

The Effects of Financial Literacy and Financial Inclusion on Retirement Planning

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Abstract

This study aims to determine the effect of financial literacy and financial inclusion on retirement planning. Used a quantitative method with 236 respondents in Indonesia and processed by the method of multiple linear regression analysis. The results of the study show that financial literacy and financial inclusion have a significant effect on retirement planning, which means that the higher financial literacy and financial inclusion of a person, the better their retirement planning. Besides, the results of the study showed that respondents were dominated by moderate financial literacy, moderate financial inclusion levels, and high retirement planning levels.

Keywords

Financial Literacy; Financial Inclusion; Financial Behavior; Financial Knowledge; Financial Decisions; Retirement Planning

Received: 14 June 2019; Accepted: 27 June 2019 Published Online: 30 August 2019

DOI: 10.21776/ub.apmba.2019.008.01.2

Introduction

To achieve financial well-being, each individual is encouraged to make choices that will determine financial goals in every aspect of life. With the presence of various demographic, social and economic trends such as the baby boom and increasing life expectancy, changes in income and retirement planning, also the more and complex financial products offered, financial literacy is increasingly recognized. Both government and financial institutions also have an understanding of financial literacy needs in the community, so they can avoid mistakes in making

financial decisions and participate in building a better financial future (Raaij, 2016). The composition of the population in Indonesia is dominated by residents of productive age and is expected to continue to dominate for the next twenty years. This is referred to as a bonus demographic because the population with a large productive age is capital to realize high and sustainable economic growth.

The existence of pension funds in Indonesia is not as popular as other investment instruments. This is due to the view of the people who think that pension funds are only obtained by workers who work in the

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government sector only such as Civil Servants, Employees of State-Owned Enterprises, army, police, and others. Pension funds can also be submitted by individuals or corporations through the Financial Institution Pension Fund. It is known that in 2016 from the results of the National Survey on Financial Literacy and Inclusion, the financial literacy index of pension funds was 10.91 percent and ironically the financial inclusion index of pension funds was 4.66 percent. It is sufficient to prove that the public's understanding of the pension program is still relatively low. This has become a concern of various parties, especially the government, to increase public awareness of the importance of pension funds through financial literacy and inclusion.

According to data from the Central Statistics Agency per 2017, the number of formal workers in Indonesia reached 73.98 million workers. However, only 49.95 million workers were recorded as participants in pension plans, both Employer Pension Fund, and Financial Institution Pension Fund. Then the new pension fund participants reach 66 percent and the rest are still not protected against old age risks. In addition to the government's efforts to require workers to take part in an old age guarantee program, each individual needs to have the awareness to prepare it. Researchers have realized the influence of financial literacy on how someone makes economic decisions. Households that have high financial literacy will have better financial planning and pensions (Lusardi & Mitchell, 2007).

For each country, financial literacy is considered important for the community because the higher the financial literacy that is owned by the community influences financial decisions that are taken more optimally and influences every aspect of society. Many studies have shown that people

who have financial literacy will have an impact on the formation of financially independent communities, the reduced risk in each financial service sector, and support for the government in achieving financial prosperity for each individual. Because the Financial Services Authority made a National Survey of Indonesian Financial Literacy and Inclusion, this study will also include variables of financial inclusion. The level of financial inclusion illustrates how people have access to financial products and services provided by financial institutions. Financial inclusion is considered important because it is expected to increase opportunities for people's lives. However, ironically financial inclusion in Indonesia is relatively slow in recent years, it was reported from the results of a survey conducted by the Indonesian Financial Services Authority.

Analytical Framework

Retirement Planning

Pensions are withdrawals for the completion of work or career periods accompanied by changes in the value of resources and income. Furthermore, retirement is the process of separating individuals from their jobs, wherein carrying out their roles someone gets a salary (Kim et al, 2005). One of the keys to being able to successfully retire is the preparation that is carried out while still productive. Individuals who have made plans for their retirement tend to be more successful in adapting to changes in their lives. Retirement preparation is defined as an investment effort made by individuals who are still working for their welfare in retirement (Muratore and Earl, 2010).

The retirement planning program according to the Financial Services Authority is as follows:

1. Defined Benefit Pension Fund

The Defined Benefit Pension Program is a pension plan whose benefits are stipulated in a Pension Fund Regulation or another pension program that is not a Defined Contribution Pension Program. The defined benefit pension plan is only applied to the Employer Pension Fund. The amount of the pension benefit is stipulated in the Pension Fund Regulations with a certain formula. The value can be different between one company and another.

