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The Willingness to Invest Under The New Compensation Limit of Investor Protection Fund in Capital Market: Evidence from Indonesia

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A B S T R A C T

This paper aims to see the willingness of people, both existing investor and non-investor, to invest their money in capital market after the new regulation about new compensation limit of investor protection fund. Moderated regression analysis is used to analyze the willingness to invest in existing investors and non-investors. The data are from a field survey of 110 respondents. The regression result shows that the expenditure and education level of existing investor is negatively and significantly associated with the willingness to invest under the new compensation limit of investor protection fund in capital market, contrary to our initial hypothesis. As well as existing investor side, the expenditure variable of non-investor has statistically significant negative effect on the non-investor willingness to invest. Confirming this study initial hypothesis, education level of non-investor has positive effect on the non-investor willingness to invest but the effect is not statistically significant.

Keywords: willingness to invest, Investor Protection, New compensation limit of investor protection fund

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I. Introduction

Capital market plays an important role in economic growth for every country in the world including Indonesia. It can enhance the function of financial intermediaries between excess and demand of fund apart from banking industry. Capital market is one of the essential elements and benchmarks of the country's economy (Karami, 2015). Capital market, especially stock markets perform many important functions. It performs an "act of magic" which is individuals provide funds to be invested in the long-term investment and many of whom wish to be able to withdraw it at will (Baumol, 1960; El-Wassal, 2013). A determinant of the decision to invest in capital market especially in the stock market is an assessment of the risk-return trade off given the existing data. Beside that, the other important factor in the decision to invest in capital market is investor trust. Many people, especially people unfamiliar with finance, need to have trust in the fairness of the game and in the reliability of the numbers to invest in it (Guiso, et.al, 2008). Investors' trust can be realized if they feel secure to do transaction in the capital market because there is a protection fund for their funds in capital market (Suharjo, 2011). Moreover, investors in good investor protection countries are willing to provide more funds to finance firms that could reduce the cost of capital and increase firm valuation (Cheng & Shiu, 2007). Several researches were conducted within the period of 2010 – 2012 in the preparation for the establishment of Investor Protection Fund in Indonesia. Finally, PT. Penyelenggara Program Perlindungan Investor Efek Indonesia (PPPIEI or ISIPF) was drawn up by the Notary as the company that administers Investor Protection Fund program at the end of 2012 and started to enforce institutions to implement

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on early 2014. In the beginning of implementation, the maximum compensation fund is Rp25 million per investor. However, after August 2015, the government increased the compensation limit of investor protection fund from Rp25 million per investor to Rp100 million per investor. This study aims to see the willingness of people, both existing investor and non-investor, to invest their money in capital market after the new regulation about new compensation limit of investor protection fund.

II. Literature Review

This section explained about investor protection fund, regulation of investor protection fund in Indonesia and come countries, and previous studies related to willingness to invest in capital market.

A. Investor Protection Fund

Investor protection fund is a fund created by institution to provide protection for capital market investor who lost their fund or stocks because of fraud conducted by the brokerage management to whom they are dealing with (ISIPF, 2017).

Considering the importance of investor protection fund in capital market, several countries already established institution for protecting investor fund. Table below describes about investor protection fund in some countries:

B. Indonesia Securities Investor Protection Fund (SIPF)

Considering the importance of investor protection fund makes government in this case Financial Services Authority (OJK) launches Indonesia Securities Investor Protection Fund (DPP). It aims to provide trust of investor, so they will keep their investment in capital market. After conducted several researches related to investor protection fund and comparison studies to other countries, Indonesia established new institution for the Investor Protection Fund on September 23, 2012, called as PT Penyelenggara Program Perlindungan Investor Efek Indonesia (PPPIEI or ISIPF). ISIPF was set up as a subsidiary of three Self-Regulatory Organizations (BEI, KSEI and KPEI) with the same portion of paid in capital.

