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Investment Decision Behavior Retirement Planning: An Analysis of Overconfidence Bias by Gender

Heraeni Tanuatmodjo[1], Toni Heryana[2], Nugraha[3], Disman[4]*
[1,3]Pendidikan Akuntansi, Universitas Pendidikan Indonesia, Bandung, Indonesia.
[2]Akuntansi, Universitas Pendidikan Indonesia, Bandung, Indonesia.
[4]Pendidikan Ekonomi, Universitas Pendidikan Indonesia, Bandung, Indonesia.

*Correspondence E-mail: heraenitanuatmodjo@upi.edu

ABSTRACT

The purpose of the study is to determine the effect of gender moderation which is moderated again by employee status (PNS and Non PNS Lecturers) on overconfidence bias in retirement planning. This research is included in the type of cross sectional research and the method used is the explanatory method. The research findings are gender and employee status (civil servant and non-civil servant lecturers) moderate the effect of overconfidence bias on retirement planning. If employee status is seen based on gender, the results do not affect retirement planning. Thus in making retirement planning, employee status affects retirement planning but is not determined by gender. This overconfidence is often stronger based on gender and employment status. In practical terms, this means that retirement planning and investment decisions are influenced by gender, as men and women have different levels of confidence. This study places the status of lecturers based on gender in moderating overconfidence bias towards retirement planning as a novelty in this study.

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1. INTRODUCTION

Retirement planning is one of the important elements in the life of every individual, if in retirement they want a decent income. However, there are individuals who are not ready to face retirement, so problems arise including loss of routine activities that are usually carried out, loss of part of income, loss of authority when still actively working (post-power syndrome), health that is decreasing with age, and financial problems that have begun to decline. One way is to do retirement planning through investment, as stated by (Pompian, 2012), that every working individual will invest in order to get a decent life in old age. Some individuals invest in the present, at the expense of consumption in the present to seek (obtain) income or investment returns that will be received in the future, in order to meet their needs in retirement (Puspitaningtyas, 2012). Therefore, since young individuals should have done financial planning, namely setting aside around 30%-40% of monthly income for investment. However, based on the results of the LIMRA (Life Insurance and Market Research Association) survey, only about 5% of people who live financially independent after their age are no longer productive or out of 100 only 5 people live financially independent.

Research in the UK (Yen, 2018) shows that there is an increasing sense of insecurity in retirement despite investment decisions due to market fluctuations that cause a perceived lack of money. According to research (Hinrichs, 2021), over the past 30 years, EU member states have reformed their pension systems. From the analysis of the reforms, it is found that pension reforms that focus on long-term financial sustainability may increase the risk of old-age poverty.

As stated in the theory of behavioural finance that irrational investment decisions are influenced by two behavioural biases, namely Cognitive bias which consists of overconfidence bias, reprentativeness bias, availability, confirmation bias, hindsight bias, illusion of control bias and emotional bias which consists of loss aversion bias, endowment bias, self-control bias, regret aversion bias, status quo bias. Investors who are in a state of bias, believe in their ability to accurately evaluate events, including making judgements about the situation (Pompian, 2012), as well as according to (Thaler and Shefrin, 1981), the decision to invest in retirement, is influenced by overconfidence bias. This occurs when investors feel more confident than they should.

Previous research shows that cognitive bias (overconfidence bias) affects investment decisions (Novianggie and Asandimitra, 2019) It is also supported by (Badshah and Irshad, 2016), and (Addinpujoartanto and Darmawan, 2020) that overconfidence bias affects investment decisions. The results of research conducted by (Anwar et al., 2017) show different results, that overconfidence bias has a negative effect on investment decisions. However, irrational investment decisions can also be influenced by demographic factors such as gender, age, income level, education, employment, marital status and investment experience. This is shown by the results of research from (Bradrania et al., 2022), that male households are more confident than women.

Likewise (Bhandari and Deaves, 2006), conducted a survey of about 2,000 members of the defined contribution pension plan, it is said that investors are very confident, but it can be concluded that men are more likely to be overconfident. Research in India (M. Baker and Wurgler, 2007), mentioned that the most important demographic variables associated with individual investor behaviour bias and said that if based on gender, men are more confident than women about stock market knowledge. This is supported by the results of research in Australia conducted by (Watson and McNaughton, 2007) which examines the impact of gender on the risk preferences of staff pension funds in the Australian university sector, stating that women are generally considered more risk averse than men. This study seeks to empirically test demographic

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factors consisting of civil servant and non-civil servant lecturers as sub-moderating variables. The consideration of including employee status as a sub moderation of gender, considering that employee status is one of the important components that can determine a person's retirement planning.

