



Effect of Investment Fraud on Individuals' Risk Preference and Investment Portfolio

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Abstract

This study aimed to determine the effect of investment fraud on individual risk preference and to determine the effect of investment fraud on individual investment portfolios. This is a descriptive study that employed a quantitative approach. The research population was the victim of investment fraud in the Solo Raya area. The sample was in the Solo Raya area which included 5 districts and 1 city. The research sample was taken using a non-probability sampling technique by applying a purposive sampling technique which resulted in 100 respondents. The results showed that Illegal Investment Fraud has a positive and significant effect on the Individual Risk Preference of investment fraud victims in the Solo Raya area. Illegal investment fraud has a negative and significant effect on the individual investment portfolio of investment fraud victims in the Solo Raya area. In other words, if illegal investment fraud increases, the investment portfolio of individuals who are victims of investment fraud in the Solo Raya area will decrease.

Dampak Penipuan Investasi pada Preferensi Risiko dan Portofolio Investasi Individu

Abstrak

Tujuan dari penelitian ini yaitu: untuk mengetahui dampak penipuan investasi terhadap preferensi risiko individu, untuk mengetahui dampak penipuan investasi terhadap portofolio investasi yang telah ditempatkan oleh individu. Jenis penelitian ini adalah penelitian deskriptif dengan menggunakan pendekatan kuantitatif. Populasi dalam penelitian ini korban penipuan investasi yang berada di wilayah Solo Raya. Lokasi sampel berada di wilayah Solo Raya yang meliputi 5 kabupaten dan 1 kota. Teknik pengambilan sampel dalam penelitian ini menggunakan teknik non-probability sampling yaitu dengan menggunakan Purposive Sampling dengan jumlah 100 orang. Hasil penelitian menunjukkan bahwa Penipuan Investasi Ilegal berpengaruh positif dan signifikan terhadap Preferensi Risiko Individu Korban penipuan investasi yang berada di wilayah Solo Raya. Penipuan investasi ilegal berpengaruh negatif dan signifikan terhadap portofolio investasi individu korban penipuan investasi yang berada di wilayah Solo Raya. Hal ini dapat diartikan, jika penipuan investasi ilegal meningkat, maka portofolio investasi individu korban penipuan investasi yang berada di wilayah Solo Raya mengalami penurunan.

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INTRODUCTION

Currently, investment is a common thing carried out by the community. Investment is the processing of funds carried out by companies or individuals to make profits in the future. Today's investment offerings have many and varied types of products. Many of these investment offers were made by companies engaged in the investment sector as well as individuals. However, not all investment companies that offer investment bring profits to the community. Some investment companies bring losses to the community. This phenomenon has given rise to the term "fake" or illegal investment or investment fraud. Based on data obtained from the Investment Alert Task Force, investment fraud has brought considerable losses. From 2008 to 2018, record losses due to investment fraud reached IDR 88,887.5 billion with a total of 2,753,449 customers who were harmed (Ananta, 2019).

Investment scams usually offer attractive returns or higher than existing banking interest rates. Therefore, the results offered are so tempting. These investment offers often take advantage of public figures to religious figures in marketing their investment products. For instance, in 2011 the number of customers and the total loss at that time were quite large. In 2011, there were 9 investment companies offered fairly high returns, which on average offered yields of 2.5% to 10% per month. Usually, this is the most likely public interest to follow the investment. Financial fraud under the guise of investment also occurred in other countries with a loss of approximately US\$45 billion in the US. This also results in social and psychological harm, wasting time and income and expenses to report and follow all applicable legal procedures (Bosley et al., 2019).

Considering the number of customers and the losses caused by this investment fraud, the psychological and financial impact on people who fall into investment fraud must be very large. This kind of investment activity is continuously developing because these investments always offer high returns. In line with the results of previous studies, people's preferences

in choosing investments are based on looking at high-return agreements or high-yield agreements (Deb & Sengupta, 2020). In addition, severe negative consequences on the level of household welfare as well as in general caused by the level of financial well-being (Brenner et al., 2020). Research conducted by Brenner et al. (2020) It is stated that being investment fraud victims gives a significant negative effect on individuals when evaluating their financial situation in terms of their financial or monetary security. Direct research in the field found that victims of consumer fraud frequently experience negative consequences, especially psychological disorders such as lack of sleep, depression, and even suicidal ideation (Sarriá et al., 2019).

