

THE INFLUENCE OF FINANCIAL LITERACY AND FINANCIAL INTEREST ON THE FINANCIAL RISK TOLERANCE OF INVESTOR IN INDONESIA

^a Werner Ria Murhadi, ^b Fidelia Rahayu Kencanasar, ^c Bertha Silvia Sutedjo

ABSTRACT

Objective: This study examines the effect of financial literacy and interest on financial risk tolerance. This research is to find out investors' knowledge in investment and also to find out whether investors keep up with news about investment so that it affects the purchase of financial products.

Theoretical framework: Every decision that investors make involves financial risk. The amount of tolerance that develops is a critical factor influencing investment decisions and the usage of funds in the capital market. Financial literacy plays a role in demonstrating investor behavior while making investment selections, which might influence financial risk tolerance results. Financial interest indicates how much investors want to be involved in investing. Thus it is vital to understand how much financial risk particular investors are willing to accept. Demographic and socioeconomic variables are investor personality features that can make each investor stand out while making investing decisions.

Methods: This research uses a quantitative approach by distributing questionnaires to a sample of experienced investors in Indonesia. Primary data for the study and analysis is collected through a structured questionnaire. The total number of respondents in this study was 184 eligible respondents. Financial risk tolerance as the dependent variable is influenced by independent variables, namely financial literacy and financial interest. There are control variables, namely demographic and social-economic characteristics like age and income. The analysis method used is Structural Equation Modeling analysis.

Result & Conclusion: The results are that financial literacy does not affect financial risk tolerance, financial interest affects financial risk tolerance, and age and income do not affect financial risk tolerance. These results show that every investor's interest in emerging news can help investors in choosing investments and planning finances

Implications of the research: Based on the results of the research and discussion that has been carried out, financial literacy, age, and income do not affect the financial risk tolerance of individual investors in Indonesia. In contrast, financial interest has a significant positive effect on the financial risk tolerance of individual investors in Indonesia. Future research can investigate investor personality and investor interest in financial well-being.

^a Ph. D in Finance, University of Surabaya, Indonesia, E-mail: werner@staff.ubaya.ac.id, Orcid: <https://orcid.org/0000-0002-7297-861X>

^b Bachelor in Finance, University of Surabaya, Indonesia, E-mail: s130218083@students.ubaya.ac.id

^c Ph. D in Finance, University of Surabaya, Indonesia, E-mail: bertha@staff.ubaya.ac.id, Orcid: <https://orcid.org/0000-0003-2527-4764>



Originality/value: Research on financial behavior is new in Indonesia, especially during a pandemic when many investors in Indonesia are jumping on the financial investment bandwagon. For this reason, this research has originality value in terms of knowing the demographics of Indonesian investors, financial literacy, and financial interest in financial risk tolerance.

Keywords: financial literacy, financial interest, age, income, financial risk tolerance.

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A INFLUÊNCIA DA LITERACIA FINANCEIRA E DO INTERESSE FINANCEIRO NA A TOLERÂNCIA AO RISCO FINANCEIRO DOS INVESTIDORES NA INDONÉSIA

RESUMO

Objetivo: Este estudo examina o efeito da alfabetização financeira e do interesse na tolerância ao risco financeiro. O objetivo desta investigação é obter os conhecimentos dos investidores em matéria de investimento e também averiguar se os investidores acompanham as notícias sobre o investimento, de modo a que este afete a compra de produtos financeiros.

Quadro teórico: Todas as decisões que os investidores tomam envolvem risco financeiro. O grau de tolerância que se desenvolve é um fator crítico que influencia as decisões de investimento e a utilização de fundos no mercado de capitais. A alfabetização financeira desempenha um papel na demonstração do comportamento do investidor ao fazer seleções de investimento, o que pode influenciar os resultados de tolerância ao risco financeiro. Interesse financeiro indica o quanto os investidores querem estar envolvidos no investimento. Assim, é vital compreender quanto risco financeiro determinados investidores estão dispostos a aceitar. Variáveis demográficas e socioeconômicas são características de personalidade do investidor que podem fazer com que cada investidor se destaque ao tomar decisões de investimento.

