

Effect Of Portfolio Investment Optimization Risk-Based And Efficiency Investment On Investment Decision

S. Syahyono

Universitas Islam 45 Bekasi
Syahyono@unisma.ac.id

ABSTRACT

During the current pandemic, the number of investors in Indonesia is increasing rapidly. It is an exciting thing how novice investors make decisions and face risks. On investment to minimize risk can be done with an investment portfolio. This study tries to offer investment efficiency factors and risk-based investment portfolio optimization so that investors in making investment decisions will feel satisfied and can meet their investment goals. The method used is descriptive quantitative. The sampling technique used the purposive sampling technique.

The study results indicate that risk-based investment optimization and investment efficiency have a positive influence on investment decisions. It can ensure that accuracy in optimizing investment portfolios and increasing investment efficiency by investors can increase the efficiency of Investment Experience in investing.

Keywords: risk-based portfolio, investment efficiency, investment decisions.

INTRODUCTION

Investments are made with the hope of making a profit in the future. In investing, investors want to maximize profits and minimize the risk of loss. Investors try to maintain the purchasing power of investors' investments; in other words, the return must be no less than the inflation rate. Capital appreciation by investors has the proper purpose when investors want the portfolio to grow in real terms from time to time to meet future needs.

During the current pandemic, the number of investors in Indonesia has increased quite rapidly. Based on data from the Indonesian Central Securities Depository (KSEI), the number of investors, including stock, mutual funds, and bonds investors in the capital market as of September 30, 2021, has reached 6.43 million investors. This number has increased by 66% compared to the end of 2020, or a five-fold increase since 2017. This figure is dominated by retail investors whose proportion reaches 90% of the total. It is interesting how these novice investors make investment decisions and minimize risk. Insecurity investment to reduce risk can be made with an investment portfolio. Haryono and Tarigan (2015) define a portfolio as a collection of several combined assets based on specific criteria. Efficient portfolios are combined to create an efficient frontier of return opportunities (Nevins, 2010).

Portfolio and risk are considered in determining investment decisions. The composition of the portfolio, the allocation of assets, and the choice of risk are essential. Decision makers' preferences tend to be multifaceted, open to change, and often only formed during the decision process itself. Decision-making appears to be adaptive, in the sense that the nature of the decision and the environment in which the decision is made contribute to the choice of the decision-making process or technique.

According to Barberis (2013), the prospect theory emphasizes that investment decisions are at risk. The desire for tolerance possessed by investors in forming portfolios forms investment risk (Pak & Mamod, 2015). This research is based on portfolio selection and provides better results, such as how to diversify investment choices into various aspects, namely risk, return, safety, and security (Senthamizselvi & Ram, 2020).

The process of how investment selection is realized is essential in optimizing portfolio investment based on risk-on investor behavior, as in the study of Sachse, Jungermann, Belting (2012), that investment decisions and investment efficiency will depend on investment risk. Likewise, the form of risk that investors will face is embedded in investors' minds. Risk in Behavioral Portfolio Theory is a failure to fulfill the wishes of investors by their objectives and an error that occurred in the past (Statmant & Clark 2013). Some investors use standard risk calculations to structure their portfolios and risks, creating cognitive and emotional biases when making investment decisions (Ben et al., 2012). This study tries to offer investment efficiency factors and risk-based portfolio investment optimization so that investors in making investment decisions will feel satisfied and can meet their investment goals.

LITERATURE REVIEW

Prospect Theory

Prospect theory describes how individuals evaluate profits and losses. This theory explains how investors make decisions in conditions of uncertainty (Kahneman & Tversky 1979 in Safiq et al. 2019). Prospect theory emphasizes investment decisions under risk (Barberis, 2013).

This theory mentions two specific thought processes: editing and evaluation. The rankings are ordered during the editing state according to a basic "rule of thumb" (heuristic), which contrasts with the complex algorithm in the previous section. Then, several reference points that provide a relative basis for assessing gains and losses are established during the evaluation phase. The value function, passing through this reference point and assigning a "value" to each positive or negative outcome, is S-shaped and asymmetric to reflect loss aversion (i.e., the tendency to feel the impact of loss more than gain). It can also be considered risk-seeking in the loss domain (reflection effect).

Portfolio Behavior Theory

Portfolio Behavioral Theory is built based on the wishes of investors. Investors will satisfy the desire for more than just profit, but rather to take advantage of emotional and expressive gains and avoid unnecessary costs. The prevailing conditions of this theory are in states, resources, knowledge, time, physical fitness, and even culture. They are taking into account indifference, cognition, emotional guilt, and guilt on past experiences so that it will become a benchmark for hope for future success. Risk in portfolio behavior theory fails to satisfy investors' desires, not the variance of portfolio returns. So that the purpose of BPT can be described as a pyramid that the more extensive base is protection against poverty, and at the top which is tapered is the prospect of wealth. Investors rebalance their portfolios, which is nothing but the best choice in satisfying their desires. Risk is considered a failure to achieve goals (Shefrin & Statman 2000).