Risk preference is an individual's attitude in determining how much the rate of return of an investment with the risk that will be obtained in financial investment. Regarding risk preference, the character of most Indonesians has a risk preference of risk averse but they want abundant profits. This is widely used by irresponsible elements to reap profits through fraudulent investments (Kurniawan & Dewanti, 2020). Research by Alserda et al. (2019) showed that individuals differ significantly in terms of how they return to risk in financial investments. In addition, an investor must rationally choose an investment portfolio that gives him/her satisfaction, in this case providing the greatest return at the same level of risk or providing the lowest risk at the same level of return. The results of research by (Brenner et al., 2020) stated that people who are victims of investment fraud tend to doubt their ability to handle financial problems. In the end, it has big implications for the next financial decision-making.

An individual investment portfolio is a collection of investment instruments that a person owns, which can be stocks, mutual funds, or bonds. Based on the recommendations of Markowitz, the principle of the right portfolio is diversification of risk and the necessity to choose portfolio instruments with a positive correlation rate of return, moving in harmony and the rate of return obtained moving the rate of return for the portfolio as a whole (Figge et al., 2021). A congruent situ-

ation occurs when the return on the portfolio has decreased in which case the rate of return on the instrument will also decline (Mittal et al., 2021). A similar opinion also states that an efficient portfolio provides the largest expected return with a certain risk, or takes a small risk with a big return. It is carried out by choosing the expected rate of return then minimizing risk, determining the level of risk, maximizing the expected return which is an efficient investment portfolio.

To this day, research on the impact of investment fraud in particular on risk preference and the individual portfolios has not been discussed too much. Several previous studies, for instance, the research of Bossler et al. (2020), examined the largest findings from studies of fraud victims in England and Wales regarding the impact of fraud on behavior, health, and family relationships. Lokanan & Liu (2020) examines the demographic characteristics of investors who have been victims of investment fraud in Canada from 1984 to 2008. Research by Brenner et al. (2020) found that individuals tend to doubt their ability to handle financial problems after becoming victims of fraud. In the end, it carries major implications for subsequent financial decision-making. Research conducted by Hamutoglu et al. (2020) found that traits and personality are not important variables. However, on the other hand, evidence suggests that the level of financial literacy and risk perception is important. In addition, risk perception is also influenced by financial literacy and gender, but the marital status does not have an effective influence to the same degree (Deb & Sengupta, 2020) codes, categories and themes were generated. Findings Interpersonal trusts form the central feature of investment fraud. The personal relationship among the community members helps these schemes thrive. False hopes of higher returns within a short span combined with constraints of accessing banking services is another motivation for the people at the base of the pyramid to fall prey to these schemes. With limited education, they find these investment avenues convenient providing scope to the perpetrators of fraud to exploit them. To curb

these dubious schemes to flourish and exploit the people at the BoP, financial inclusion on a large scale is required. Moreover, the government should take steps to educate the mass at the base of the pyramid. This study offers new insights on the victims of investment fraud in India those belonging to the economically weak groups and lower income groups comprising together as the BoP research identifies the factors that drive people at the base of pyramid (BoP) to invest in fraud schemes. The present study is expected to see the effect of investment fraud on individual risk preference and investment portfolios.