Métodos: Esta pesquisa utiliza uma abordagem quantitativa distribuindo questionários a uma amostra de investidores experientes na Indonésia. Os dados primários para o estudo e análise são coletados por meio de um questionário estruturado. O número total de entrevistados neste estudo foi de 184 elegíveis. A tolerância ao risco financeiro, já que a variável dependente é influenciada por variáveis independentes, ou seja, alfabetização financeira e interesse financeiro. Há variáveis de controle, ou seja, características demográficas e socioeconômicas como idade e renda. O método de análise utilizado é a análise de Modelagem de Equações Estruturais.

Resultado e conclusão: Os resultados são que a alfabetização financeira não afeta a tolerância ao risco financeiro, os juros financeiros afetam a tolerância ao risco financeiro e idade e renda não afetam a tolerância ao risco financeiro. Estes resultados mostram que o interesse de cada investidor em notícias emergentes pode ajudar os investidores na escolha de investimentos e planejamento financeiro

Implicações da pesquisa: Com base nos resultados da pesquisa e discussão realizada, a alfabetização financeira, idade e renda não afetam a tolerância ao risco financeiro de investidores individuais na Indonésia. Em contraste, o interesse financeiro tem um efeito positivo significativo na tolerância ao risco financeiro dos investidores individuais na Indonésia. A investigação futura pode investigar a personalidade do investidor e o seu interesse no bem-estar financeiro.



Originalidade/valor: A pesquisa sobre o comportamento financeiro é nova na Indonésia, especialmente durante uma pandemia, quando muitos investidores na Indonésia estão pulando na onda de investimento financeiro. Por esta razão, esta pesquisa tem valor de originalidade em termos de conhecer a demografia dos investidores indonésios, a alfabetização financeira e o interesse financeiro na tolerância ao risco financeiro.

Keywords: alfabetização financeira, interesse financeiro, idade, renda, tolerância ao risco financeiro.

1 INTRODUCTION

The number of new investors in Indonesia is increasing, along with the increasing awareness of the Indonesian people about the benefits of investing. This increase occurred during the Covid-19 pandemic because many people worked from home, so they had plenty of time to do other activities, including investing. The millennial generation dominates the development of investors in Indonesia. The millennial generation in Indonesia is in the early adult stage. It tends to invest by following friends and celebrities, so what happens, in the end, is the many regrets experienced by these new investors.

For this reason, this research will focus on the financial risks stock investors face. Financial risk has a role in every decision that investors want to make. The level of tolerance that will arise is an essential factor affecting investment choices and the use of funds in the capital market. Financial risk has a role in almost every economic decision, where understanding individual tolerance for risk is essential (Hermansson& Jonsson, 2020). financial risk tolerance is used as an investor standard to determine the maximum amount of uncertainty accepted when investors make financial decisions (Grable & Joo, 2004). Financial risk tolerance is influenced by several factors, such as financial literacy (Bayar et al., 2020; Hermansson& Jonsson, 2020), financial interest (Hermansson& Jonsson, 2020), financial experience (Bayar et al., 2020), and demographic factors (Bayar et al., 2020; Hermansson& Jonsson, 2020).

Financial literacy indicates an investor's knowledge of financial concepts such as inflation and risk diversification (Danerson et al., 2017;Usardi, 2008). Financial literacy indicates an investor's understanding of the risks involved and efforts to reduce those risks through diversification (Lusardi & Mitchell, 2008). Individuals who understand financial literacy usually have more financial assets to reduce risk (Feng et al., 2019). In improving investors' understanding of financial literacy, investors can participate in formal or informal education programs through training (Bado et al., 2023). However, whether individual investors can use the education programs provided properly is still being



determined. Financial literacy provides knowledge to individual investors in managing funds for retirement planning, savings, and prevention (Hastings et al., 2013). In addition, financial literacy has a role in showing investor behavior in making investment decisions which can affect the results of financial risk tolerance (Siegal & Hoban, 1982). Some research results on financial literacy explain the relationship between financial knowledge and risk-taking in making investments (Wang, 2009). An investor with good financial behaviors will positively affect the relationship between financial knowledge and risk tolerance (Gillett-Fisher, 2006). Investors with financial education and experience can positively influence risk tolerance (Lyons et al., 2006).

Financial interest can also affect financial risk tolerance. Financial interest itself is individual investors' interest and motivation toward an economic problem and financial markets (Hermansson& Jonsson, 2020). Financial interest reflects the extent of long-term investor involvement in investment planning (Renninger, 2000; Hidi, 1990). Financial interest shows how much investors want to be involved in investing, so it is necessary to know how much financial risk individual investors are to determine how much risk investors can accept. Investors less willing to get involved tend to avoid risk in an investment.