2. METHODS

This research is included in the type of cross sectional research. The method used is the explanatory method, which is to provide an overview of the object under study from the sample data that has been collected and to determine the causal relationship between variables through a hypothesis test so that results will be obtained that prove a hypothesis is rejected or accepted. The study in this study is about the moderating effect of gender which is moderated again by employee status (lecturer) on overconfidence bias in retirement planning. Employee status in the study consists of civil servants and non-civil servants in Indonesia.

The variables in this study are retirement planning as the dependent variable, overconfidence bias as the independent variable, gender as the moderator variable, and employee status as the sub moderator variable. The unit of analysis in the study was all lecturers in Indonesia, with a population of 525,381 lecturers, and after using non-probability sampling techniques (convenience side) obtained a sample size of 325 lecturers, consisting of 154 civil servant lecturers and 171 non-civil servant lecturers.

This study consists of one independent variable, one dependent variable, one moderator variable, and one sub moderator variable so that the data processing uses MMRA (Moderated Multiple Regression Analysis). MMRA is used to analyze the moderating effects of Gender and Employee Status, both individually and interactively, on the relationship between Overconfidence Bias and Retirement Planning, allowing for the examination of complex interactions and conditional relationships among variables. The moderation regression equation is:

$$Y = \beta_0 + \beta_i X + \beta_i W + \beta_i Z + \beta_i X\,W + \beta_i XZ + \beta_i XWZ + \beta_i WZ$$

Description:
Y = Retirement Planning
X = Overconfidence Bias
W = Gender
Z = Employee Status (Lecturer)

3. RESULTS AND DISCUSSION

This study uses the third Hayes model Conditional Process Modeling (CPM) analysis technique. The results of the CPM analysis found that overconfidence bias on retirement planning shows a positive direction, which means that the higher the overconfidence bias, the better the individual's retirement planning, for gender and employee status shows a positive direction, which means that both gender and employee status strengthen the influence of overconfidence bias on retirement planning, while for employee status based on gender shows a negative direction, which means that employee status based on gender weakens the influence of overconfidence bias on retirement planning.

The results of data processing can be seen in **Table 1** below:

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Tabel 1. Model Summary

RA	R-square	F	p
0,7340	0,5388	52,9055	0.0000

Based on **Table 1**, the R2 result is 0.5388 or 53.88%, which means that retirement planning is influenced by overconfidence bias by 53.88%, while the remaining 46.12% is influenced by other factors.

Tabel 2. Model 3

	coeff	***t***	***p***
Constant	11,1373	8,4545	0,0000
X	0,3176	5,8629	0,0000
W	-4,2677	-2,2678	0,0240
Int X*W	0,1633	2,1042	0,0361
Z	-7,8582	-3,9563	0,0001
Int X*Z	0,3182	3,8486	0,0001
Int W*Z	3,3938	1,2511	0,2118
Int X*W*Z	-0,1593	-1,4161	0,1577

After conducting a significance test which can be seen in **Table 2**, the results show that for the interaction between gender and overconfidence bias, it is known that $p < 0.05$, which means significant. Thus it can be said that gender moderates the effect of overconfidence bias on retirement planning and for the interaction between employee status and overconfidence bias it is known that $p < 0.05$ which means significant. Thus it can be said that employee status moderates the effect of overconfidence bias on retirement planning, while for the interaction

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between employee status based on gender and overconfidence bias it is known that p> 0.05 which means it is not significant. Thus, it can be said that employee status based on gender does not moderate the effect of overconfidence bias on retirement planning.

Every working individual will face a period where the individual enters a certain age and is considered no longer able to be optimally productive, which is commonly referred to as retirement. To face this retirement period so that his life can still be considered feasible, he must prepare himself, namely by doing retirement planning. Retirement planning must be done so that life after retirement still has a decent income, so it does not depend on others. However, in reality there are still individuals who do not think about their lives after not working anymore, especially if the individual has old age benefits, because the individual thinks that they still have income, even though their income is greatly reduced when compared to when they were still working.

There are things that are forgotten, that when a person is no longer working, it shows that he is approaching old age, which means that in general his health has begun to decline, so that it requires higher living costs that will be used for routine health checks. This causes expenses to increase, while income is already greatly reduced. Therefore, it is important for each individual to do retirement planning since the individual works. One of the retirement planning that can be done is by making investment decisions. By investing, it is hoped that it will get income for the future, so that this income can be used to meet future needs, especially during retirement. In making investments there are individuals who in making investment decisions are influenced by irrational attitudes (behavioural bias). An individual (investor) who is in a biased state, believes in his ability to accurately evaluate events, including making judgements about situations, in this case making investment decisions. According to (Thaler and Shefrin, 1981), the decision to invest in retirement is influenced by overconfidence bias. This occurs when investors feel more confident than they should.