2. Defined Contribution Pension Fund

The Defined Contribution Pension Program is a pension plan whose contributions are stipulated in a Pension Fund Regulation and all contributions and development results are recorded in the account of each Participant as a Pension Benefit. The Defined Contribution Pension Program is a pension plan that is linked to contributions paid by the employer company and participant contributions (usually deducted directly from the participants' salary by the Company and deposited to the Pension Fund), then the funds are invested in investment products (money market, and capital market) according to applicable rules.

The type of retirement planning according to Law No. 11 of 1992 is as follows:

1. Employer Pension Fund

Employer Pension Fund is a pension fund formed by a person or entity that employs employees, as the founder, to hold a Defined Benefit Pension Program or a Defined Contribution Pension Program, for the benefit of some or all employees as participants, and which creates obligations to employers (Article 1 Paragraph 2 Law No. 11 of 1992).

2. Financial Institution Pension Fund

Financial Institution Pension Fund is a pension fund established by a bank or life insurance company to establish a defined contribution pension plan for individuals, both for employees of employers and independent workers who are separated from the Employer Pension Fund for employees of the Bank or the relevant Life Insurance Company (Article 1 Paragraph 4 Law No. 11 of 1992).

Financial Literacy

Financial literacy is knowledge and ability possessed by someone in a financial context. Things that are included in the financial context here are knowledgeable about personal finance, the ability to manage money, knowledge about credit, savings, investment, and risk. To determine the level of financial literacy sufficient, one must collect and process financial information which includes the context of interest rates, risk management, inflation, and asset management (Lusardi & Mitchell, 2007).

The level of financial literacy in Indonesia is divided into 4 parts by the Financial Services Authority, there are:

1. Well Literate, having knowledge and beliefs about financial service institutions and financial service products, including features, benefits, and risks, rights, and obligations related to financial products and services, and having skills in using financial products and services.
2. Sufficient Literate, having knowledge and beliefs about financial service institutions and financial products and services, including features, benefits and risks, rights, and obligations related to financial products and services.

3. Less Literate knows of financial services institutions, financial products, and services.
4. Not Literate lacks knowledge and confidence in financial service institutions and financial products and services and does not have the skills to use financial products and services.

Financial Inclusion

Financial inclusion is a process to ensure access to financial products and services needed by all sections of society including vulnerable groups such as low-income groups at affordable and fair costs by mainstream institutional players. Financial Inclusion aims to make easy access to financial services for large populations of underprivileged countries.

Financial inclusion, defined as the use of formal financial services, greatly determines economic development. Non-excluded individuals can financially invest in education and launch businesses, and this contributes to poverty reduction and economic growth. Financial inclusion provides individuals with the possibility of having a safe place to save for the future and can also promote financial stability because high bank deposit usage rates contribute to a more stable deposit base for banks in difficult times (Han and Melecky, 2013).

According to the United Nations, the main objectives of financial inclusion are as follows: Access at affordable costs for all households and companies in a variety of bankable financial services including savings, short and long-term loans, leasing and factoring, mortgages, insurance, pensions, payments, local money transfers, and international money transfers. A sound institution, guided by an appropriate internal management system, industry performance standards, and market performance monitoring. Financial and institutional

sustainability as a means to provide access to financial services from time to time. Many financial service providers, wherever possible, can be cost-effective and a variety of alternatives for customers that can include several combinations of private, non-profit and healthy public service providers. Increasing access to financial services will help overcome several obstacles that have hampered growth both at the individual and state levels.

Researchers have realized the influence of financial literacy on how someone makes economic decisions. Households that have high financial literacy will have better financial planning and pensions (Lusardi & Mitchell, 2007).

With financial inclusion, access to financial services from formal financial institutions such as savings, credit, payment facilities, pension funds, and several other products will greatly help marginalized and low-income groups to improve welfare (Allen, 2012)

World Bank (2010) revealed that there are at least four types of formal financial services that are considered vital for people's lives, namely fund storage services, credit services, payment system services, and insurance including pension funds. These four aspects are the basic requirements that every community must have to get a better life. Increasing public access to financial institutions is certainly a complex problem that requires cross-sectoral coordination involving banking authorities, non-bank financial institutions, and other ministries or agencies that are concerned with poverty alleviation efforts so that comprehensive and comprehensive policies are needed in a national inclusion strategy finance.