Investment Decision Theory

Behavioral decision theory incorporates evidence about how people behave into decision-making models. Nobel laureate Herbert Simon proposed one of the earliest alternatives to expected utility theory. Simon (2000) notes that "the task is to replace the global rationality of human economics with the kind of rational behavior that corresponds to the access to information and computational capacity that organisms, including humans, actually engender in the kinds of environments in which organisms live." Although this is not an easy task, Simon and other decision researchers recognize that the traditional paradigm does not describe the behavior of real people. According to Simon, people "satisfy" rather than "optimize" meaning they choose actions that meet their most essential needs, but the choices may not be optimal.

The investment decision theory proposed by Swatz (1998) in his book Baker & Nofsinger (2010) that, the main findings that allow them to test investment decisions further are:

1. The reasoning of decision-makers usually involves heuristics rather than careful calculation. Sense by analogy from experience is pervasive.
2. Competitive pressure affects the acquisition level of maximization studies as the company's primary goal. The results show that competitive pressure is also significant to encourage the implementation of cost minimization and profit maximization that occurs.
3. Even companies that claim that they seek to maximize profits do not always employ implementation procedures that are consistent with these objectives, particularly in seeking information.
4. Loss loss and attitudes toward risk aversion in dynamic contexts differ somewhat from the results reported in experimental economic studies.
5. The problem of understanding data accurately is almost as significant as the lack of data. Improved coordination within companies often addresses some of the most severe problems caused by perceived economics.

Understanding how employers respond to what they perceive as barriers is as important as identifying the constraints themselves in determining the most effective means of mitigating adverse consequences and designing policies.

Investment Efficiency

Investment efficiency is a function of risk, return, and the total cost of investment management, depending on the investor's constraints. These constraints include financial and non-financial elements, such as investor time available to manage investment arrangements, accountability as a fiduciary, or legislative requirement. Therefore, investment efficiency should be considered a combination of financial and non-financial efficiency. (Hodgson et al., 2011).

Concept of Risk-Based Investment Portfolio Optimization

The study of optimizing the selection of a risk-based portfolio (Risk-Based Investment) is rooted in the Prospect theory that investment decisions are based on risk. At the same time, Optimal adopts Optimal Control Theory, the science of maximizing the results and minimizing the operating costs of physical, social, and economic processes. By developing prospect theory through Perception of Risk studies proposed by (Slovic, 1987), and Investment Risk (Olsen 1997), as well as Optimal Control Theory (Sethi, 2019) and Behavioral Portfolio Theory (Shefrin & Statman) illustrate that an investor has

The main task are to provide investment returns that are by the expected objectives along with the risks and returns offered for each investment and portfolio. Therefore, how investment selection is realized becomes essential in optimizing risk-based portfolio investment on investor behavior, as in the study of Sachse, Jungermann, Belting (2012), that investment decisions and investment efficiency will depend on investment risk. Likewise, the form of chance investors will face is embedded in investors' minds. The danger in BPT is a failure to fulfill the wishes of investors by their objectives and an error that occurred in the past (Statmant & Clark 2013). Various types of investment lie in the mental model of investment risks such as Volatility, Possibility of Loss, Anxiety, an overview of risk, Attention, amount of loss, predictability, recency, liquidity, and openness.

Maximizing the expected return on the portfolio is the primary motivating factor for an investor. Because investors have varied goals and always have a preference for portfolios that meet their goals. By carrying the spirit of BPT theory, investors can be helped by choosing the best portfolio so that the decisions taken are the best (Senthamizhselvi & Ram, 2020).

METHODS

This research was conducted through explanatory research. The research design uses causality research to examine the effect and relationship with a quantitative approach. The method used is a survey method. Data were collected from a predetermined sample using a literature study and a questionnaire as the primary data collection tool.

DISCUSSION

Next, the significance test results showed that the t-value and p-value ($\alpha = 0.05$) had met the requirements. The significance test of the (direct) effect is presented in the following table.

Table
Significant effect test
:: Direct Effect Inference

Model	Effect	coef	SE	t-value	p (0.05)	Hipotesis
	RBIP0 -					
	IND	0.217	0.056	3.869	0.000	accepted
	INE - IND	0.341	0.044	7.820	0.000	accepted

Source: Data processed

It can be seen that the effect of Investment Experience (IE) on Investment Decision (IND) is 0.072 which has a positive direction and the magnitude of the effect is minimal. And the effect of Risk-based Investment Portfolio Optimization (RBIP0) on Investment Decision (IND) is 0.341, which is positive.

