

## **Risk Tolerance And Investment Decision By The Capital Market Investors In Surabaya**

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### *ABSTRACT*

*The capital market is an investment activity, by investing excess funds in the capital market. Investors expect to benefit from dividends and capital gains. Investment decisions are based on risk considerations and returns. Investors of this market also have different levels of risk tolerance which influences their investment decision making. Age, gender, and experience are some of the demographic factors related to making decision in capital market. The purpose of this study was to examine the influence of demography on risk tolerance and its impact on investment decisions on the capital market in the Indonesia Stock Exchange (IDX). The study made use of questionnaires to collect data used in this research work. Data was collected from 40 investors who became security customers in Surabaya. In addition to this, the regression analysis was also used to examine the hypothesis. The result of the analysis proved age factor to being a determining factor which influences the investors' risk tolerance and also has a significant effect on long-term investment decision. It can be concluded that risk tolerance determines investor behavior in investment decisions. This study also analyzes some previous inconsistent research works. It is useful for capital market actors to determine trading strategies through fundamental analysis, by considering the risk demographics and factors.*

*Keywords: Investment; Risk Tolerance; Demography; IDX*

### **INTRODUCTION**

Investment can be defined as the act of investing a certain amount of money in order to amass lots of profits over a specific period of time. According to the Indonesian Central Securities Depository (KSEI), capital market investment recorded an increased number of investment throughout 2017. The number of investors' growth, grew from 894,116 in 2016 to 1,118,913 in 2017. (<http://ekonomi.kompas.com>). This is indeed a welcome development. However, in order to develop other regions, individuals, companies and the various government agencies must work together. Universities in Surabaya, also help in creating investment awareness by providing educational courses tailored to teach students good capital investment strategies. Surabaya city can be a good prospect for capital market investors.

Several factors influence the process of selecting an investment plan by individuals. These factors are: demographic factors such as age, experience, gender, education, and investor's decision making.

Investors should endeavor to put these factors into consideration in order to make huge profits with little or no risk. Gender, marital status, age, occupation, and level of education are also some of the factors that could determine an investors investment plan. This ideology, has been proven by several studies conducted by Bernasek and Shwiff (2001). However, the research conducted by Grable and Lytton (1999) opines that there are several demographic factors which have no effect on risk tolerance. According to Barber and Odean (2001), women are at a higher risk of losing out when it comes to making investment plans. Several studies have been conducted to ascertain the various demographic factors associated with risk tolerance and in investment decision making.

## LITERATURE REVIEW

According to conventional financial theory or standard finance, offenders are considered to be rational as they tend to increase the profits earned by the capital investment market. The finance standard approach depends on a series of assumptions one of which is; emotions and psychology sometimes influence a decision that causes unpredictable or irrational behavior (Ackert and Deaves, 2010). Hence, the evolution of a new paradigm known as the behavioral finance which combines the behavioral and cognitive psychology theory using the conventional and financial economics as an alternative. It explains why market applicants make irrational financial decisions.

Every economic decision making contains risks, especially those associated with the capital market. Analyzing individual differences when it comes to investment is essential in risk taking it can help predict real economic behaviors. Some empirical and experimental studies show that people try to avoid risk. When decision makers make do with the rational thinking patterns which emphasizes normative procedures, they tend to enter a new state in the decision making process. One model of irrational decision making based on risk factors is explained by the Prospect Theory proposed by Kahneman and Tversky (1979). According to this theory, people tend to avoid making risk decisions when enjoy profits and seek for risk advisers when they suffer losses. This implies that when someone has to choose in an uncertain situation, he tends to make choices on minimize risk and avoid regret.