Table 1. Investor Protection Fund in Some Countries

Country	Institution	Year	Coverage
Canada	Canada Investor Protection Fund	1969	$1 million
United States	Securities Investor Protection Corporation	1970	$500,000
Australia	National Guarantee Fund by Securities Exchanges Guarantee Corporation Limited (SEGC)	1987	No maximum for individual
South Korea	Korea Deposit Insurance Corporation	1996	KRW50,000
Malaysia	Compensation Fund of Bursa Securities	1997	RM100,000
Japan	Japan Investor Protection Fund	1998 (1968)	JPY10 million
Russia	Investor Protection Association	1999	na
Hong Kong	Investor Compensation Fund by Investor Compensation Company	2003	HK$150,000
Singapore	(Securities Exchange) Fidelity Funds	2001	SGD50,000
Thailand	Securities Investor Protection Fund	2004	THB1 million
China	China Securities Investor Protection Fund	2005	RMB100,000
Nigeria	Investor Protection Fund by Nigerian Stock Exchange (NSE)	2007	na
Indonesia	Indonesia Securities Investor Protection Fund	2012	IDR 100 million
Europe	Investor Protection	Na	
India	Investor Protection Fund	Na	

Source: Rokhim, 2017

C. Willingness to invest and Investor protection fund

There are several empirical studies conducted to examine the implementation of investor protection. Rokhim, et.al (2017) found that that increasing coverage value of SIPF in Indonesia capital market in August 2015 does not have any effect on market return because investors do not perceive that the new coverage value is worth enough to be considered. Moreover, changes of sign before and after the new coverage on the market return when the types of investors are traded among their types. There is a shift to positive sign as for the after implementation of new coverage, although it is statistically insignificant, implying that there is a shift of perception from the investors regarding the new regulation.

McLean, et.al (2012) stated that if there is a law related to investor protection fund, it would encourage efficient investment, increase the accuracy of share price in the market and better access to get external financing. Still in the same year, Haw, et.al (2012) stated that stock price in the market will be more informative if there are strong investor protection, higher financial disclosure, quality earning, and information dissemination.

Chiou, et.al (2010) stated that countries with strong investor rights protection tend to have lower risk and greater mean-variance efficiency. It is also supported by Jirasakuldech, et. al (2010) who argue that large market in countries with low disclosure and investor protection rights tend to decline more frequently, which then causing higher level of stock market volatility.

Cyrus, et.al (2006) found that strong investor protection is conducive to global financial integration. As countries improve their creditor and shareholder rights and foreign investors learn of these institutional changes, financial openness may well reach the levels observed in the early 20th century.

Ⅲ. Data, Research Methodology, and Hypotheses

Data were collected through questionnaires with individual investors and non-investors in the regions of JABODETABEK (Jakarta, Bogor, Depok, Tangerang and Bekasi). From now on, "investor" will refer to person who invested their money and "non-investor" will refer to person who not invested their money in any financial and non-financial instruments. Respondents were selected by simple random sampling. The number of the respondents was 110 respondents.

Investor and non-investor will have different questions. The respondents were asked to fill a two-part questionnaire. All respondents will have same question in the first section. The first section consist of the respondent's demographic profile as well as organizational and economic data (gender, monthly expenditure, age, level of education and occupation).

A separated question probed the possibility that the investor know about Securities Investor Protection Fund (SIPF). Based on their answers, the respondents will be asked whether they know that SIPF increased the investor protection fund with the maximum compensation limit of Rp100 million per investor or Rp50 billion per custodian. Later, the investor will be asked whether he/she would increase the investment after the increasing of maximum compensation limit. Due to data limitation, the study intentionally chose to measure the willingness to invest instead of the actual investment. Based on their answers, the respondents were categorized as either "willing to invest" or "unwilling to invest".

The second section of questionnaire for non-investor probed the possibility that they will have willingness to invest in capital market if their investment fund were protected by investor protection fund. Same as in the investor's questionnaire part, the respondents were categorized as either "willing to invest" or "unwilling to invest".