From the results of the research conducted, it was found that overconfidence bias has a positive effect on retirement planning. This shows that the higher the overconfidence bias, the bolder the retirement planning will be, because someone who has a very high level of confidence, the individual is able to assess the existing situation in making investment decisions. The individual believes in his ability to make investment decisions, because he believes in his investment knowledge, so he is able to plan investments. In addition, the individual is confident in the investment information obtained, this causes him to be able to choose the right investment and be confident about the investment chosen, so he is brave in taking higher risks. For retirement planning in making an investment decision, individuals are not only influenced by behavioural bias, in this case overconfidence bias, but can also be influenced by other factors, namely demographic factors such as gender, education, income level, occupation, age, investment experience, and marital status.

In this study, other factors from demographics that influence retirement planning are gender as moderation and employee status (lecturer) as sub-moderation. Based on the research results obtained that the p-value <0.05 (significant), thus indicating that gender affects investment decisions, thus it can be concluded that to face the future, in this case preparing for retirement by doing retirement planning is also determined by gender. This is in accordance with the results of research in India (H. K. Baker et al., 2019), which states that demographic variables, in this case gender related to individual investor behavioural biases, affect investment decisions.

Likewise, with other demographic factors, which in this study are employee status (Lecturer), consisting of civil servant and non-civil servant lecturers, the results show that the p-value <0.05 (significant), thus indicating that employee status (Lecturer) affects investment decisions, thus

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retirement planning is also determined by employee status. However, if the employee status (Lecturer) is based on gender, the results of the significance test show that the p-value> 0.05 (insignificant), so it can be interpreted that if the employee status seen based on gender does not affect investment decisions, so that in making retirement planning, in this case making an investment decision, employee status affects investment decisions but is not determined by gender.

When viewed from the effect of overconfidence bias moderated by gender, the significance test results show that the p-value <0.05 (significant), which means that gender moderates the effect of overconfidence bias in a positive direction, so that the effect of overconfidence bias on retirement planning is strengthened by gender. This shows that retirement planning by individuals is influenced by gender, meaning that men and women will make different investment decisions for retirement planning based on overconfidence bias, because men and women have different levels of confidence. This is in accordance with research from (Bhandari and Deaves, 2006), surveying around 2,000 members of defined contribution pension plans, it is said that investors are very confident, but it can be concluded that men are more likely to be overconfident. Also supported by the results of research in Australia conducted by (Watson and McNaughton, 2007) which examines the impact of gender on the risk preferences of pension funds (pensions), stating that women are generally considered more risk averse than men.

Likewise, with moderation of employee status, the results of the significance test show that the p-value <0.05 (significant), which means that employee status (PNS and Non PNS Lecturers) moderates the effect of overconfidence bias with a positive direction, so that the effect of overconfidence bias on retirement planning is strengthened by employee status (PNS and Non PNS Lecturers). This shows that retirement planning carried out by individuals is influenced by lecturer status, meaning that between the status of civil servant and non-civil servant lecturers will make different investment decisions for retirement planning based on overconfidence bias, because civil servant and non-civil servant lecturers have different levels of confidence. This can be caused by differences in income after retirement. For civil servant lecturers, even though they have retired, at least they still have income even though it is smaller than before, while non-civil servant lecturers when they retire and no longer work have lost their income.

However, for the effect of overconfidence bias on retirement planning with gender moderation which is moderated again by employee status (Lecturer), the results of the significance test show that the p-value> 0.05 (insignificant), so it can be interpreted that if the employee status seen based on gender does not moderate the influence of overconfidence bias on investment decisions. so that in doing retirement planning, the employee status seen based on gender does not moderate the influence of overconfidence bias on investment decisions, so that in doing retirement planning, in this case making an investment decision, is not determined by the status if gender is considered, the meaning is that the status of employees (Lecturers) PNS and Non PNS when grouped by gender shows that it does not affect retirement planning based on overconfidence bias behaviour.

4. CONCLUSION

Based on the test results and previous discussion, it can be concluded that gender and employee status moderate the effect of overconfidence bias on retirement planning, while employee status based on gender does not moderate the effect of overconfidence bias on retirement planning. Organizations should provide targeted financial education and structured

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retirement planning programs that address gender and employee status differences to mitigate overconfidence bias and improve lecturers' retirement decisions.

The implications of this study, based on the theory of behavioural finance, overconfidence bias affects retirement planning and from research shows that gender and employee status can strengthen this influence, while empirically it can be explained that gender and employee status can determine lecturers' decisions in their retirement planning.

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