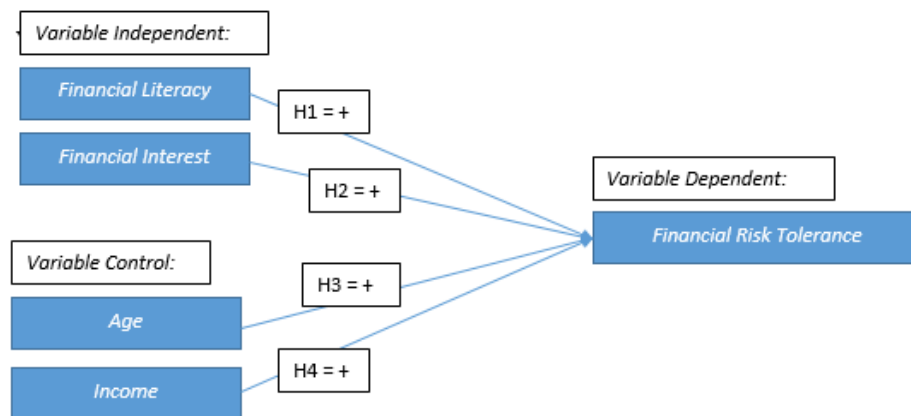
The following factors used in this study are demographic and social-economic characteristics. Demographic and socioeconomic characteristics are investor personality traits that can make the distinguishing characteristics of each investor in making investment decisions (Kubilay&Bayrakdaroglu, 2016). Demographic and social-economic characteristics predict risk tolerance (Sulaiman, 2012; Sivasankaran&Selvakrishnan, 2023). Demographic and social-economic characteristics are also a differentiator between the level of financial risk tolerance and the association, so demographic and social-economic characteristics can be developed to predict the risk tolerance of individual investors. Some studies show that demographic characteristics in the form of age and income will affect financial risk tolerance. Investor age can affect the financial risk tolerance of an investor; as the age of investors increases, they are more able to accept risk (Riley & Chow, 1992). However, some argue that younger investors have a higher level of risk tolerance than older individuals (Weber, 2014; Kannadhasan, 2015; Mishra & Mishra, 2016). Meanwhile, investors with higher incomes will also have a higher level of risk tolerance (Anbar &Eker, 2010; Sulaiman, 2012; Weber, 2014;



Rahmawati et al., 2015). Investors with higher incomes are more likely to bear the risk (Kannadhasan, 2015).

Based on the discussion above, this study will aim to answer whether financial literacy can positively affect individual investors' level of financial risk tolerance in Indonesia. Can financial interest positively affect the level of financial risk tolerance of individual investors in Indonesia? Can age positively affect the level of financial risk tolerance of individual investors in Indonesia? Can income positively affect the level of financial risk tolerance of individual investors in Indonesia?

Figure 1. Research Model



Source: Prepared by the authors (2023).

2 METHODS

This research uses a quantitative approach with independent variables: Financial literacy, Financial Interest, Income, and Age. At the same time, the dependent variable is financial risk tolerance. Financial literacy is measured through several indicators reflecting the respondent's financial iteration: (1) What is Indonesia's current expected inflation target rate? (2) if there is a risk that inflation will exceed the predetermined inflation target, what should Bank Indonesia do? (3) If the nominal interest rate is 5% and the expected inflation is 2%, what is the approximate real interest rate? (4) The type of mutual fund that guarantees the principal value of the investment is (5) Mutual funds have different levels of risk; which of the following types of mutual funds is generally considered to have the highest risk? (6) What is the definition of the P/E ratio?

Financial interest can be measured through several indicators that reflect the respondent's financial interest, namely: (1) I am interested in problems that occur in the economy and financial markets, (2) I follow the media about economic and financial



market developments, (3) I follow the media about the development of new savings products (Hermansson& Jonsson, 2020). Income is operationalized as the level of income owned by investors. Investors who have more income will have a high financial risk tolerance. Income is measured by the following indicators: (1) Income less than Rp. 5,000,000 (2) Income Rp. 5,000,00 - Rp.10,000,000 (3) Income more than Rp.10,000,000. Age is operationalized as a difference in the characteristics of each age. Many studies say that the risk that can be tolerated will be greater with increasing age. The following indicators can measure age: (1) Age less than 25 years (2) Age 26 - 45 years (3) Age more than 45 years.