Hypothesis Development

Relationship of Investment Fraud to Risk Preference

Risk preference is the attitude of each individual in terms of how the individual determines the rate of return on investment with the risk that will be obtained in financial investment. A person or individual who has experienced investment fraud tends to be more careful in investing. This is in line with research conducted by Alserda et al. (2019) which shows that individuals differ significantly in terms of how their returns are compared to risks in financial investments. An investor must rationally choose an investment portfolio that gives satisfaction. In this case, it gives the greatest return at the same level of risk or provides the lowest risk at the same level of return. This is also in line with the research of Brenner et al. (2020) which explains that people tend to doubt their ability to handle financial problems after becoming a victim of fraud. Ultimately, it carries major implications for subsequent financial decision-making. Research conducted by Niu et al. (2020) also found that corporate fraud reduces household share market participation and household ownership of other risky financial products such as private insurance. This occurs due to the negative impact of the experience of fraud on trust in the financial system. In addition, Kettlewell (2019) research proves that risk preference is not independent of an event in general life. Favorable changes in finances are associated

with a greater willingness to take risks. Meanwhile, unfavorable changes in finances are associated with greater risk aversion. Therefore, hypothesis 1 is formulated as follows:

H1: Investment fraud has a positive effect on risk preference

Relationship of Investment Fraud to Investment Portfolio

A person or individual who has experienced investment fraud will be more careful in choosing an investment portfolio. The optimal allocation of resources and capital is aimed at being the maximum return on investment funds because the investment portfolio is completely dependent on the investor's attitude to risk. Determining the right portfolio diversification can reduce risk (Chen & Zhou, 2018). Markowitz's theory is in line with the present study which aims to minimize the risk caused by investment fraud. A person who has experienced investment fraud will diversify his/her portfolio to minimize the risks. The principle of portfolio theory is that diversification is used to achieve the company's goals in investing its funds in the form of mutual funds, and pension funds, as well as creating and managing portfolios that provide the highest securities to clients (Lestari, 2021). The investment portfolio is completely dependent on investors' attitudes toward risk and this is in line with the research (Chen & Zhou, 2018) which concluded that trust in people, security, and transparency are important factors for individuals in making financial decisions, especially in choosing an investment portfolio. This is in line with the research by Yao & Rabbani (2021) which stated that the higher the level of investor confidence, the greater the portfolio risk. A less confident investor has a less risky portfolio than a confident investor. Thus, hypothesis 2 is formulated as follows:

H2: Investment fraud has a negative effect on investment portfolio

METHOD

This is a descriptive study that applies a quantitative approach. An operational defini-

tion is a definition stated in specific criteria for a test or measurement. The terms must refer to empirical standards (we must be able to calculate, measure, or otherwise gather information through our senses) and the definitions must describe the characteristics and ways of observing them (Sekaran & Bougie, 2020). One technique is to reduce these abstract ideas or concepts into observable behaviors and/or characteristics (Sekaran & Bougie, 2020). In this study, operational definitions are as follows:

Illegal investment fraud usually involves defrauding investors by providing them with false information, encouraging them to buy or sell, and promising them a higher return on investment, which violates regulatory requirements. There are several characteristics of investment fraud, including using illegal schemes in raising funds, claiming to sell financial instruments, guaranteeing high investment returns, low risk or, even no risk at all; and usually, the prey of dubious or illegal schemes are communities within large populations (Deb & Sengupta, 2020).

Research by Alserda et al. (2019) shows that individuals differ significantly in terms of how they return to risk in financial investments. This becomes the basis for making investment decisions based on how low the risk level is and the high expected return.

An investment portfolio, according to Momen et al. (2020), describes the optimal allocation of resources and capital, which aims to be the maximum return of investment funds, or in other words a collection of investments owned by an institution or individual. But the most important thing is determining the right portfolio diversification to reduce the risk that will be accepted.

This study also uses control variables to limit the focus to examine the effect of investment fraud. The control variables are as follows:

Education level is a person's level of education. Education level was measured using a questionnaire with an ordinal scale according to the education level of the respondents. There are five categories of education levels, each category used is:

A score of 1 is given to respondents who have graduated from elementary school or the equivalent. A score of 2 is given to respondents who have graduated from junior high school or the equivalent. A score of 3 is given to respondents who have graduated from senior high school or equivalent. A value of 4 is given to respondents who have graduated with an Associate's or Bachelor's degree. A value of 5 is given to respondents who have graduated with a Master's degree

Financial literacy according to the Financial Services Authority (2014) is knowledge, skills and self-confidence that influence attitudes and behavior to improve the quality of decision-making and financial management in order to achieve prosperity. Questions on the questionnaire on financial literacy will be based on research conducted by Niu et al. (2020).