Before researching the Effects of Financial Literacy and Financial Inclusion on Retirement Planning, researchers first make observations on studies that have been done before.

Panu Kalmi and Olli-Peka Ruuskanen (2017) with the title "Financial Literacy and retirement planning in Finland". Kalmi and Ruuskanen conducted a study of 980 respondents to assess the level of financial literacy in retirement planning in Finland. The results show that financial literacy in Finland is relatively high, although it is not evenly distributed among the population. It was found that the relationship between financial literacy and retirement planning was stronger for women than for men. Other evidence from Finland shows that women are very vulnerable to poverty as pensioners. The positive relationship between financial literacy and retirement planning found in women might be a good thing because it shows that increasing financial literacy might be effective in promoting retirement planning for very vulnerable groups.

Based on the literature review that has been conducted, it can be concluded that there is still no research on the effect of financial literacy and financial inclusion on retirement planning. Therefore, the authors are interested in researching the effect of financial literacy and financial inclusion on retirement planning in which this research is a pure study of researchers who have never done the same research before.

The following are the hypotheses of this study:

H1: There is a significant effect of financial literacy on retirement planning.

H2: There is a significant effect of financial inclusion on retirement planning.

Research Methodology

The following are the model used in this study:

$$Y_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + e_i$$

Where:

Y_i : Retirement planning

α : Constants

β_1 : Financial literacy coefficient

X_{i1} : Financial Literacy

β_2 : Financial inclusion coefficient

X_{i2} : Financial inclusion

e_i : Error

This study has three variables, including two independent variables and one dependent variable. These three variables are measured using different measuring instruments. The first independent variable is financial literacy which will be measured using a Financial Literacy measurement tool adapted from the research of Rooij (2011), Klapper (2013) and Chen. Financial literacy can be measured based on four dimensions, including general financial knowledge, ability to calculate interest rates, understanding of inflation and understanding of risk diversification.

This measuring instrument consists of 13 question items. Each question is in the form of multiple choices with different commands. Each question is given several alternative answers where there is only one correct choice. To find out the score of each respondent, the researcher conducted a scoring by matching the respondent's answer with the answer key. Each correct answer is given a score of 1 and the wrong answer is given a score of 0. The scoring results of this financial literacy measure can be classified according to several categories, namely: Low financial literacy rate: a total score of 0 to 6, Medium financial literacy rate: total score 7 to 10, High financial literacy level: total score 12 to 13

The second independent variable is Financial Inclusion adapted from previous studies on reference (Muratore and Earl, 2010). Financial inclusion measuring instruments which are known from eight items. Respondents were asked to answer whether they had sufficient access to financial

products. Scores are given to the ability of respondents to access financial products. This measuring instrument consists of 8 question items. To find out the score of each respondent, the researcher scores with the answer "yes" given a score of 1 and the answer "no" is given a score of 0. The scoring results of the financial inclusion measure can be classified according to several categories, namely: Low financial inclusion rates: a total score of 0 to 2, Medium financial inclusion level: total score 3 to 5, High financial inclusion rate: total score 6 to 8

In this study the dependent variable is retirement planning which is measured by using three items, asking whether the respondent has calculated costs after retirement, has a plan for pension funds and the type of pension funds that the respondent has.

Retirement planning by respondents is known from four items. Respondents were asked to answer whether they had calculated the costs after retirement, had a plan for the pension to be received. If the respondent already has it, then the respondent is asked to specify whether the type of pension fund is. Scores are given to respondents' readiness for retirement planning for investment.

This measuring instrument consists of 4 question items. To find out the score of each respondent, the researcher scores with a "yes" answer given a score of 1 and a "no" answer is given a score of 0. Except for the last question where the participant was asked what the old age guarantee program was. Values will be given a large number of products owned by participants, but if there are answers where inherent and mandatory old-age insurance programs (such as retired companies) will not be calculated to avoid biased results because it is coercion and not of personal will. The scoring results of these financial inclusion gauges can be classified according to several categories, namely: Low retirement planning level: total score 0 to 1,

Moderate retirement planning level: total score 2 to 3, High retirement planning level: total score ≥ 4

There are two characteristics of respondents in this research as follows:

1. Has the age of 17 years, the researcher used productive age as research respondents. For this reason, respondents will fill their age in the control data. According to Law No. 13 of 2003 Chapter, I article 1 paragraph 2 states that labor is anyone who can do work to produce goods or services both to meet their own needs and for the community.
2. Have been working, the respondents of this study were employees who had worked. For this reason, respondents will be asked to fill out their type of work.