Financial risk tolerance can be measured through several indicators that reflect investors' financial risk tolerance, namely: (1) I can accept losing some of my savings capital if there is an opportunity to get greater returns, (2) I think someone has to take risks to get something, (3) I want to increase the risk because the returns are too low (Hermansson& Jonsson, 2020).

This study uses a sample with the characteristics of respondents who are at least 18 years old, invest in the Indonesian capital market, and are domiciled in Indonesia. The measurement level in this study uses an interval level with a numeric scale, where respondents are asked to provide a value on a scale of 1 for strongly disagree and seven for strongly agree. The numeric scale is presented to make it easier for respondents to assess the statements submitted in the questionnaire regarding financial interest and risk tolerance in making investment decisions. If the respondent answers with a more significant number, the respondent shows a very agreeable response to the statement in the questionnaire. Conversely, if the respondent provides an answer with a smaller number, the respondent strongly disagrees with the statement presented in the questionnaire. Meanwhile, to answer the independent variable statements (financial literacy and demographic and social-economic characteristics), respondents were asked to answer from the answers that had been provided according to the respondent's condition. For measuring financial literacy variables using a Guttman scale because the questionnaire questions to measure financial literacy are in the form of multiple choices so that respondents are placed at a certain point. If the answer is correct, it will have a value; if the answer is wrong, it will be given a value of 0 (Singarimbun&Irawati, 1989). Hypothesis testing is done with AMOS software.



3 RESULTS AND DISCUSSION

The total number of respondents in this study was 184 eligible respondents. Data on the age of respondents showed a distribution that respondents under 25 years were 56.5%, respondents aged 25 - 45 years were 31.5%, and respondents aged more than 45 years were 12%. From the respondent's gender category, data was obtained from respondents who are male as much as 45.1% and for respondents who are female as much as 54.9%. From the category of marital status, respondents who were not married were 65.2%, respondents who were married were 20.7%, and respondents who were married and had children were 14.1%. From the category of monthly income, respondents who earn less than Rp 5,000,000 are 50%, for respondents who earn between Rp 5,000,000 to Rp 10,000,000 as much as 36.4%, and for respondents who earn more than Rp 10,000,000 as much as 3.6%. From the last education category, it shows that respondents whose last education is a high school / lower, as much as 22.8%, for respondents whose last education is Diploma / Bachelor, as much as 73.4%, and for respondents whose education received S2 / S3 as much as 3.8%. From the category of jobs held, it shows that respondents who have jobs related to the financial sector are 11.4%, those who are not related to the financial sector are 50.5%, and for respondents who are still students, as many as 38%. Of whether the respondents received formal education in finance, the respondents who received formal education in finance were 49.5%. In comparison, those who did not receive formal education were 50.5%.

The validity test is calculated with the help of IBM SPSS Statistic 25 software. The validity test is used to show whether or not the research results are acceptable with predetermined criteria. The data used uses 30 respondents to be processed, the r table value obtained from the Pearson product-moment r table with $df = n-2$, so that $df = 30-2 = 28$, the r table obtained is 0.312, which means that all indicators must get a positive r table and more than equal to 0.312.



Table 1. Validity Test

No	Variabel	Pearson Correlation	Sig. (2 tailed)	Note
<i>Financial literacy</i>				
1	FL1	.674**	.000	Valid
2	FL2	.554**	.001	Valid
3	FL3	.618**	.000	Valid
4	FL4	.762**	.000	Valid
5	FL5	.610**	.000	Valid
6	FL6	.663**	.000	Valid
<i>Financial Interest</i>				
1	FI1	.718**	.000	Valid
2	FI2	.806**	.000	Valid
3	FI3	.767**	.000	Valid
<i>Financial Risk Tolerance</i>				
1	FRT1	.796**	.000	Valid
2	FRT2	.877**	.000	Valid
3	FRT3	.800**	.000	Valid

*Significant at the 0.05 level; **Significant at the 0.01 level

Source: Prepared by the authors (2023).

IBM SPSS Statistic 25 software also assisted in the reliability test and tested 30 respondents. The alpha used in the financial interest and risk tolerance variables is Cronbach's Alpha. To find the alpha of financial literacy using the Guttman Split-Half Coefficient, which must also be obtained more than 0.6 so that the data can be reliable.