The research population is the victim of investment fraud in the Solo Raya area. The sample location is in the Solo Raya area which includes 5 districts and 1 city. The sampling in this study employed a non-probability sampling technique using purposive sampling. The population in this study is unknown, so the P value is (1-P) with a maximum value = 0.25 when using 95% confidence with an error rate of 10%. The number of samples can be determined using Paul Leedy's formula as follows:

$$n = \left(\frac{Z}{e}\right)^2 (P) \left(1 - \frac{1}{p}\right)$$

$$n = \left(\frac{1,96}{0,1}\right)^2 (0,25) = 96,4$$

Description:

n = sample size

P = total population

e = sampling error (10%)

Z= standard for the selected error

Thus, the sample size which is rounded to 100.

Before testing the hypothesis, the questions in the questionnaire will be tested using validity and reliability tests. Then, the hypothesis was tested using the coefficient of determination test, F test, and t-test using SPSS 23 for Win-

dows software. This study used multiple linear regression analysis. The following is a multiple linear regression model:

$$RP = a + \beta_1 IF + \beta_2 EL + \beta_3 FL + \varepsilon \text{ and}$$

$$IP = a + \beta_1 IF + \beta_2 EL + \beta_3 FL + \varepsilon$$

Before testing the hypothesis, the question Description:

RP = Individual Risk Preference

IP = Individual Investment Portfolio

a = Constant

$\beta_1 IF$ = Beta coefficient – Illegal Investment Fraud

$\beta_2 EL$ = Coefficient of beta var control - Education Level

$\beta_3 FL$ = Coefficient beta var control - Financial Literacy

ε = error

ons in the questionnaire were tested using validity and reliability tests. Meanwhile, hypothesis testing used the coefficient of determination test, F-test, and t-test.

RESULT AND DISCUSSION

Description of Research Variables

Based on the data that has been collected, the answers from the respondents have been recapitulated and then analyzed to find out Illegal Investment Fraud, Education Level, Financial Literacy, Individual Risk Preference, and Individual Investment Portfolio. Investment fraud indicators consist of online fraud, MLM, money games, crypto, property, and referrals. Indicators for education level consist of elementary school up to master's degree education level. The indicators used in financial literacy include basic financial knowledge, savings and loans, insurance, and investment. Indicators for individual risk preference include investment risk, return on investment, and financial management. The indicator for the investment portfolio is the type of investment instrument. Based on gender, the research respondents included 35 men (35%) and 65 women (65%). The age of the respondents in this study was 20-30 years as many as 9 people (9%), 31-40 as many as 81 people (81%), and 41-50 as many as 10 people (10%).

Based on Illegal Investment Fraud, the highest index value is the question item IF3 (you often hear and see Physical Investment Fraud Without OJK Legality) of 85% of which 61 respondents answered (strongly agree) while instrument IF8 (you often hear and see investment fraud property) as many as 45 respondents answered with a score of 5 (strongly agree) where the percentage was 81%. Based on these results, it is concluded that respondents have a perception of each item of illegal investment fraud with an average index variable of 71.9%.

Table 1. Tabulation of Illegal Investment Fraud Questionnaire

No.	Questions	Score					Index (%)
		1	2	3	4	5	
1	IF1	15	9	25	15	36	69.6
2	IF2	44	20	11	7	18	47
3	IF3	5	7	7	20	61	85
4	IF4	17	12	11	30	30	68.8
5	IF5	4	9	18	21	48	80
6	IF6	18	30	8	8	36	62.8
7	IF7	8	1	20	22	49	80.6
8	IF8	3	5	17	30	45	81.8
Mean						71.95	

Based on education level, respondents graduated from elementary school as many as 2 respondents (2%), junior high school as many as 5 respondents (5%), high school as many as 56 respondents (56%), Diploma as many as 6 respondents (6%), bachelor degree as many as 27 respondents (27%), master degree as many as 4 respondents (4%).

