

THE RELATIONSHIP BETWEEN DEMOGRAPHIC FACTORS AND INVESTMENT DECISION IN SURABAYA

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ABSTRACT

The financial literature supports an increasing role for behavioral aspects of investment decision making. Among other factors, demographic factor may influence investors' risk tolerance and investment preferences. This paper explores the relationship between demographic factors, such as gender, age, marital status, education, income, and family members, and investor's risk tolerance as well as investment preference. First of all, it attempts to reveal the relationship between investor's demographic factors (gender, age, marital status, education, income, and number of family) and investor's risk behavior (risk seeker, risk averse. Secondly, it tries to see the relationship between investor's demographic factors (gender, age, marital status, education, income, and number of family) and types of investment (bank products, capital market instruments, and physical assets). Finally, it endeavors to uncover the relationship between investor's demographic factors (gender, age, marital status, education, income, and number of family) and types of investment (bank products, capital market instruments, and physical assets). Using a sample of 84 investors in Surabaya, this study shows that demographic factors explain investor's risk tolerance and investment preference. The results also reveal a significant relationship between investors' risk tolerance and their investment preferences.

Key words: Behavioral finance, investor's demography, risk tolerance, investment preference

INTRODUCTION

Investment is a commitment of funds, directly or indirectly, to one or more assets with the expectation to enhance future wealth. Direct investment may take in the forms of either physical assets or financial assets that are traded or non-traded in a financial market. Investors may hold non traded financial assets by investing their funds on bank products, such as saving accounts and time deposit. These types of investment are relatively less risky: can be sold more easily, and have a shorter investment period. However, investors may also choose to invest their funds in traded money market instrument, such as Bank Indonesia Certificate (SBI). In addition, investors with a long-term investment horizon may invest their money into capital market instruments, such as common stock and bond. These kinds of investment are riskier, but offer

higher expected returns than that of money market instruments.

Rational investors, of course, try to maximize their returns for a given level of risk they bear, or minimize their risks for a given level of return. In that case, the type of investment instrument selected by individual investor will depend on his or her risk tolerance, whether the investor is *risk seeker*, *risk averter*, or *risk indifference*. In addition to risk tolerance, investor's demographic factors can influence investment decision. For example, male investors tend to be more tolerant to risk than do female investors (Barber and Odean, 2001). This finding may attribute to psychological factor that males tend to be more self-confidence than those of female. Investment decision may also be affected by demographic factor, such as age. For example, investors under 30 years old tend to take more risk than do the older ones

(Evans, 2004)

So far, behavioral finance receives less or even no attention from researchers in Indonesia. Therefore, the main purposes of this study are to explore:

1. The relationship between investor's demographic factors (gender, age, marital status, education, income, and number of family) and investor's risk behavior (risk seeker, risk averse)
2. The relationship between investor's demographic factors (gender, age, marital status, education, income, and number of family) and types of investment (bank products, capital market instruments, and physical assets)
3. The relationship between investor's risk behavior (risk seeker, risk averse) and types of investment (bank products, capital market instruments, and physical assets)

THEORITICAL FRAMEWORK AND HYPOTHESIS

Investor's Risk Tolerance

Many studies have been conducted to examine investor's risk and generally can be divided into two groups, namely expected utility theory (Friedman and Savage, 1948; Arrow, 1964) and prospect theory (Kahneman and Tversky, 1979, 1984). Prospect theory explains investor's preference to risk that deviates from that of being explained by expected utility theory. Besides that, prospect theory states that investors put more weight on risk than on profit (Kahneman and Tversky 1991). For example, a loss of Rp.1 will hurt an investor more than a profit of Rp.1. In that case, prospect theory expects that investors will be more speculative on loss than on profit. Investors will tend to keep loser securities in the hope that the prices of the securities will increase eventually. On the contrary, investors tend to be risk averters in a favorable condition. For example, when the prices of securities increase, investors will sell them immediately.

Some studies have been conducted to examine investor's risk tolerance in terms of

the proportion of the funds invested in risky assets. Investor's risk tolerance positively correlates with the investor's demographic factors, such as age, level of education, income, marital status, and wealth (Lease, Lewellen, and Schlarbaum, 1974, 1977; Riley and Chow 1992). Investor's risk tolerance tends to increase with the age. Investors tend to be risk averters when they are approaching to retirement. Besides that, the level of investor's education influences positively investor's risk behavior (Schooley and Worden, 1999). More specifically, investors with specific jobs, namely corporate executive, lawyer, doctor, tend to be more risk tolerant (Barnewall, 1987).