In the financial sector, investors are sometimes willing to accept risks of uncertainty conditions called risk tolerance. According to an Indonesian researcher, Yohnson (2008), *risk* tolerance has a significant effect when associated with investment decision making. Most capital market players in Indonesia have a high risk tolerance in stocks investment, while those with low risk tolerance invest in instrument deposits, mutual funds, bonds, gold or real estate. Some empirical evidences have proven that the risk-taking affects trade and the financial industry. Fellner and Maciejovsky (2007) in their experiment describe the relationship between market activity and attitude risk. They concluded that the higher investors avoid risk, the lower their market activities. Suhari et al., (2011) found that investors who take risk, tend to make investments frequently with more profits. This is because most often, they tend to invest on products with high - risk investments. On the contrary, investors who maintain safety, tend to invest in low risk investment, and they rarely make any transaction. Michailova (2011) level risk aversion theory, measured as a number of safety choice with no significant effect to intensity individual involvement inside trading activities.

## DEMOGRAPHY AND RISK TOLERANCE

Risk is not only influenced by attitudes but also by demographic factors. Grable (2000) stated that demographics affect individual risk tolerance behavior. He further stated that risk tolerance is influenced by gender, age, income and formal education. According to his research, the older a person gets, the lesser his risk tolerance. More so, higher income increase risk tolerance. In addition, the level of formal education is affected by risk tolerance. Every economic decision making certainly contains risks, each individual is likely to come across risk will face risks because of the uncertainty of the situation. Finucane et al (2000) carried out a research in the United States, in which he realized that risk tend to be low assessed on white men and women compared to light skin or black people. Prince and Schwartz (1998) found gender and people's status as factors affecting investment. He beamed that people with low self-esteem and power, as well as men are more vulnerable and more competent in managing money. Grable and Lytton (1999) added that women generally have a lower risk tolerance than men. Similarly, Olsen (2010) concluded that women do not have the possibility to invest in high risk assets.

Age is one of the important factors that determines an investor's attitude to risk, because a person's attitude towards risk and investment will certainly change with age, experience and maturity. It will change one's attitude towards the risks taken and their investments. Some investment experts say that young investors (under 40 years old) are more aggressive towards risk than older investors. Bernasek and Shwiff (2001) in their study, found that there was a negative relationship between investors age and the rejection of investment risk (risk aversion). Women who are 30 years old and below, tend to avoid risk unlike men. This statement is also supported by Grable and Joo (1997), Grable and Lytton (1999), Wang and Hanna (1997) which states that there is a negative relationship between age and risk tolerance. Older investors tend to avoid investment risk tolerance compared to young investors. Korniotis and Kumar (2005) studied the trade-offs between the benefits of investment experience and the problem of cognitive maturation processes. The more experience investors tend to be, the less risk they tend to come across. Moreover, they are diversified and do not trade frequently.

Based on previous theories and previous research, it can be hypothesized:

H1: Age affects the risk tolerance of capital market investors

H2: Gender affects the *risk tolerance* of capital market investors

H3: Experience affects the *risk tolerance* of capital market investors

## RISK TOLERANCE AND INVESTMENT

Research conducted over the past few decades has analyzed investors' behavior and has also tried to educate people on ways to manage investment differently. The risk tolerance of each person varies, it also determines the investment behavior of investors. According to Sartono (2010), three groups of individuals are usually at risk, the first individual can be defined as those who like risk, the risk seekers or those who are happy with risk. For instance, if an individual or investor is faced with two investment choices that provide the same level of profit with different risks, they will choose to opt for an investment with a high risk, or they will ask for some additional benefits for each additional risk faced. The second

group of individual are those who do not like or avoid risk (risk averter), they are known as individuals who prefer smaller risks same choice of benefits. The final group of people are those, who do not take risk. These set of individuals will ask for the same level growth of profit for each increase in risk.

Fellner and Maciejovsky (2007) in their experiment explored the relationship between market activity and risk attitude. They concluded that the higher the risk an investor avoids, the lower their trading activity. Similar research was conducted in Indonesia by Suhari et al. (2011). It was found that investors with strong risk taking and those who choose to invest on the high risk products, tend to make transactions/investments frequently. On the contrary, investor who maintain safety, tend to invest in low risk investment and rarely transact. Michailova (2011), beamed that the level risk aversion measured as number of safety choices, has there is no significant effect on intensity involvement on individuals through trading activities.

H4: Risk tolerance affects the investment decision making in the short and long term.