The total sample in this study amounted to 236 people. This is consistent with the opinion of Fraenkel and Wallen (1993) who suggested that the minimum sample size in correlational research should ideally use a sample of at least 50 people. Besides, the larger the number of samples, the more the obtained results will be due to the smaller variance errors that appear on the data.

In this study, the researcher used the technique of taking online questionnaire data. The questionnaire was disseminated using online methods to make it easier to get participants who could not be found directly. The researcher carried out data collection using a questionnaire because it was more effective in saving time to cost and allowing a wider range of participants. Besides, the questionnaire also guarantees the confidentiality of identity for each participant. So those participants are expected to be able to give real answers (Kumar, 2005).

Data collected for 6 days is 236 data that matches the characteristics of the study. After that, the researcher processed the data using

SPSS software (Statistical Package for the Social Sciences) version 24.0.

After determining the dependent variable, independent variable, and control variable, data processing is performed to obtain the variable value from the model that has been made. Data processing techniques that will be carried out are a descriptive statistical analysis which is then followed by the validity test, reliability test, classic assumption test, and multiple linear regression test.

A descriptive statistic is used to obtain an overview of the characteristics of respondents in this study such as gender, domicile (residence), age, education, employment, income per month. Besides, this technique is also to find out the frequency distribution (minimum and maximum), mean (mean) and standard deviation.

The validity test of the indicators tools to determine the validity of the measuring instrument. A valid research indicator is if the questions on the questionnaire can measure what the questionnaire wants to measure. Validity measurements were performed using KMO and Bartlett's Test analysis. KMO test results are valid if it has a value of more than 0.50.

Reliability test is carried out to measure a variable consisting of several indicators in a questionnaire. If the answers given by respondents to the questions given are answered consistently and steadily from time to time, then the questionnaire can be said a reliable research measurement tool (Imam Ghazali, 2011: 47). The reliability test requirements if it has Cronbach alpha > 0.6.

Multiple Regression is used to see whether there is an influence given by some independent variables (financial literacy and financial inclusion) on the dependent variable (retirement planning). This technique is used to analyze how much the retirement planning

variable can be predicted by financial literacy and financial inclusion variables.

Statistical tests can be done in three stages, namely the R Square Coefficient of Determination Test (adjusted R^2), the F-statistic Test (Multiple Linear Significance) and the t-Statistic Test (Partial Significance). The coefficient of determination (Goodness of Fit), denoted by R^2 is an important measure in regression because it can inform whether the estimated regression model is good or not. This test is conducted to find out how much the independent variable can explain the dependent variable in the model to be studied. The greater the R square value, the greater the influence of the independent variable on the dependent variable.

This F-static test is carried out to find out whether all the independent variables significantly influence the dependent variable or not. The significance of the F test can be seen from the F-statistic. If the F-statistic is greater than the F-table, then the regression equation is significant. A model is considered significant if the probability value of Prob. (F-Statistic) is smaller α because the value is getting better if it gets lower.

This t-statistical test is conducted to see the significance and how much influence the independent variable has on the dependent variable, and to find out whether the coefficients of the independent variables have a significant relationship or not to the dependent variable, it can be seen from the probability. If prob (t-Statistic) is greater than α then accept H_0 which means, there is no significance. Whereas if prob (t-Statistic) is smaller than α then reject H_0 which means influence is significant

Results and Research Analysis

With 236 respondents, who have obtained the data, the following are descriptive statistics for the variable in this study:

Table 1. Descriptive Analysis of the Variable

Variable	Min	Max	Mean	Std. Deviation
Financial Literacy	2.00	13.00	8.8390	2.33738
Financial Inclusion	.00	8.00	4.8771	1.56210
Retirement Planning	.00	5.00	3.2288	1.19154

First, the variable that measures the ability and confidence to manage personal finance, financial literacy, has an average of 8.8390 in the sample. This shows that the level of financial literacy is Sufficient Literate. The maximum score of financial literacy is 13 and the minimum score of financial literacy is 2, meaning that there are people in the sample that only can answer 2 questions correctly. The standard deviation of financial literacy is 2,33738.