Investor's Overconfidence

Overconfidence can be defined as investors' tendency to rely heavily on their knowledge and ability, as well as the accuracy of information they own. Some studies have been conducted to answer why overconfidence is so widespread, and more importantly why investors fail to learn from their previous experiences. According to self-attribution bias, people tend to claim that their successes are due to their ability, but they blame external factors as the causes of their failures. (Miller and Ross, 1975). Investors tend to believe that they have ability to pick correct stocks, the stocks that will increase in prices. For example, when market index increases, the prices of most listed stocks also increase, including stock selected by the investors. From this, they claim that the excellent performance of their portfolio of stock is due to their skills. When the prices of their portfolios of stock decrease, however, investors will blame to the market or economic condition. Therefore, investors learn to be overconfident (Gervais and Odean, 2001).

Overconfidence becomes interesting because it may lead to sub-optimal results. Investors that are overconfident tend to trade more (Deaves, Lüders and Luo, 2005). While investors on average produce lower returns than that of market returns, investors

who trade most earn the lowest return. Some studies relate overconfidence with gender (Lundeberg, Fox and Puncchohar, 1994; Barber and Odean, 2001). For example, male investors tend to be more overconfident, and due to such a condition, they earn lower returns than those of the female investors.

Demographic Characteristic and Investment Decision

A rational investor will trade only when it increases the expected utility. An overconfident investor, on the contrary, tends to trade more as to lower the expected utility (Barber and Odean, 1999). Some studies have tried to examine the relationship between demographic factors and investment decision. Male investors spend more time and money to analysis securities, depend less on brokers, and trade more than do female investors (Lewellen, Lease, and Schlarbaum, 1977). In addition, the difference in trading frequencies between male and female investors is more pronounce for married investors. By trading more, male investors earn returns less than those of female investors.

Male investors are also more tolerant to risk than do female investors (Wood and Zaichkowsky, 2004). Female investors tend to be more conservative, by spending more of their funds in long-term investments, relying more on brokers, and being less risk tolerant, than do male investors. Furthermore, male investors use internet or on line trading more than those of female investors. Although both men and women tend to be overconfident, men have a higher level of overconfidence and risk tolerance than do women (Lundeberg, Fox, dan Puncchohar, 1994). Consequently, male investors put more of their funds in riskier assets, such as stocks, than in less risky assets, such as saving accounts, time deposits or bonds.

Investment decision and investor's risk tolerance are also influenced by other demographic factors, namely age, level of education, and family member. Young investors (less than 30 years old) tend to be more risk tolerant (Evans, 2004). Young investors with

a higher level of income invest their funds in more volatile portfolio composed of more volatile stocks (Barber and Odean, 2001; Schooley and Worden, 1999). Investor's risk tolerance is also affected by the level of education, whereas investors with a higher level of education tolerate more to risk (Bhandari and Deaves, 2006; Lewellen, Lease, and Schlarbaum, 1977; Schooley and Worden, 1999). In addition, investors with more family members tend to be risk averter (Lewellen, Lease, and Schlarbaum, 1977). In terms of investment choice, young investors with higher level of income, higher level of education, and less family members will choose riskier investment alternatives that offer higher expected returns. In other words, they tend to invest more of their money in stocks rather than on banking accounts and bonds.

Research Hypothesis

Based on literature studies discussed above, the testable hypothesis of this study can be formulated as follows:

1. There is relationship between investor's demographic characteristic (gender, age, marital status, education, income and family member) and type of investment (bank account, capital market instrument, and real asset)
2. There is relationship between investor's demographic characteristic (gender, age, marital status, education, income and family member) and investor's risk behavior (risk seeker and risk averse)
3. There is relationship between investor's demographic characteristic (gender, age, marital status, education, income and family member) and investor's risk behavior (risk seeker and risk averse)

RESEARCH METHODS

Research Variables

- a. Investor demographic characteristics consist of gender, age, marital status, education, income, and family member. The variables are measured using nominal scale as shown in Table 1.