## DATA AND METHODOLOGY

The population used in the analysis of this research work is the capital market investors located in Surabaya. The sampling technique carried out in this research work is the purposive sampling. This sample aims at subjectively with purposive sampling type that is judgment sampling. The criteria used are stock investors and have been members of securities for at least 1 year. 40 respondents were used in carrying out this research work and in collecting data.

The risk tolerance measurement was obtained using a questionnaire form. This was used to also obtain statements about risk tolerance perception as opined by Hoffmann and Pennings (2012) Each statement is measured by a Likert scale with five answer choices. The answers options provided include: Strongly disagree (value 1), disagree (value 2), strongly agree (value 3), agree (value 4), and strongly agree (value 5). Gender measurement was also used with 1 for men and 0 for women was used to analyze and test this study. However, before testing was done, the classical assumption was first tested, so that the regression models are not biased and fullfill the *Best Linear Unbiased Estimator* (BLUE).

From the survey conducted, we obtained the following data from respondents in Surabaya as shown in table 1

TABLE 1. Respondent Characteristics

No	Respondent characteristics	Criteria	Frequence	Percentage (%)
1	Gender	Man	22	55
		Woman	18	45
2	Age	22 – 32 years old	21	52,5
		32 - 43 years old	7	17,5
		44 – 55 years old	12	30
3	Education	< high school	4	10
		Diploma	4	10
		S1	24	60
		>S2	8	20
4	Status	Married	25	62,5
		Single	15	37,5
5	Exprience	< 5 years old	25	62,5
		5-10 years old	7	17.5
		>10 years old	8	20

The table shows that male respondents or investors are more than 55% compared to female respondents which is approximately 45%. This shows that investors who invest in the Indonesia Stock Exchange are dominated by men. In terms of age, investors at the age of 22 to 32 years is 52.5% and aged 32 to 43 years is 17,5%, 44 years to 55 years is 30%. This shows that most investors between the age of 22 to 32 years, are productive. Educational analysis obtained has it that investors were predominantly undergraduate and graduates. This means that investors are highly educated on the basis of capital investment which will help them transact properly. The dominant respondents experience in investing in the capital markets is under 5 years 25 respondents 62.5%. Investor status is dominated by married investors 62.5% and this can be seen in the table 1.

#### CLASSIC ASSUMPTION TESTING

Normality testing was done using Kolmogorov-Smirnov technique which obtained a research value above 0.05. The research variables used were normally distributed. The result analysis of the variables

studied had normal distribution. It can be concluded that all of these data fulfill the assumption of normality. The results of multi-collinearity testing for the variables of age, gender and experience do not show any symptoms of multi-collinearity where the VIF value on the variable is smaller than 10. From the Residual Scattered Plot graph, we noted that the points do not form a particular pattern and there is no clear pattern. Furthermore, the points spread above 0 on the Y axis. It can be concluded that Heteroscedasticity failed to occur. Durbin Watson's value obtained is 2.029. This number according to autocorrelation detection there are areas that show no negative auto-correlation and no positive auto-correlation, so the variables in this study are free from out-correlation.

#### HYPOTHESIS TESTING

The analysis model used in this study is multiple linear analyses. This analysis is used to determine the direction and magnitude of the influence between independent variables and dependent variable. It analyzed the influence of age, gender and experience in the risk tolerance of capital market investors.

The regression model used is:

$$Y_1 = \alpha + \beta_1 X_1 + \beta_2 D_2 + \beta_3 X_3 + e_i \quad (1)$$

Where  $Y_1$  is risk tolerance obtained based on questionnaires distributed to investors,  $X_1$  = age,  $D_2$  = gender and  $X_3$  = experience

However, to find out the direction and magnitude of risk tolerance towards investor decision making obtained from the questionnaire we make use of the following formula:

$$Y_2 = \alpha + \beta_1 Y_1 + e_i \quad (2)$$

Where  $Y_2$  = investment decision, while  $Y_1$  = risk tolerance.

#### RESULTS AND DISCUSSION

Based on the results of the study which using multiple regression analysis to determine the effect of demography on risk tolerance. The results obtained is interpreted in table 2.