Based on respondents' assessment of Financial Literacy, the highest index value is found in FL6 questions (Investment is an investment for the long term with the expectation of getting profits in the future) of 88.2% and has the highest frequency results with a score of 5 (Strongly Agree) as many as 56 respondents. While the lowest index value is FL9 questions (Insurance is a risk control instrument that transfers risk to other

Table 2. Tabulation of Education Level Questionnaire

No	Education Level	Total	Index (%)
1	Elementary School	2	2%
2	Junior High School	5	5%
3	Senior High School	56	56%
4	Associate's/Bachelor's Degree	33	6%
5	Master's Degree	4	27%
Total		100	100.0%

Table 3. Tabulation of Financial Literacy Questionnaire

No	Items of Variable	Score					Index (%)
		1	2	3	4	5	
1	FL1	2	6	15	40	37	80.8
2	FL2	3	5	7	44	41	83
3	FL3	2	5	5	43	45	84.8
4	FL4	3	6	7	44	40	82.4
5	FL5	2	2	9	41	46	85.4
6	FL6	0	0	15	29	56	88.2
7	FL7	0	5	7	49	39	84.4
8	FL8	0	5	10	44	41	84.2
9	FL9	1	1	7	40	51	87.8
10	FL10	4	2	8	43	43	83.8
11	FL11	5	2	1	44	48	85.6
12	FL12	1	3	8	44	44	85.4
13	FL13	2	5	8	40	45	84.2
Mean						84.6	

parties) of 87.8% and has the highest frequency of answers with a score of 5 (Strongly Agree) for as many as 51 respondents. Then, the average financial attitude variable index is 84.6% which is in the high category. Thus, it is concluded that respondents have a high perception of each item of financial literacy.

Respondents' assessment of Individual Risk Preference Question RPS has a high index value (Entrusting funds to investors and getting a return of 10% of the paid-in capital) of 87.2% and has a

frequency of responses that most respondents answered a score of 5 (Strongly Agree) as many as 53 respondents. While the lowest index value on the RP3 question item (the amount of profit obtained is proportional to the risk to be borne) by 84% and the result that the frequency of respondents' answers at most answers a score of 5 (Strongly agree) as many as 48 respondents. The average income variable index of 86% is in the high category. Therefore, it can be concluded that the respondents' perceptions of the respondent's perception of income variable question items are high.

Respondents' assessment of individual investment portfolios in question IP1 has a high index value (I prefer savings investment) of 91.6% and the results of the frequency of respondents' answers at most answered a score of 5 (Strongly Agree) as many as 58 respondents. While the lowest index value is the question item IP2 (I prefer property investment) at 89% and the results of the frequency of respondents answering the most

answers score 5 (Strongly agree) as many as 62 respondents. Then, the average income variable index is 74.7% which is in the high category. Thus, it is concluded that most of the respondents have a different individual investment portfolios.

Classical Assumption Test

Normality test

Normality test is aimed to determine whether the dependent variable and the independent variable in the regression model are normally distributed. The data distribution that is close to normal or is normal is a good regression model (Ansori, 2020). The normality test is determined from the results of the probability value, with the basis of making the decision on the probability value > 0.05 then the regression is carried out.