Table 1
Demographic Factors and Their Measurement

Variable	Category	Score
Gender	Male	1
	Female	2
Age (years)	< 25	1
	25 - 40	2
	> 40	3
Marital Status	Married	1
	Single	2
Education	Post Graduate	1
	Graduate	2
	Diploma	3
	High School	4
	< High School	5
Family member(s)	1	1
	2	2
	3 – 4	3
	5	4
Income	< Rp.10.000.000	1
	> Rp.10.000.000 – Rp.20.000.000	2
	> Rp.20.000.000 – Rp.30.000.000	3
	> Rp.30.000.000	4
Funds Invested	< Rp.10.000.000	1
	> Rp.10.000.000 – Rp.20.000.000	2
	> Rp.20.000.000 – Rp.30.000.000	3
	> Rp.30.000.000	4

- b. Investor's risk behavior is the investor's tolerance to investment risk. This variable is measured using nominal scale as follows:

Risk Seeker: score "1", investors are categorized as risk seekers if they shift their funds from bank accounts or real assets to capital market instruments, or if they currently put their funds in capital market instruments and maintain the funds in this instruments.

Risk averter: score "2", investors are categorized as risk averters if they shift their funds from capital market instruments to bank accounts or real assets, or if they currently put their funds in bank accounts or real assets and maintain the funds in this assets.

- c. Type of investment is the investment

alternatives chosen by investors. This variable is measured using nominal scale as follows.

Investment in bank accounts (saving account, time deposit, etc.) : score "1"

Investment in capital market instruments (stock, bonds, etc.) : score "2"

Investment in real asset (land, property, etc.) : score "3"

Sample and Data

The sample of this study is investors in Surabaya, East Java, who invest their money in bank account, capital market instruments and real assets. The sample is selected using convenience sampling method, one of non-random or non probabilistic techniques (Cooper and Schindler, 2001), in which the sample is chosen because it can be reached

or obtained easily (Crask, Fox and Stout, 1995; Craig and Douglas, 2000).

This research uses primary data, collected using survey of questionnaire. To ensure that respondents fill the questionnaire correctly, they are confirmed using a telephone interview. Out of 100 questionnaires distributed, 84 questionnaires are filled completely and can be analyzed.

DATA ANALYSIS AND DISCUSSION

Descriptive Analysis

Descriptive analysis is used to identify and explore various demographic characteristics of investors as well as other factors related

to investors' behavior in investing their funds.

Inferential Analysis

Inferential analysis used to answer the research hypothesis is *chi-square test*. This test is chosen because the research variables are non parametric with nominal scale. The result of hypothesis testing is based the level of significance. When the level of significance is less than 5 percent, the hypothesis is accepted.

Descriptive Analysis

This section discusses the average response

Table 2
Gender, Type of Investment, and Risk Behavior

Age	Type of Investment						Total	
	Bank Account		Capital Market Instrument		Real Asset			
Male	18	30,5%	28	47,5%	13	22,0%	59	70,2%
Female	16	64,0%	5	20,0%	4	16,0%	25	29,8%
Total	34	40,5%	33	39,3%	17	20,2%	84	100%
Age	Risk Behavior						Total	
	Risk Seeker			Risk Averter				
Male	25		42,4%		34		59	
Female	4		16,0%		21		25	
Total	29		34,5%		55		84	

Table 3
Age, Type of Investment, and Risk Behavior

Age	Type of Investment						Total			
	Bank Account		Capital Market Instrument		Real Asset					
< 25 years	0	0%	2	66,7%	1	33,3%	3	3,6%		
25 – 40 years	10	24,4%	26	63,4%	5	12,2%	41	48,8%		
> 40 years	24	60,0%	5	12,5%	11	27,5%	40	47,6%		
Total	34	40,5%	33	39,3%	17	20,2%	84	100%		
Age	Risk Behavior						Total			
	Risk Seeker			Risk Averter						
< 25 years	2		66,7%		1		33,3%		3	3,6%
25 – 40 years	23		56,1%		18		43,9%		41	48,8%
> 40 years	3		7,15		37		92,5%		40	47,6%
Total	28		33,3%		56		66,7%		84	100%

Table 4
Marital Status, Type of Investment, and Risk Behavior

Marital Status	Type of Investment						Total		
	Bank Account		Capital Market Instrument		Real Asset				
Married	30	48,4%	19	30,6%	13	21,0%	62	73,8%	
Single	4	18,2%	14	63,6%	4	18,2%	22	26,2%	
Total	34	40,5%	33	39,3%	17	20,2%	84	100%	
Marital Status	Risk Behavior						Total		
	Risk Seeker			Risk Averter					
Married	16		25,8%		46	74,2%		62	73,8%
Single	12		54,5%		10	45,5%		22	26,2%
Total	28		33,3%		56	66,7%		84	100%

