Behavioral Bias in Retirement Planning: A Literature Review

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Abstract. A decent and good life is generally always desired by every individual because it can guarantee the future. Because every individual in old age will experience a decrease in income, investing is necessary to get a decent life. Increasing life expectancy makes retirement an essential element in human life. Many individuals desire a retirement in which they receive various profitable and sustainable benefits. However, this can only be done in a country with a good retirement system. In this case, Indonesia is in the 92nd position among 150 countries surveyed for the global retirement ranking. Compared to other ASEAN countries, Indonesia's ranking is still far below, especially when compared to countries with good retirement systems. The purpose of this study was to determine the retirement planning of each working individual from his behavioural biases, namely cognitive bias (overconfidence bias, representativeness bias) and emotional bias (self-control and regret aversion bias). This study uses the SLR (Systematic Literature Review) method. The findings also showed that the Indonesian people's awareness of making investment decisions is still low. In order to meet the needs of retirement, some individuals invest in the present, sacrificing consumption in the present to obtain income in the future. Therefore, individuals must carry out financial planning from a young age, namely setting aside around 30% -40% of monthly income for investment. Based on the literature review, some research showed that because of market fluctuations, retirees still felt they did not have enough money. In contrast, other studies showed that making good decisions could become more challenging with age. This could be influenced by someone's irrational attitude, expressed in behavioural biases.

Keywords: Behavioral Bias, Retirement Planning

1. Introduction

Every working individual will retire in his old age and experience a decrease in income. Thus, it is necessary to make a plan to deal with it, one of which is through investment to get a decent life. It is hoped that this investment can generate income that can be used for future needs. This is in accordance with [1] that workers will invest to get a decent life in old age.

Retirement is considered a breaker of routine activities for years, and many individuals are not ready for it. Problems that often arise during retirement include loss of routine work activities usually carried out, decreased income, reduced authority during active work (post-power syndrome), declining health conditions due to increasing age and increasing problems due to unstable finances.

Various profitable and sustainable benefits are much desired by individuals in their retirement years. This can be done if the country has a good retirement system. According to the 2020 Global Retirement Index, ten countries have the best pension systems in the world. This index measures the retirement system in 39 countries based on three sub-indices: sustainability, adequacy, and integrity. The ten countries can be seen in the following table.

Table 1. Ten Countries with the Best Retirement System in the World

NO	COUNTRY	SCORE INDEX	MARK
1	Dutch	82.6	A
2	Denmark	81.4	A
3	Israel	74,7	B
4	Australia	74,2	B

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5	Finland	72,9	B
6	Norway	71,2	B
7	Singapore	71,2	B
8	Sweden	71,2	B
9	Canada	69,3	B
10	Zealand New	68.3	B

With a good retirement system, the ten countries can provide various benefits to provide retirees with a sense of security. However, the life security of retirees who have not used the retirement system decreases yearly. Indonesia is in the 92nd position among 150 countries surveyed for global pension ratings (Natixis Global Asset Management survey results). Indonesia's rating is still far below when compared to other ASEAN countries, especially when compared to countries with good retirement systems.

The research results in England [2] show an increased sense of insecurity in retirement even though there is an increased income after making investment decisions. This is due to market turmoil, and retirees still feel that they do not have enough money. Research in the USA [3] shows that retirees invest in real estate and other assets around 2% -10%, and the perceived benefits are higher than workers, while research by [4] shows that making good decisions can become more challenging as people get older.

According to research by [5] over the past 30 years, all member states of the European Union have reformed their retirement systems. Reform analysis shows that retirement reforms that focus on long-term financial sustainability can increase the risk of old-age collapse, which is inconsistent with the primary goal of retirement planning. The results of a survey conducted in Indonesia, recorded at the Indonesian Central Securities Depository (KSEI) around the end of July 2020, show that the number of investors in Indonesia is still small compared to Indonesia's total population. These findings also show that the culture of the Indonesian people in making decisions to invest is still low.