Table 4. Tabulation of Individual Risk Preference Questionnaire

No	Questions	Score					Index (%)
		1	2	3	4	5	
1	RP1	2	2	8	35	53	87
2	RP2	0	5	5	44	46	86.2
3	RP3	2	5	7	43	43	84
4	RP4	2	2	7	44	45	85.6
5	RP5	1	2	5	44	48	87.2
Mean							86

Table 5. Tabulation of Individual Investment Portfolio Questionnaire

No.	Questions	Score					Index (%)
		1	2	3	4	5	
1	IP1	0	0	0	42	58	91.6
2	IP2t	15	22	9	15	39	68.2
3	IP3	15	20	15	22	28	65.6
4	IP4	12	15	12	15	46	73.6
5	IP5	8	22	15	9	46	72.6
6	IP6	3	2	20	36	39	81.2
7	IP7	0	0	18	33	49	86.2
8	IP8	40	15	30	11	4	44.8
9	IP9	0	0	17	21	62	89
Mean							74.75

Table 6. Result of Normality test

		Unstandardized Residual	Unstandardized Residual
N		100	100
Normal Parameters ^{a,b}	Mean	.00000000	.00000000
	Std. Deviation	.29024625	.23022984
Most Extreme Diferences	Absolute	.065	.054
	Positive	.062	.054
	Negative	-.065	-.035
Kolmogorov-Smirnov Z		.645	.545
Asymp. Sig. (2-tailed)		.799	.928

Test distribution is normal

Calculated from data

The normality test, which was carried out through the Kolmogorov-Smirnov Test, obtained a significance value of 0.799 and 0.928, respectively.

Multicollinearity Test

The linear combination of other independent variables is a condition in which one or more independent variables is called a multicollinearity test. The absence of perfect multicollinearity is one of the assumptions of classical linear regression. The regression model is considered to have multicollinearity when there is a perfect or exact linear Illegal Investment Fraud among some or all of the independent variables. As a result, it will be difficult to see the influence of the independent variables individually on the dependent variables (Ansori, 2020).

Thus, it is concluded that it met the requirements of the Kolmogorov Smirnov Kolmogorov-Smirnov Test of > 0.05 which means that the data is normally distributed. Based on the results of the multicollinearity test using the VIF method, the value of IF is 1.018, EL is 1.015, and FL is 1.006 with a VIF level of < 10 which means that all independent variables do not experience multicollinearity.

Heteroscedasticity Test

Heteroscedasticity detection in this study was carried out by the Glejser method. This was carried out by looking at the probability value > 0.05 which was not affected by heteroscedasticity (Ansori, 2020). Based on the results of the hete-

roscedasticity test using Glejser, the probability value is > 0.05. Then, the results of the analysis obtain the probability nR for no-cross terms (0.747966) and cross terms (0.910134) which have a value greater than the 5% or 0.05 significance level. It indicates that there is no heteroscedasticity problem in the regression model used or the model is estimated to be free from heteroscedasticity.

Results of Multiple Linear Regression Analysis Model 1

The analysis carried out in this research was Multiple Linear Regression analysis. This analysis was used to determine the effect of Illegal Investment Fraud, Education Level, and Financial Literacy on Individual Investment Portfolios with Individual Risk Preference as an intervening variable. Table 9 below are the results of Multiple Linear Regression using the OLS (Ordinary Least Square) method:

Linear Regression Analysis

The results of this study can be explained by the following equation:

$$RP= 8.641 + 0.210X1 + 0.239X2 + 0.179X3 + \epsilon$$

The constant of 8.641 indicates that the variables of Illegal Investment Fraud, Education Level, and Financial Literacy are assumed to be unchanged (constant), value of the Individual Risk Preference variable is 8.641 units. The effect of the Illegal Investment Fraud variable on Individual Risk Preference has a regression coefficient value of 0.210. Thus, it was concluded that the IF variable had a positive (unidirectional) effect on the variable. In the Education Level variable

Table 7. Result of Multicollinearity Test

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics	
					Tolerance	VIF
Constant	8.641	3.963	-	2.190		
Illegal Investment Fraud	0.210	0.039	0.497	5.353	0.977	1.018
Education Level	0.239	0.123	0.173	2.019	0.954	1.015
Financial Literacy	0.179	0.121	0.126	1.379	0.974	1.006

Table 8. Results of Multiple Linear Regression

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Constant	8.641	3.963	-	2.190
Illegal Investment Fraud	0.210	0.039	0.497	5.353
Education Level	0.239	0.123	0.173	2.019
Financial Literacy	0.179	0.121	0.126	1.379

R² : 0.253

Adjusted R² : 0.230

F_{-statistic} : 10.865, Sig. = 0.000

N : 100

Dependent Variable : Individual Risk Preference

on Individual Risk Preference, the regression coefficient value is 0.239 so the Education Level variable has a positive (unidirectional) effect on the Individual Risk Preference variable. In the Financial Literacy variable on Individual Risk Preference, the regression coefficient value is 0.179. Thus, it was concluded that the Financial Literacy variable had a positive (unidirectional) effect on the Individual Risk Preference variable .