Table 5
Marital Status, Type of Investment, and Risk Behavior

Education	Type of Investment						Total	
	Bank Account		Capital Market Instrument		Real Asset			
Post Graduate	4	19,0%	10	47,6%	7	33,3%	21	26,2%
Graduate	13	43,3%	13	43,3%	4	13,3%	30	34,5%
Diploma	1	14,3%	6	85,7%	0	0,0%	7	8,3%
Higher School	15	60,0%	4	16,0%	6	24,0%	25	29,8%
< Higher School	1	100,%	0	0,0%	0	0,0%	1	1,2%
Total	34	40,5%	33	39,3%	17	20,2%	84	100%
Education	Risk Behavior						Total	
	Risk Seeker			Risk Averter				
Post Graduate	11	52,4%	10	47,6%	21	26,2%	21	26,2%
Graduate	10	33,3%	20	66,7%	30	34,5%	30	34,5%
Diploma	4	57,1%	3	42,9%	7	8,3%	7	8,3%
Higher School	3	12,0%	22	88,0%	25	29,8%	25	29,8%
< Higher School	0	0,0%	1	100%	1	1,2%	1	1,2%
Total	28	33,3%	56	66,7%	84	100%	84	100%

of respondents regarding variables listed in the research instruments and the number of respondents for each variable.

Gender, Investment Type, and Risk Behavior

Table 2 shows that majority of male investors put their money in capital market, while majority of female investors invest their funds in banking industry. Overall, there is no significant difference in the number of investors that put their fund in banking in

dustry and capital market.

In terms of risk behavior, both male and female investors tend to be risk averters. However, the proportion of risk seeker is higher for male investors than for female investors. This indicates that male investors tend to be more risk tolerant than do female investors.

Marital Status, Investment Type, and Risk Behavior

It seems from Table 4 that marital status

Table 6
Income, Type of Investment, and Risk Behavior

Income	Type of Investment						Total	
	Bank Account		Capital Market Instrument		Real Asset			
< 10 million	33	61,1%	8	14,8%	13	24,1%	54	64,3%
10 – 20 million	1	6,3%	12	75,0%	3	18,8%	16	19,0%
20 – 30 million	0	0,0%	11	91,7%	1	8,3%	12	14,3%
> 30 million	0	0,0%	2	100%	0	0,0%	2	2,4%
Total	34	40,5%	33	39,3%	17	20,2%	84	100%
Income	Risk Behavior						Total	
	Risk Seeker		Risk Averter					
< 10 million	5	9,3%	49	90,7%			54	64,3%
10 – 20 million	11	68,8%	5	31,3%			16	19,0%
20 – 30 million	10	83,3%	2	16,7%			12	14,3%
> 30 million	2	100%	0	0,0%			2	2,4%
Total	28	33,3%	56	66,7%			84	100%

Table 7
Family Member, Type of Investment, and Risk Behavior

Family Member	Type of Investment						Total	
	Bank Account		Capital Market Instrument		Real Asset			
1	1	11,1%	5	55,6%	3	33,3%	9	10,7%
2	3	13,6%	17	77,3%	2	9,1%	22	26,2%
3 – 4	25	61,0%	8	17,1%	9	22,0%	42	50,0%
5	5	41,7%	3	33,3%	3	25,0%	11	13,1%
Total	34	40,5%	33	39,3%	17	20,2%	84	100%

Family Member	Risk Behavior						Total	
	Risk Seeker		Risk Averter					
1	3	33,3%	6	66,7%	9	10,7%		
2	14	72,7%	8	27,3%	22	26,2%		
3 – 4	9	17,1%	33	82,9%	42	50,0%		
5	2	33,3%	9	66,7%	11	13,1%		
Total	28	33,3%	56	66,7%	84	100%		

effects investment decision. Married investors tend put their money in bank accounts, while most single investors put their funds in capital market instruments. By investing their funds in capital market instruments, single investors take higher risks in the hope to earn higher returns. This is supported by the second panel of As in Table 4. the majority of single investors are risk seekers, while most married investors are risk averters. Single investors are usually young investors

that just graduated from university. They have no obligation, or not significant if any, to support living of cost of their family. They want to accumulate their future wealth by investing their funds in more risky assets that offers higher returns.