Table 2. Reliability Test

No	Variabel	Cronbach Alpha dan Guttman Split-Half Coefficient	Note
1	FL	.854	Reliable
2	FI	.645	Reliable
3	FRT	.757	Reliable

Source: Prepared by the authors (2023).

Model fit is used to measure how to fit the model in research using Goodness Of Fit. In Goodness Of Fit (GOF) research that needs to be tested using seven indicators, namely Chi-Square (CMIN), Root Mean Square Error of Approximation (RMSEA), Goodness Of Fit Index (GFI), Adjusted Goodness of fit (GOF), Tucker Lewis Index (TLI), Comparative Fit Index (CFI) and (CMIN/DF). The fit model test is carried out using two models, namely the measurement model and the structural model.



The Goodness Of Fit (GOF) obtained from the measurement model chart has six indicators (RMSEA, GFI, AGFI, CMIN / DF, TLI, CFI), and all of these indicators are declared a good fit because they all meet the criteria, so that it is said that the chart is suitable for use. The following are the Goodness Of Fit results from the Measurement model:

Table 3. Goodness Of Fit Measurement Model

No	Goodness Of Fit	Criteria	Result	Note
1	CMIN/DF	≤ 3	1,469	Good Fit
2	RMSEA	$\leq 0,08$	0,051	Good Fit
3	GFI	0,8-0,9 ≥ 0.9	0,938	Good Fit
4	AGFI	0,8-0,9 ≥ 0.9	0,906	Good Fit
5	TLI	0,8-0,9 ≥ 0.9	0,916	Good Fit
6	CFI	0,8-0,9 ≥ 0.9	0,935	Good Fit

Source: Prepared by the authors (2023).

The next test uses a structural model which aims to show the relationship of the dependent variable, namely financial risk tolerance, to the independent variables, namely financial literacy, financial interest, age (U), and income (PD). The structural model will connect five variables one by one following the hypothesis.

Table 4. Goodness Of FitStructural Model

No	Goodness Of Fit	Criteria	Result	Note
1	CMIN/DF	≤ 3	2,177	Good Fit
2	RMSEA	$\leq 0,08$	0,080	Good Fit
3	GFI	0,8-0,9 ≥ 0.9	0,940	Good Fit
4	AGFI	0,8-0,9 ≥ 0.9	0,877	Marginal Fit
5	TLI	0,8-0,9 ≥ 0.9	0,892	Marginal Fit
6	CFI	0,8-0,9 ≥ 0.9	0,935	Good Fit

Source: Prepared by the authors (2023).



The results obtained from the Goodness of Fit of this structural model are for CMIN / DF, RMSEA, GFI, and CFI; the results obtained are a good fit because the values obtained meet the criteria, AGFI and TLI the results obtained are between 0.8 to 0.9 so that they get a marginal fit. So that the structural model is still suitable for testing.

Hypothesis testing is carried out to determine the effect between financial literacy, financial interest, age, and income on financial risk tolerance.

Table 5. Hypothesis Test Result

	Estimate	C.R	p
Financial literacy > Financial Risk Tolerance	-0,075	- 0,411	0,681
Financial Interest > Financial Risk Tolerance	0,773**	5,982	0,000
Age (U) > Financial Risk Tolerance	-0,014	- 0,105	0,916
Income (PD) > Financial Risk Tolerance	-0,137	- 1,045	0,296

*Significant at the 0.05 level; **Significant at the 0.01 level

Source: Prepared by the authors (2023).

3.1 THE EFFECT OF FINANCIAL LITERACY ON INDIVIDUAL FINANCIAL RISK TOLERANCE OF INVESTORS

The results of Hypothesis One show that financial literacy does not affect the financial risk tolerance of individual investors in Indonesia. This result is different from Hermansson and Jonsson (2020). The recent trend of investing is on the rise, causing investors in the stock market and the mutual fund market to increase sharply. However, generation Z investors mostly follow influencers in choosing stocks. Generation Z prefers to follow recommendations and is only immediately accepted without thinking about it (Pangarep, 2021). This result makes a person's level of literacy unnecessary because, at this time, investors only want to take instant ways to follow the words of friends or influence from someone. So that financial literacy does not affect investors' financial risk tolerance. Research by Hendrawaty et al. (2020) found that financial literacy has not consistently affected investors' financial risk tolerance because there needs to be an influence or combination of the investor's financial literacy level with demographic factors (age, income, wealth, gender).



