakistani Investors. *International Journal of Management Research and Emerging Sciences*, 8(1), 87–98. <https://doi.org/10.1186/s40497-018-0112>

- [21] Joo, B. A., & Durri, K. (2018). Impact of Psychological Traits on Rationality of Individual Investors. *Theoretical Economics Letters*, 08(11), 1973–1986. <https://doi.org/10.4236/tel.2018.811129>
- [22] Abiola, B., & Adetiloye, K. (2012). Investors Behavioral Biases and the Security Market: An Empirical Study of the Nigerian Security Market. *Accounting and Finance Research*, 1, 219–229. <https://doi.org/10.5430>
- [23] Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211.
- [24] East, R. (1993). Investment decisions and the theory of planned behaviour. *Journal of Economic Psychology*, 14(2), 337-375.
- [25] Gopi, M., & Ramayah, T. (2007). Applicability of theory of planned behavior in predicting intention to trade online: Some evidence from a developing country. *International Journal of Emerging Markets*. Vol. 2 No. 4, pp. 348- 360.
- [26] Alleyne, P. (2011). Using the theory of planned behaviour and risk propensity to measure investment intentions among future investors. *Journal of Eastern Caribbean Studies*, 36(1), 1-21.
- [27] Ikram, Z. (2016). An Empirical Investigation on Behavioral Determinantson ,
- [28] Awais, M., Fahad Laber, M., Rasheed, N., & Khursheed, A. (2016). Impact of financial literacy and investment experience on risk tolerance and investmentdecisions: Empirical evidence from pakistan. *International Journal of Economics and Financial Issues*, 6(1), 73–79.
- [29] Charles, P. Jones, Invesment: Analysist and Management, Ninth edition, New York: John Wiley&Sons Inc.,1995.
- [30] Rotter, J.B. 1966. Genaralized Expectancies for Internal Versus External Control of Reinforcement. Pshycologycal Monographs. Vol. 80, pp. 1-28.
- [31] Perry, V. G. (2000). Antecedents of consumer financing decisions: A mental accounting model of revolving credit usage. *The University of North Carolinaat Chapel Hill ProQuest Dissertations Publishing*, 9979480.
- [32] Tandelilin, Eduardus. 2010. Portofolio dan Investasi: Teori dan Aplikasi. Edisi 1. Kanisius. Yogyakarta
- [33] Ainia, N. S. N., & Lutfi, L. (2019). The influence of risk perception, risk tolerance,overconfidence, and loss aversion towards investment decision making.
- [34] Hirshleifer, J. (1958). On the theory of optimal investment decision. *Journal of political economy*, 66(4), 329-352.
- [35] Kishori, B., & Kumar, P. D. (2016). A study on factors influencing the investors' decision making in stock market with special reference to Indian stock market.*International Journal of Management and Commerce Innovations*, 4(1), 39- 43.
- [36] Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American psychologist*, 34(10), 906.
- [37] Hirshleifer, D., & Teoh, S. H. (2009). Thought and behavior contagion in capital markets. *In Handbook of financial markets: Dynamics and evolution* (pp. 1- 56). North-Holland.
- [38] Bakar, S., & Yi, A. N. C. (2016). The impact of psychological factors on investors' decision making in Malaysian stock market: a case of Klang Valley and Pahang. *Procedia Economics and Finance*, 35, 319-328.
- [39] Kumar, S., & Goyal, N. (2015). Behavioural biases in investment decision making–a systematic literature review. *Qualitative Research in financial markets*. Vol.7 No. 1, pp. 88-108.
- [40] Greer, C. R., & Stephens, G. K. (2001). Escalation of commitment: A comparison of differences between Mexican and US decision-makers. *Journal of Management*, 27(1), 51-