Second, the financial inclusion that measures access and use of financial services, has an average of 4.8771 in the sample. This shows that the level of financial inclusion is a little above the middle value. The maximum score of financial inclusion is 8 and the minimum score of financial inclusion is 0, meaning that there are people in the sample who do not have access or use financial services. The standard deviation of financial inclusion is 1,56210.

Third, the retirement planning that measure by pensions plan the respondent had, has an average of 3,2288 in the sample. This shows that the level of retirement planning is above the middle value. The maximum score of retirement planning is 5 and the minimum score of retirement planning is 0, meaning that there are people in the sample who do not have any retirement planning. The standard deviation of retirement planning is 1,19154.

The result of reliability test from Cronbach's Alpha of financial literacy and financial inclusion was 0,600 and 0,645, which means that measuring instrument of financial literacy and financial inclusion was reliable because it was already above 0.60. The result of the reliability test from Kaiser-Mayer-Olkin of financial literacy and financial inclusion was 0,715 and 0,533, which means that measuring instrument of financial literacy and financial inclusion was valid because it was already above 0.50.

Table 2. Regression Results

Variable	Retirement Planning					
	Beta (B)	Sig.	R ²	F	Sig.	t
Financial Literacy	0,283	0,000	0,140	19,024	0,000	4,295
Financial Inclusion	0,159	0,017				2,412

Financial literacy and financial inclusion can simultaneously predict retirement planning, with a value of $r^2=0.140$ significant ($F = 19.024$, $p < 0.05$), which means that 14.0% retirement planning can be explained by

variables financial literacy and financial inclusion, but 86.0% retirement planning is explained by other factors outside this study. The higher the financial literacy and financial

inclusion of a person, the better in making retirement planning.

The results of the regression test can also be seen as the most influential variables on retirement planning. To find out it can be seen from the larger β value. The table above shows that financial literacy has a greater value. This shows that financial literacy has a greater influence than financial inclusion on retirement planning.

Financial literacy has a value of β 0.283 which means that every 1 point increase in the total financial literacy score is followed by an increase of 0.283 on retirement planning. Positive values indicate the higher a person's financial literacy, the better in making retirement planning. Financial inclusion has a value of β 0.159 which means that every 1 point increase in the total financial inclusion score is followed by an increase of 0.159 on retirement planning. Positive values indicate the higher one's financial inclusion, the better in making retirement planning.

This research also shows that F-value obtained from the results of the F statistical test is 50,119 with a significance level of 0,000 or in other words, the F test result is $< \alpha = 0.05$. In addition to this, the value of F-count (50,119) $>$ F-table (3.0263). Which means that financial literacy variables and financial inclusion variables together have a significant effect on retirement planning in Indonesia.

Based on the result of this research about T-test which is used to test whether an independent variable correctly gives effect to the dependent variable, shows that t-count value for financial literacy variable is 4,295 and t-count for financial inclusion variable is 2,412. Judging from its significance, financial literacy variables (Sig. 0.000) and financial inclusion (Sig. 0.017) have a significance value $< \alpha 5\%$, so that both have a significant effect on retirement planning.

This research has the number of limitations, including The data used, are primary data from the respondents of the study, amounting to 236 respondents with a distribution that is less evenly distributed in each region. Research respondents are not limited to demographic factors such as education, employment, income, marital status, and domicile. and the researcher does not explore the cultural differences in Indonesia with the countries of origin of the reference journals that allow for different law-forces etc.

Conclusions

The Conclusions from this research are financial literacy has a value of β 0.283 which means that every 1-point increase in the total financial literacy score is followed by an increase of 0.283 in retirement planning. A positive value indicates the higher a person's financial literacy, the better it is in making retirement planning. This is supported by previous research, such as Panu Kalmi and Olli-Peka Ruuskanen (2017).

Also, financial inclusion has a value β 0.159 which means that every 1 point increase in the total financial inclusion score is followed by an increase of 0.159 in retirement planning. A positive value indicates the higher a person's financial inclusion, the better it is in making retirement planning. This is supported by previous research, such as Allen (2012) and World Bank (2010).

Overall, 14.0% retirement planning can be explained as a whole by the variables of financial literacy and financial inclusion, while 86.0% retirement planning is explained by other factors. So it can be said that the higher the financial literacy and financial inclusion of a person, the better in making retirement planning.

Notes on Contributors

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