Investment decision-making can be influenced by irrational attitudes. Irrational attitude is the attitude of one's thinking without the help of reason. Things that can cause investors to become irrational are decisions that are influenced by cognitive and emotional factors, and the form of this irrationality is expressed in behavioural biases. According to Pompian, irrational investment decisions are influenced by two behavioural biases, namely cognitive bias and emotional bias. Cognitive bias consists of overconfidence bias, representativeness bias, availability, confirmation bias, hindsight bias, and the illusion of control bias, and emotional bias consists of loss aversion bias, partisanship bias, self-control bias, regret aversion bias, and status quo bias.

The purpose of this study was to determine the retirement planning of each working individual from his behavioural biases, namely cognitive bias (overconfidence bias, representativeness bias) and emotional bias (self-control and regret aversion bias).

Behavioral Finance. Behavioural finance emerged in the 1990s in line with the demands of the development of the business and academic world, which began to respond to the existence of behavioural aspects or elements in the investment decision-making process. Behavioural finance is the study of human behaviour, especially the irrationality of decisions made by individuals in financial matters. Behavioral finance examines the influence of psychological aspects in making financial decisions. Therefore, behavioural finance is also known as the application of psychological concepts in finance ([1,6]). Behavioural finance uses a psychological perspective to understand human behaviour in influencing individuals to make financial decisions. Every human behaviour is influenced by psychology so this behaviour can affect individual decision-making [7]. According to Pompian, behavioral finance is a theory to understand individual behaviour in financial decisions.

Overconfidence Bias. Overconfidence can be interpreted as an attitude of self-confidence in which individuals have unwarranted beliefs in their intuitive reasoning, judgment, and cognitive abilities. The concept of overtrust comes from cognitive psychology, where a person overestimates his predictive ability and the accuracy of the information provided. An overly confident person will desire to take advantage of abilities considered superior to gain large profits. Individuals think they are smarter and better informed than they are. Overconfidence can be of two types:

a. Overestimation, in which investors are also confident or overconfident in their investment abilities.
b. Overprecision, that is, investors are also confident or overly confident with their investment appraisal.
c. Both overestimation and overprecision can cause mistakes in making investments.

Representativeness Bias. Investors who experience bias tend to overdo it when processing information to make a transaction decision [8]. This is in accordance with the statement that representativeness bias is decision-making based on stereotyped thinking and will cause investors to make wrong financial decisions. These, namely financial decisions, do not increase returns. This behavioral bias is caused by the limitations on thinking and emotional abilities that can lead to irrational behavior[9]. Two representative biases apply to individual investors:

a. Base rate neglect. In base rate neglect, investors try to determine the potential for success.
b. Sample size neglect. In sample size neglect, when investors assess the probable outcomes of certain investments, they often fail to properly consider the sample size of the modified data, misjudging that small sample sizes represent the population.

Self-Control Bias. Self-control is the individual ability to control his emotions and behavioural stimuli. Self-control makes it possible to control initial impulses to regulate emotions [10]. Self-control is related to saving behaviour and requires investors to avoid losses or to protect investments [11], which is the key to success in investing because, without self-control, investors will not be able to overcome temptation [12]. Self-control can help individuals to focus on a balanced long-term future and reduce vulnerability to psychological biases [13]. Self-control bias refers to a person's ability to control his impulses [9]. Investment behaviour, such as pension fund contributions and selected insurance premiums, is determined by individual self-control problems so that self-control bias can hinder investment decisions [9]. Self-control bias can cause individual investment to be lower than previously planned [14]. Self-control bias is a tendency that makes individuals consume today and reduce investment in the future [1].

Regret Aversion Bias. Regret aversion bias is an action to avoid making the same wrong decision because of fear of facing the same loss. Individuals who show regrets avoid obvious actions because there are some fears that the chosen decisions will be proven to be less than optimal. This bias seeks to prevent the pain of regret by making a wrong decision. This emotional phenomenon often arises in investors, causing individuals to refrain from losing positions for too long so as not to admit mistakes and realize losses. Individuals who suffer from regret will affect the decision-making process under certain conditions. Regret will cause the individual to doubt his previous decisions and beliefs. The regretful individual avoids the difficulties that arise from two types of mistakes:

a. Errors of Commission. Errors of commission occur when misguided actions are taken.
b. Errors of Omission. Errors of omission arise from indolence, that is, missed opportunities.

Regret differs from disappointment because the former implies the sufferer commits a negative action. In addition, a greater regret occurs because of errors of commission rather than errors of omission.