- 78.[http://www.ijritcc.org/download/conferences/ICEMTE_2017/Track_6_\(Others\)/1489991707_20-03-2017.pdf](http://www.ijritcc.org/download/conferences/ICEMTE_2017/Track_6_(Others)/1489991707_20-03-2017.pdf). <https://doi.org/10.5296/ijaf.v7i1.11421>
- [41] Gupta, S., & Shrivastava, M. (2021). Herding and loss aversion in stock markets: mediating role of fear of missing out (FOMO) in retail investors. *International Journal of Emerging Markets*. Vol. 17 No. 7, pp. 1720-1737.
- [42] Qasim, M., R.Y. Hussain, I. Mehboob and M. Arshad. 2019. Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting* 5:81–90. *overconfidence bias on investors' decision-making in P.Accounting*, 5(2), 81–90. <https://doi.org/10.5267/j.ac.2018.07.001>
- [43] Adielyani, D., & Mawardi, W. (2020). The Influence of Overconfidence, Herding Behavior, and Risk Tolerance on Stock Investment Decisions: The Empirical Study of Millennial Investors in Semarang City. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 10(1), 89. <https://doi.org/10.30588/jmp.v10i1.691>
- [44] Jain, J., Walia, N., & Gupta, S. (2019). Evaluation of behavioral biases affecting investment decision making of individual equity investors by fuzzy analytic hierarchy process. *Review of Behavioral Finance*, 12(3), 297–314. <https://doi.org/10.1108/RBF-03-2019-0044>
- [45] Christopher, D. S. E. (2020). Individual Investor's Behavioral Biases on Investment Decision Making in UAE. *Journal of Xi'an University of Architecture & Technology*, XII(VIII), 1069–1092.
- [46] Rahayu, S., Rohman, A., & Harto, P. (2021). Herding Behavior Model in Investment Decision on Emerging Markets: Experimental in Indonesia. *Journal of Asian Finance, Economics and Business*, 8(1), 053–059. <https://doi.org/10.13106/jafeb.2021.vol8.no1.053>
- [47] Qasim, M., Hussain, R., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting*, 5(2), 81-90.
- [48] Supramono, S., & Wandita, M. (2017). Confirmation Bias, Self-Attribution Bias, Dan Overconfidence Dalam Transaksi Saham. *Jurnal Keuangan Dan Perbankan*, 21(1), 25–36. <https://doi.org/10.26905/jkdp.v21i1.1224>
- [49] Alwi, I. (2012). Kriteria Empirik Dalam Menentukan Ukuran Sampel. *Jurnal Formatif*, 2(2), 140–148.
- [50] Ramalho, T. B., & Forte, D. (2019). Financial literacy in Brazil—do knowledge and self-confidence relate with behavior?. *RAUSP Management Journal*, 54, 77- 95.
- [51] Cao, M. M., Nguyen, N. T., & Tran, T. T. (2021). Behavioral factors on individual investors' decision making and investment performance: A survey from the Vietnam Stock Market. *The Journal of Asian Finance, Economics and Business*, 8(3), 845-853.
- [52] Kimeu, C., Anyango, W. & Rotich, G., (2016). Behavioural Factors Influencing Investment Decisions Among Individual Investors in Nairobi Securities Exchange. *Journal of Business and Change Management*, 3(4), pp. 1243- 1258.
- [53] Allahverdyan, A. E., & Galstyan, A. (2014). *Supporting Information for Opinion Dynamics with Confirmation Bias*. 1–12.
- [54] Dash, M. K. (2010). Factors influencing investment decision of generations in India: An econometric study. *Int. J. Buss. Mgt. Eco. Res*, 1(1), 15-26.
- [55] Kadariya, S. (2012). Factors affecting investor decision making: A case of Nepalese capital market. *Journal of Research in Economics and International Finance (JREIF)*, 1(1), 16-30.
- [56] Addinpujoartanto, N. A., & Darmawan, S. (2020). Pengaruh Overconfidence, Regret Aversion, Loss Aversion, Dan Herding Bias Terhadap Keputusan Investasi Di Indonesia. *Jurnal Riset Ekonomi Dan Bisnis*, 13(3), 175. <https://doi.org/10.26623/jreb.v13i3.2863>
- [57] Baker, H. K., Kumar, S., & Goyal, N. (2021). Personality traits and investor sentiment. *Review of Behavioral Finance*, 13(4), 354–369. <https://doi.org/10.1108/RBF-08-2017-0077>

- [58] Subramaniam, A., & Velnampy, T. (2017). The Role of Behavioural Factors in the Investment Decisions of Household Investors. *International Journal of Accounting and Financial Reporting*, 7(1), 392.
- [59] Aspara, J. (2013). The role of product and brand perceptions in stock investing: Effects on investment considerations, optimism and confidence. *Journal of Behavioral Finance*, 14(3), 195-212.
- [60] Arthauli, J. (2019). *Pengaruh Emotional Bias Terhadap Pengambilan Keputusan Investasi Saham (Studi Pada Industri Keuangan Bursa Efek Indonesia)*. Control. 26, 44–50