Education, Investment Type, and Risk Behavior

Table 5 shows that majority of respondents with an education level of at least Diploma

Table 8
Risk Behavior and Type of Investment

Risk Behavior	Type of Investment						Total	
	Bank Account		Capital Market Instrument		Real Asset			
Risk Seeker	0	0,0%	27	93,1%	2	6,9%	9	10,7%
Risk Averter	34	61,8%	6	10,9%	15	27,3%	22	26,2%
Total	34	40,5%	33	39,3%	17	20,2%	84	100%

Table 9
Result of Hypothesis Testing

Variable	Risk Behavior		Type of Investment	
	²	Sig.	²	Sig.
Gender	8,552	0,014	5,403	0,020
Age	23,073	0,000	24,163	0,000
Marital Status	6,035	0,014	8,221	0,016
Education	10,834	0,028	19,319	0,013
Income	40,615	0,000	41,317	0,000
Family Member	21,742	0,000	26,346	0,000
	Type of Investment			
	²	Sig.		
Risk Behavior	54,476	0,000		

invest their money in capital market. Investment in capital market instruments requires more knowledge and skills than those required by investment in bank accounts or real assets. The risk and return profiles of capital market assets are more complex and difficult to estimate. These knowledge and skills are usually obtained from university.

Table 5 also reveals that the tendency of investors is risk averter. During global financial crisis, as evidenced, in 2008 – 2009, investors tend to be more prudent in investing their money. They avoid investing their money in capital market because there is no protection in this market. They prefer to put the money in banking account due the protection provided by LPS (Indonesia Deposit Insurance Agency).

Income, Type of Investment, and Risk Behavior

Table 6 shows that respondents with an income of at least Rp.10 million put most of their funds in capital market instruments. On the contrary, the majority of respondents

with an income of less than Rp.10 million put their money in bank accounts. This may be due to the fact that investment in bank accounts, such as saving account, requires much less money. Therefore, a low income respondent will tend to have their money in bank accounts. Table 6 also reveals that low income respondents tend to be risk averters, while wealthier respondents tend to be risk seekers. This imply that income may affect investor's risk behavior/

Family Member, Investment Type, and Risk Behavior

It seems from Table 7, respondents with a maximum family member of two persons tend to invest their money in capital market assets. On the contrary, big family respondents tend to put their money in bank accounts. This may indicate that small family investors tend to take more risk than do big family respondents. Due to the bigger burden assumed by big family investor, they avoid investing their money in more volatile securities, namely capital market instru-

ments. When they lose their money, investors with more family members will find difficulty in supporting their family. Therefore, they tend to choose less risky instrument, especially bank accounts.

Risk Behavior and Investment Type

Table 8 reveals that risk avoiding investors tend to put their money in bank accounts, while the risk seeking investors commit their funds in capital market instruments. There is no single risk seeker that put their money in bank accounts. This profile suggests that the investors with a higher risk tolerance will invest their money in capital market instruments, such as stocks. These instruments offer higher returns to compensate the higher risk they bear. On the contrary, investors that are risk averters tend to find safer assets, such as bank account and real assets, to protect their investments.

RESULT AND DISCUSSION

Table 9 summarizes the results of hypothesis testing. This table shows that there are relationships between investor's demographic characteristics (gender, age, marital status, education, income and family member) and investor's risk behavior as well as type of investment chosen. In addition, there is significant relationship between investor's risk behavior and type of investment. Therefore, the research hypothesis is accepted.

The results of hypothesis testing provide evidence that there is relationship between gender and risk behavior and type of investment. These results support previous studies (Lewellen, Lease, and Schlarbaum, 1977; Barber and Odean, 2001; and Wood and Zaichowsky, 2004) that conclude male investors have more risk tolerance, and consequently they choose riskier portfolios, such as stocks, rather than less risky assets, such as saving account and time deposit. Researches in psychological field reveal that both men and women are overconfident, but men are even more confident (Lundeberg, Fox, and Puncochar, 1994). Consequently, male investors tend to take more risk and

invest in riskier portfolio of assets composing mainly of stocks.