2. Methods

This study uses the SLR (Systematic Literature Review) method, which is a method for understanding much information and as a means of contributing to the success of answering questions [15]. The SLR aims to find as many research results as possible according to the specific research question by using appropriate and systematic methods to obtain varied and reliable results.

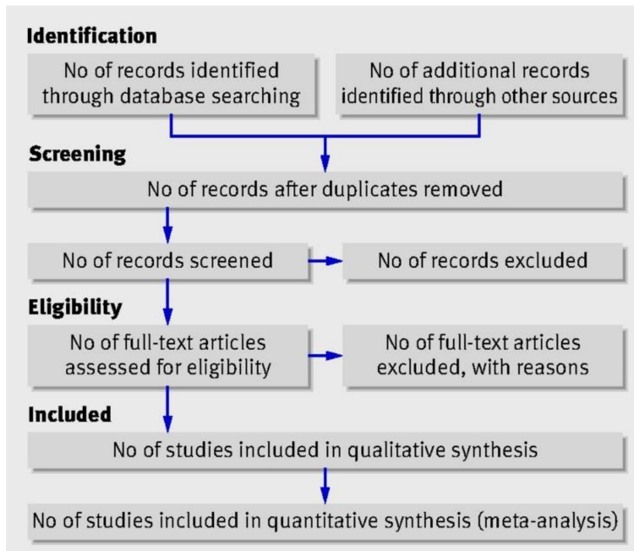

Figure 1. Four Phase Flow Diagram of PRISMA

3. Results and Discussion

In order to make the right investment decision-making, everyone needs to make rational decisions. However, since everyone cannot predict their future, it becomes contrary to the fact that individuals behave irrationally and make systematic errors in their predictions. At this time, financial actors realize that individuals can make irrational decisions.

Misunderstanding information will affect investment results, and emotional or psychological bias activities can make investors ignore negative things that have been known emotionally. A person's investment decision is based on rational considerations, primarily related to the level of return and risk of an investment choice, while the problem of this research is that in making an investment decision, a person can be influenced by his irrational attitude.

Investors with a conditional bias believe in their ability to evaluate events accurately, including making judgments about the situation. An overconfidence bias influences the decision to invest in retirement. This occurs when investors feel more confident than they should be [16].

The study results show that cognitive bias (overconfidence bias, representativeness bias) and emotional bias (regret aversion bias) affected investment decisions [17]. This research is also supported by [18,19], who said that representativeness bias, overconfidence bias, and regret aversion bias can influence investment decisions. This is in contrast to research conducted by [20], which shows that overconfidence could negatively affect investment decisions, while the research results from [21] show that regret aversion bias did not affect investment decisions.

Another factor that can affect individual investment decisions is individual self-control. Self-control is an activity that encourages a person to make savings by reducing impulse purchases [22].

The success or failure of financial management is influenced by self-control [23]. Self-control is associated with better financial management by resisting the urge to overspend. Therefore, spending money is based on wants, not needs [24]. Therefore, the self-control factor will affect individual decisions in investing. Self-control is the individual's ability to direct his behaviour and the ability to suppress or inhibit existing impulses. Self-control can be used to limit spending that is not useful and make an old-age planning decision.

The amount of income is often associated with old-age planning decisions, but this does not apply if a person does not have self-control. No matter how big his income is, he will not be able to invest if he cannot control himself for useless expenses. Someone with good self-control will tend to be confident about the actions taken and be more careful in doing anything because every action needs to be appropriately controlled. [25] proved that there was a significant influence of self-control on investment planning behaviour. In contrast, [26] stated that self-control had no significant effect on investment planning behaviour.

4. Conclusion

Every individual who works will retire in his old age, and to face that phase, every individual must prepare by making some plans. One of which is through investment in order to get a decent life at that time. It is hoped that this investment can generate income that can be used for future needs. This investment decision-making can be influenced by irrational attitudes expressed in behavioral biases.

From the literature review results, it was concluded that overconfidence bias, representativeness bias, regret aversion bias and self-control bias affected investment decisions. However, the results of other studies suggested that overconfidence could negatively affect investment decisions. However, there are also other studies whose results are contrary to the results of these studies. It showed that regret aversion and self–control biases did not affect investment decisions.

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