Testing the effect of the variables of Illegal Investment Fraud, and Education Level, and Financial Literacy simultaneously on the Individual Risk Preference variable Victims of investment fraud in the Solo Raya area. With a significant level (probability) = 5% = 0.05 and from the results of Multiple Regression obtained sig. F_{-count} = 0.000. Based on the results of data processing, the value of sig.F (0.000) < Level of Significant (0.05), then Ho is rejected or Ha is accepted, so it can be concluded that the variables of Illegal Investment Fraud, Education Level, and Financial Literacy has a simultaneous effect on Individual Risk Preferences Victims of investment fraud in the Solo Raya area.

R² (Coefficient of Determination) is used to determine how much the independent variable's ability to comprehensively explain the dependent variable. The value of R² (Coefficient of Determination) has a range between 0-1. The larger R² indicates the greater the ability of the independent variable in explaining the dependent variable. The results of the regression using the OLS method obtained R² (Coefficient of

Determination) of 0.253, meaning that the Individual Risk Preference variable Victims of investment fraud in the Solo Raya area can be explained by Illegal Investment Fraud, Education Level, and Literacy Finance simultaneously is 25.3%, while the remaining 74.7% is explained by other variables outside the model.

The results of this study support the results of research by Niu et al., (2020) which also found that corporate fraud reduces household share market participation and household ownership of other risky financial products such as private insurance. It happened because of the negative effect of the experience of fraud on trust in the financial system. In addition, research from Kettlewell (2019) proves that risk preference is not independent of an event in general life. The results of this study also support the results of research by Alserda et al., (2019) which shows that individuals are significantly different in terms of how their returns are with risks in financial investments. An investor rationally must choose an investment portfolio that gives investors satisfaction, namely providing the greatest return at the same level of risk or providing the lowest risk at the same level of return. This is also in line with the research of Brenner et al., (2020) which explains that people tend to doubt their ability to handle financial problems after becoming a victim of fraud, which in turn has major implications for subsequent financial decision-making. Favorable changes in finances are associated with a greater willingness to take risks; meanwhile, unfavorable changes in

finances are associated with greater risk aversion. Risk preference is the attitude of each individual in terms of how the individual determines the rate of return on investment with the risks that will be faced in financial investments. A person or individual who has experienced investment fraud tends to be more careful in investing.

Results of Multiple Linear Regression Analysis Model 2

Table 9. Results of Multiple Linear Regression

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
Constant	1.073	-	4.112	0.000
Illegal Investment Fraud	-0.184	-0.209	-2.445	0.016
Education Level	0.014	0.057	0.665	0.508
Financial Literacy	0.536	0.534	6.286	0.000

R² : 0,312
 Adjusted R² : 0,290
 F_{-statistik} : 14,502, Sig. = 0,000
 N : 100

Variabel Dependent: Individual Investment Portfolio

The results of this study can be explained by the following equation:

$$IP = 1.073 + -0.184 X_1 + 0.014 X_2 + 0.536X_3 + \epsilon$$

The constant of 1.073 indicates that the variables of Illegal Investment Fraud, Education Level, and Financial Literacy are assumed to be constant (constant). So, the Y value on the Individual Risk Preference variable is 1,073 units. The effect of the Illegal Investment Fraud variable on the Individual Investment Portfolio has a regression coefficient value of -0.184. Thus, it is concluded that the Illegal Investment Fraud variable has a negative effect on the Individual Investment Portfolio variable. In the variable of Education Level to Individual Investment Portfolio, the regression coefficient value is 0.014. Thus, the Education Level variable has a positive (unidirectional) effect on the Individual Investment Portfolio variable. In the Financial Literacy variable to the Individual Investment Portfolio, the regression

coefficient value is 0.536. Thus, it is concluded that the Financial Literacy variable has a positive (unidirectional) effect on the variable Individual Investment Portfolio.