The results of data analysis show that risk-based portfolio investment has a positive effect, supporting the research of Virlics (2003), that objective investment analysis, risk-based investment optimization on risk perception affects investment decisions, especially on psychological and emotional influences, so investors will optimize risk selection in allocating its portfolio as was done in this study. This shows tolerance for risk in making investment decisions. In contrast to research by

Aeknarajindawat (2020) that risk perception has a significant and negative effect on decision making, while in this dissertation research, risk tolerance is essential to optimize portfolio investment.

In the research of Koonce et al. (2005) that loss aversion can be avoided by controlling risk perception in portfolio choices, and myopic bias in investment decisions can act strategically in making portfolio policies. Returning to Bradbury (2015), risk returns on risk selection characteristics encourage investors to reconsider their investment decisions and promote higher risk-seeking behavior, compared to this study that loss aversion affects investment decisions (Aeknarajindawat, 2020).

In a bear market in developed countries such as America, risk perception affects investment objectives. As stated by Roszkowski & Davey (2010), it will affect investment decisions, but in Indonesia, portfolio selection is still the main focus rather than risk, although risk characteristics also affect it.

In this study, maximizing investment based on the character of risk is the most influential thing. Although it has a significant effect on investment decision-making, the relationship is fragile, investors can overcome mental accounting errors that occur by making efforts to maximize portfolio diversification and risk choices so that investment satisfaction can be achieved. Likewise, anchoring and framing biases have been resolved because risk and portfolio selection is based on their considerations.

Investors' efforts to optimize their portfolios will become stronger through investment efficiency in non-financial terms, which means that when investors maximize the risk character, efficiency is again a consideration, especially in terms of suitability and comfort for investors as an excellent mediation to increase investment. Investment decisions so that investors can overcome the occurrence of framing bias. Investors will overcome this by forming investment selection attributes based on the risk that is tolerated and chosen and assuming that portfolio diversification is one factor that determines the investor's comfort.

In a pandemic like this, that comfort is the main thing for investors to make investment transactions, and their decision making is to take advantage of framing bias, which is to prepare themselves to adjust investment choices based on risk because they know very well that risk is essential to be tolerated. It is not too grandiose to achieve high returns, but rather the sense of comfort that is obtained; when a sense of comfort is obtained, investment decisions will be taken. The role of optimizing risk-based portfolio investment, which is partially mediating, as a liaison itself becomes important in mediating decision making.

The effect of investment efficiency on investment decisions is significantly positive, which focuses specifically on the dominant non-financial aspects influencing investment decisions. Investors can overcome mental accounting bias in their investment decisions by increasing the ability to achieve investment efficiency appropriately and comfortably, which is achieved by investors, which will trigger investors to group portfolios. In these separate accounts, investors will separate portfolio types and risks according to their choice. Likewise, in overcoming the framing bias, investors will frame themselves that efficiency in terms of convenience will influence investment choices (investment decisions). He no longer stated himself in the information he received about his investment or portfolio financially but put it aside. If investors already feel comfortable, they will frame themselves to choose their investment. The anchoring bias in investment decisions is made when convenience has been obtained; information after that tends to be ignored because it is considered that the data is appropriate and can be

processed efficiently according to investors. So it also answers that the quality of information sources does not directly affect investment decisions because it must go through efficiency first, especially on non-financial convenience indicators. This is also in line with Abdallah's research (2019) that investment efficiency will improve investment decisions after the company has listed its shares on a different exchange or market so that individual investors will obtain important information for their decision-making.

Norris (2012) suggests that investment efficiency will be carried out if the right investment selection and asset portfolio management are carried out, making investment decisions easy to make. The role of investment efficiency is to bridge risk-based investments, which prioritizes maximizing portfolio diversification and its management. Although in this study, the non-financial aspects become essential and the non-financial aspects. Investment efficiency that affects investment decisions made by investors can overcome mental accounting bias, framing, and anchoring. Other preferences can also be triggered but not to a large extent. In the loss aversion bias, herding bias, emotional gap, and self attribution, although they can be overcome, they can be triggered due to financial aspects that arise. This could be due to fear of loss, follow-up and self-attribution that could lead to an overconfidence bias that was not considered. Agree with Norris; in this study, Investment efficiency also acts as a full mediator of optimizing risk-based portfolio investment and several independent variables such as investment experience, goal-based investment realization, and quality of information sources.

CONCLUSION

Based on the results of research and discussion, it can be concluded that Risk-Based Investment Portfolio Optimization has a positive influence at a moderate level on Investment decisions. Investors' accuracy in optimizing the investment portfolio can increase the efficiency of investment experience in investing. Likewise, Investment Efficiency has a positive influence at a moderate level on Investment decisions. Increased investment efficiency perceived by investors can increase accuracy in investment decisions.

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