This study also shows that there is relationship between age and risk behavior and type of investment. These results in with previous works (Riley and Chow, 1992; and Evan, 2004) that state investor's affect investment decision. Relative young investors, those whose age are not older than forty years old, are more productive than the old investors. These young investors want to accumulate wealth for their long future lives, and therefore they choose riskier assets with higher expected returns. On the contrary, elderly investors, especially those who are retirements want to have more comfortable lives, and therefore they prefer to invest in assets with more stable returns. This is supported by evidence that relative young investor put most of their funds in capital market assets, while elderly investors put most of their money in bank accounts. Health factor may also affect this phenomenon. Elderly investors are usually reluctant to involve in a risky or speculative investment because it may hurt their health, both physically and psychologically.

This study provides evidence that there is relationship between marital status and risk behavior and type of investment. This result in line with previous studies (Ragathan, 2004; Barber and Odean, 2001); and Schooley and Worden, 1999) that show married investors tend to be risk averters. These investors will consider their families when making investment decision. Having burden to support their families, these investor will find more stable and less risky assets, such as bank accounts. They usually put their family's needs in the first priority, and use the rest of their income for investment. Consequently, the values of their investments tend to be smaller than that of single investors.

This research also suggests that level of education correlates with risk behavior and type of investment, as evidenced by previous studies (Bhandari and Deaves, 2006); Lewellen, Lease, and Schlarbaum, 1977, and

Schooley and Worden, 1999). Investor's education correlates positively with their risk tolerance. Investors with higher level of education have more knowledge and skills that are useful in making investment decision. Having more skills, these investors tend to be more overconfident and take more risk than those with lower level of education. Well educated investors believe that they are able to pick undervalued stocks. Consequently, they are ready to bear higher risks embedded in high yielding assets.

It also appears that investors' income positively correlated with their risk behavior and type of investment. To initiate an investment in the Indonesia stock market, investors need an initial investment of at least Rp.25 million. This value is much bigger than that of required for a saving account, say Rp500.000. It is not surprising that most high income investors put their money in capital market instruments. These high income investors also take more risk than do less wealthy investors. Stock investments not only require more funds but also offer higher expected returns. It means that by investing in stock market high income investors expect higher returns to compensate the higher risks they bear. The willingness of high income investors to take higher risk may also be influenced by the fact that they have plenty of funds to support their families' living costs and still have extra for investment. In the even their investments do not work well, the survival of their families will not be in jeopardy.

In terms of the relationships between family member and risk behavior and type of investment, this study also support previous researches (Lewellen, 1977) that concludes investors with bigger family members tend to avoid risk by investing in less risky assets. Big family investors usually consider the need of their families more seriously than do single family investors before investing their funds. In general, by having more family member investors have to spend more money for living costs, educational fees and other expenses. To secure these

expenses, they prefer to put their money in less risky and more stable assets.

Finally, the result shows that investors' risk behavior positive correlated with the type of investment selected. Risk seeking investors prefer to invest most of their money in riskier assets, mainly stocks, and put the residual in other assets, such as bank accounts and real assets. In general, the risk seekers are those who are single, well educated, relatively wealthy, and small family investors.

CONCLUSION AND IMPLICATION

Using a sample of 84 investors and *chi-square* test, this study concludes that investors' demographic characteristics positively correlate with investors' behavior and type of investment chosen. Furthermore, investors' risk behavior positively correlates with the type of investment. Risk seeking investors prefer to invest in capital market instruments, than do risk avoiding investors who prefer to put their money in bank accounts and real assets. By investing their funds in riskier assets, risk seeking investor may expect higher returns from those assets.

Caution should be exercised when generalizing the results. There are at least three limitations of this study. Firstly, the number of respondents is relatively small. Secondly, the demographic aspects examined in this study are limited to gender, age, marital status, education, income and family member. In Indonesia investment context, investors risk behavior and type of investment selected may also be affected by other demographic aspects, such as ethnic group, religion, and occupation. Finally, this study focuses on investors' demographic factors and ignoring their psychological aspects. Investor investment decision and their risk behavior may also affected by their psychological mode.

The results of this study are very relevant to bank executives and investment managers. Bank executives and investment managers need to understand the demography of their clients in order to design an

appropriate product for that client. They should offer high yielding investments to risk seeking clients, and offer stabile and less risky products for risk avoiding clients. Bank executives may offers mutual funds consisting mainly of stock to single, well educated, relatively wealthy, and small family clients. Investment managers, on the other hand, may offer less risky or risk free assets, such as government securities and Bank Indonesia Certificate, to attract bank clients who are tend to risk averters.

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