Table 2. Hypothesis Test Results

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.974	1.847		9.732	.000
	Age	.027	.050	.103	.535	.596
	Gender	-2.166	1.087	-.339	-1.993	.054 *
	Experience	-.082	.126	-.126	-.654	.517

Note: Dependent Variable: risk tolerance; P\* < 0.10

Based on table 2, it obtained the multiple linear regression equation models as follows:

$$Y_1 = 17,974 + 0,027 X_1 - 2,166 D_2 - 0,082X_3$$

X<sub>1</sub> is the age variable. This theoretically means that the older an investor is, the lower his risk tolerance. This is solely owing to the fact that they tend to avoid risk and by investing in a safe investment. Based on the test, a significance level of 0.596 was obtained. These results obtained has it that age has no significant effect on risk tolerance. The results of this study do not support Grable and Lytton (1999) research, as well as Grable and Joo (1997) research which states that there is a negative relationship between age and risk rejection, which tends to reduce risk tolerance compared to young investors. The difference is owing to the fact that most respondents between the ages of 22 years to 32 years are less experienced and stand the chance of acquiring more risk.

Gender shows a significant influence on risk tolerance, according to the Worthington (2006) research, gender plays an important role in avoiding risk. From the results obtained showed a negative coefficient which means that men have a lower risk tolerance than women. This analyses do not support Prince and Schwartz (1998) research which argues that men are more prepared to take risks to build wealth, and are more competent in managing finances. As Grable and Lytton (1999) states women stand a lower risk than men. This shows that women who invest in the Surabaya capital market have high risk tolerance, although investment in the capital market has high uncertainty risk. This is also supported by the high level of investor education, with an average education of S1. They pay attention to theories that will reduce the level of error in decision making. In general concludes that gender does play an important role in risk avoidance.

The variables of experience in research have no significant effect on risk tolerance. Theoretically it is said that if someone is experienced, the risk of tolerance is lower. This is because, the person has grown to know the ins and outs of the capital investment market. This study is suitable with Korniotis and Kumar (2006) who studies the relationship between investment experience and cognitive maturation

processes, investors who are more experienced usually hold a portfolio that is less risky, choose a diversified investment and do not trade frequently.

The second test is to examine the effect of risk tolerance on short-term and long-term investment decision making. The test results are as follows:

Table 3. Results of Risk Tolerance Regression on Short-term Investments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	15.206	2.440		6.233	.000
	Risk tolerance	.153	.139	.176	1.102	.278

Note: Dependent Variable: short term

Testing the risk tolerance for short-term investment decision making shows insignificant results. The research put forward by Mayfield, Perdue and Wooten (2008) shows that the greater the level of individual risk avoidance, the lower their possibility of making short-term investments. However, for a risk tolerance relationship and long-term investment, the higher the risk tolerance, the more possible it is to invest in long term investment schemes, see table 4, the results of this study support the research of carried out by Wulandari and Iramani (2014) which proves that there is a positive relationship between risk perception and investment decision making. Investors in this study can be classified as risk-seeking investors. Positive coefficient results indicate that their high risk tolerance tends to invest in the long term investment schemes rather than short term schemes. All respondents in this study are respondents who invest in stocks – an investment plan that does contain a high risk.

Table 4. Results of Risk Tolerance Regression on long-term Investments

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	14.985	2.231		6.716	.000
	Risk tolerance	.293	.127	.351	2.308	.027**

Note: Dependent Variable: long term; P\*\*<0.05

## CONCLUSION

This study aims at examining and analyzing the influence of demographics on risk tolerance as well as its influence on investment decisions in the capital market. The vital findings obtained from the statistical findings shows that women are at a higher risk when they invest in the capital market compared to men. The first and third hypotheses which states that age and experience have no significant effect on risk tolerance is unacceptable.

The limitations in this study are variables limited to gender, risk tolerance and short-term/long-term investment decisions. However, it is essential that variables such as personality of the investor and respondents be added to the next research work on capital investment schemes.

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