Testing the effect of the variables of Illegal Investment Fraud, Education Level, and Financial Literacy simultaneously on the Individual Investment Portfolio variable Victims of investment fraud in the Solo Raya area. With a significant level (probability) = 5% = 0.05 and from

the results of Multiple Regression obtained sig. F_{-count} = 0.000. Based on the results of the data processing obtained the value of sig.F (0.000) < Level of Significant (0.05), Ho is rejected or Ha is accepted. Thus, it can be concluded that the variables of Illegal Investment Fraud and Education Level, and Financial Literacy have a simultaneous effect on Individual Investment Portfolios Victims of investment fraud in the Solo Raya area.

R² (Coefficient of Determination) is used to determine how much the independent variable's ability to comprehensively explain the dependent variable. The value of R² (Coefficient of Determination) has a range between 0-1. The larger R² value indicates the greater the ability of the independent variable in explaining the dependent variable. The results of the regression with the OLS method obtained an R² (Coefficient of Determination) of 0.312. That means that the Individual Investment Portfolio variable Victims of investment fraud in the Solo

Raya area can be explained by Illegal Investment Fraud, Education Level, and Financial Literacy simultaneously by 31.2%, while the remaining 69.8% is explained by other variables outside the model, such as carelessness, experience, instant mindset, and others.

The results of this study support the results of research conducted by Borodin et al. (2021) integrated rating of companies, industry rating which state that trust in people, security, transparency and transparency are important factors for individuals in making financial decisions, especially in choosing an investment portfolio. The results of this study also support the results of Yao & Rabbani (2021) research which states that a higher level of investor confidence will also increase portfolio risk. A less confident investor has a less risky portfolio than a confident investor. A person or individual who has experienced investment fraud will be more careful in choosing an investment portfolio. Optimal allocation of resources and capital, which aims to be the maximum return of investment funds, because the investment portfolio is completely dependent on the investor's attitude to risk. Determining the right portfolio diversification can reduce the risk that occurs (Lestari, 2021). Markowitz's theory is in line with this study which aims to minimize the risk caused by investment fraud (Mittal et al., 2021). A person who has experienced investment fraud will diversify his portfolio to minimize the risks. The principle of portfolio theory is that diversification is used to achieve the company's goals in investing its funds in the form of mutual funds, and pension funds, as well as creating and managing portfolios that provide the highest securities to clients (Mittal et al., 2021). The investment portfolio is completely dependent on the investor's attitude to risk.

CONCLUSION AND RECOMMENDATION

The results show that Illegal Investment Fraud has a positive and significant effect on the Individual Risk Preference of investment fraud victims in the Solo Raya area. In other

words, if illegal investment fraud increases, the individual risk preferences of investment fraud victims residing in the Solo Raya area will increase. The results show that illegal investment fraud has a negative and significant effect on the investment portfolio of individuals who are victims of investment fraud in the Solo Raya area. In other words, if illegal investment fraud increases, the investment portfolio of individual investment fraud victims in the Solo Raya area will decrease.

This research implies that individual victims of investment fraud in the Solo Raya area should at least conduct further analysis of the instrument to be invested before investing. Choosing the right investment can be done by looking for information about whether the investment institution has been registered with the Financial Services Authority (OJK) or looking for information on the Internet about whether or not the investment instrument can be trusted. The results of this study can be used as a source for individuals who will start investing. The limitation of this research is that this research uses only a few investment instruments while there are still many investment instruments that need to be researched such as crypto investment, NFT, forex, insurance under the guise of investment, investment in planting trees, and many more. Thus, further research on this matter needs to be conducted.

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