3.2 THE EFFECT OF FINANCIAL INTEREST ON FINANCIAL RISK TOLERANCE OF INDIVIDUAL INVESTORS

The results of hypothesis two show that financial interest has a significant positive effect on the financial risk tolerance of individual investors in Indonesia. Investors in Indonesia prefer to hear from others or are more influenced by someone's influence, so investors will be very sensitive to news that appears, whether positive or negative. So that the respondent's level of interest in the news that appears can affect the decisions made by the respondent; because the respondent has a low level of literacy and does not get a formal education in the financial sector, the respondent will double the positive and negative news that appears.

3.3 THE EFFECT OF AGE ON FINANCIAL RISK TOLERANCE OF INDIVIDUAL INVESTORS

The results of hypothesis three show that age does not affect the financial risk tolerance of individual investors in Indonesia. Investors in Indonesia prefer to hear from others or are more influenced by someone's influence, so it closes no matter how old the investor is. The respondent's age does not affect investors' financial risk tolerance. Research by Neal Cutler (1995) found no causal relationship between age and financial risk. Neal Cutler (1995) also said that it is mythical to believe that age has an overall effect on financial attitudes. His opinion is also in line with the research of Grable and Ytton (1998: 69); Grable and Ytton (1999b: 3), who also found no relationship between age and risk tolerance.

3.4 THE EFFECT OF INCOME ON FINANCIAL RISK TOLERANCE OF INDIVIDUAL

The results of hypothesis four show that income (PD) does not affect the financial risk tolerance of individual investors in Indonesia. This result can be explained by the fact that investors in Indonesia prefer to hear and follow the words of others or are more influenced by someone's influence so that they close who knows how much investor income. So that income does not affect the financial risk tolerance of investors. Samuelson's research (1969) found that income has no relationship with risk tolerance. Investors with high salaries do not predict that the risk taken will be higher or more



significant than those with low salaries. His opinion is also in line with research conducted by Schoemaker (1980).

4 CONCLUSIONS

Based on the results of the research and discussion that has been carried out, financial literacy, age, and income do not affect the financial risk tolerance of individual investors in Indonesia. In contrast, financial interest has a significant positive effect on the financial risk tolerance of individual investors in Indonesia. The theoretical implication of the research results is that financial literacy does not affect the financial risk tolerance of individual investors in Indonesia. These results mean that financial literacy has not consistently affected investors' financial risk tolerance because there needs to be an influence or combination of the investor's financial literacy level with demographic factors. Financial interest research results affect individual investors' financial risk tolerance in Indonesia because every investor's interest in emerging news can help investors choose investments and plan finances. The age study results do not affect the financial risk tolerance of individual investors in Indonesia, and it is a myth to believe that age overall affects financial attitudes. The income research results do not affect individual investors' financial risk tolerance in Indonesia; investors with high salaries do not predict that the risk taken will be higher or more significant than those with low salaries.

The practical implication of the findings is that investors need to gain knowledge about investment and the world of capital markets in Indonesia. This result can impact which investment choices are more profitable and have a significant potential loss. Another implication is that investors are very interested in news in the economic field and the stock market. This information can be a reference for investors to choose investments and make financial plans. Regarding the results of the age variable, it means that the age of investors who plan and consider investments does not affect the risk tolerance that investors have. Risk tolerance can not only be influenced by age; many things can affect risk tolerance, such as gender, education, status, and occupation. So it cannot be interpreted that investors with a young age have a low-risk tolerance while investors with old age have a high-risk tolerance. The following practical implication is that the income of investors who plan and consider investments does not affect investors' risk tolerance. Risk tolerance can not only be influenced by income; many things can affect risk



tolerance, such as gender, education, status, and occupation, so it cannot be interpreted that those with high income have a low-risk tolerance. In contrast, investors with low incomes have a high-risk tolerance.

This study shows the relationship between financial literacy, financial interest, age, and income on the financial risk tolerance of individual investors in Indonesia. Future research can investigate investor personality and investor interest in financial well-being. The limitations of this study are the lack of response from respondents and the distribution of questionnaires that are only carried out through social media, so in the future, it is hoped that it can be in the form of direct interviews to dig deeper into what factors will determine the financial risk tolerance of an investor.



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