Identification, operationalization definition and research variable measurements are explain as the following:

a. Dependent variable: The willingness to invest. The willingness to invest refers to the willingness of investor to increase their investment and/or the willingness of non-investor to start their investment.

b. Independent variable: Expenditure and Level of education. Expenditure variable is a variable to know about respondent expenditure every month. This variable is used to disguise the direct question about income, where many respondents reluctant to answer it. Expenditure variable uses interval scale with five scales. Level of education refers to level of their past formal education.

c. Moderate Variable: Knowledge about the new max-

imum compensation limit issued by SIPF. It will be valued 1 if they know and 2 if they don't know.

The study uses Moderated Analysis Regression (MRA). MRA is type of regression-based technique used to identify the moderator variable. Before applying regression, the validity and reliability test should be done. Validity is a degree in which the research test is truly measuring what supposed to measure. While, reliability is a measure to indicate whether the instruments reliable or not to be used as a means of collecting data. There are some testing should be done to get the best estimation for linear regression, one of them is testing classical assumptions i.e. normality, heteroscedasticity and multicolinearity.

The study will divide the sample of data analysis into two classifications, the first one is investor and the other is non-investor.

The independent variables for MRA model were chosen based on the existing literature, which led to the formulation of hypotheses.

Hypothesis 1: willingness to invest varies with respondents' demographic characteristics. Demographic in this study is education (Kontogeorgos, 2014). Education is expected to have a positive effect on willingness to invest.

Hypothesis 2: willingness to invest varies with respondents' income. Expenditure is considered as a proxy for income of respondents, because higher expenditure may have higher incomes. Thus, respondents with higher income are expected to be more willing to invest their money. Moreover, Atkinson stated that the pattern of financial asset ownership affects income status. It has been observed on his article that for the higher income groups a greater proportion of the amount of asset holdings is in high-paying corporate equities than for the low income groups, who tend to favor direct debt and deposit types of claims, assets which in good times tend to be less remunerative than corporate stocks (Atkinson, 1956).

Hypothesis 3: willingness to invest under the new compensation limit of investor protection fund in capital market. The increasing of new compensation limit of investor protection fund in capital market is considered as a proxy for safeness. Safety is also one of the essential and crucial elements of investment. Investors prefer to place their fund on a safe territory

(Burke, 2009). Thus, the investor is expected to increase or start their investment in capital market if they know the investor protection fund is increase.

Research model consist of three models. Model 1 and 2 are used for investor measurement. While, non-investor measurement will use model 3.
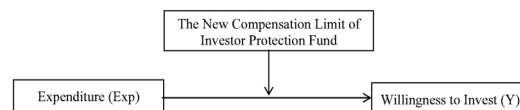
Model 1:

$$Willingness = \alpha + \beta_1 \mathrm{Exp} + \beta_2$$
$$\neq wlimit + \beta_3 \mathrm{Exp}^*$$
$$\neq wlimit + \epsilon \qquad (1)$$

Where,

Exp	= expenditure of respondents
Newlimit	= the level of knowledge from investor whether they know that Indonesia SIPF increase the maximum compensation limit
β_1	= coefficient of Expenditure variable
β_2	= coefficient of Newlimit variable
β_3	= coefficient of Exp*Newlimit variable
ε	= error of regression

Research design for model 1 is shown in the figure below:
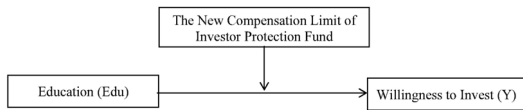

Source: author, 2017

Model 2:

$$Willingness = \alpha + \beta_1 Edu + \beta_2$$
$$\neq wlimit + \beta_3 Edu^*$$
$$\neq wlimit + \epsilon \qquad (2)$$

Where,

Edu	= level of education of respondents
Newlimit	= the level of knowledge from investor whether they know that Indonesia SIPF increase the maximum compensation limit
β_1	= coefficient of Education variable
β_2	= coefficient of Newlimit variable
β_3	= coefficient of Edu*Newlimit variable
ε	= error of regression

Research design for model 2 is shown as the following figure:

Source: author, 2017

Model 3:

$$Willingness = \alpha + \beta_1 Edu + \beta_2 \mathrm{Exp} + \epsilon \qquad (2)$$

Where,

Edu = level of education of respondents
Exp = expenditure of respondents
β_1 = coefficient of Education variable
β_2 = coefficient of expenditure variable
ϵ = error of regression

Figures below show that there is 108 respondents that consist of 37 respondents are investor in capital market, 17 respondents are investor in non-capital market and 56 respondents are non-investors either in capital market or any other instruments.
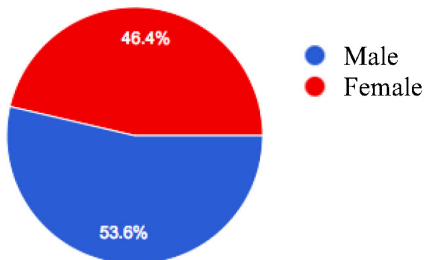

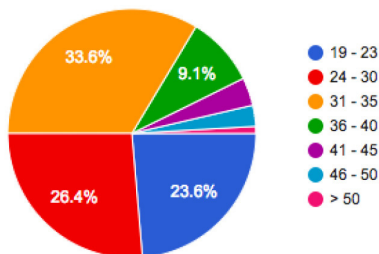**Figure 1.** Gender of Respondents

Figure 2. Age of Respondents

The percentage of male respondents is slightly above the percentage of female respondents (53.6% male vs

46.4% female) (figure 1). Half of respondents are under the age of 30. The percentage of respondent in the age of 31-35 is about 33.6%, 9.1% of respondents is in the age of 36-40, and the rest of percentage is respondents above 40 years old (figure 2).
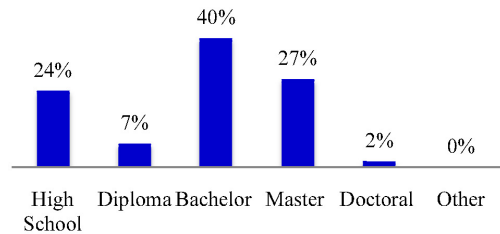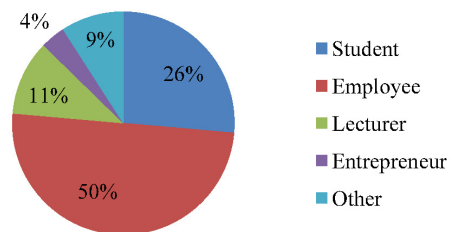

Figure 3. Level of Education

Figure 4. Occupation

About 31% of respondents have education under bachelor degree. More than third have bachelor degree (40%). 27% respondents are master degree. Only 2% advanced through doctoral degree (figure 3). Half of respondents are employee. 26% respondents are student, and about 24% of respondents are lecturer, entrepreneurs and other.

Ⅳ. Empirical Result

Most of independent variables for the moderated regression analysis of the willingness to invest are provided directly by the question in the survey. The first regression is to know about relationship between expenditure of respondents as a proxy of income respondents and also the willingness to invest in capital market. The relationship also wants to know how strong the willingness of investor to invest their money in capital market after new compensation limit in investor protection fund.

Table 2. F-Statistic Test Model 1

Model Summary (Willingness)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.70	.50	.45	.21

ANOVA (Willingness)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.37	3	.46	10.86	.000
Residual	1.39	33	.04		
Total	2.76	36			

Source: author, 2017

Adjusted R-square is 0.45. It shows that only 45% of willingness to invest under new compensation limit of investor protection fund in capital market can be explained by expenditure. However, about 55% of dependent variable is explained by other variables outside the model.

ANOVA table in table above shows that F-value is 10.86 at the significant level of 0.000. The significant level is lower than 0.05, which means that expenditure and new maximum compensation limit variable is simultaneously affect willingness to invest variable.

Table 3. Regression Result Model 1

Coefficients (Willingness)

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.27	.39	.00	8.47	.000
Expenditure	-.73	.13	-2.89	-5.51	.000
CE	.38	.07	3.28	5.26	.000
NewLimit	-1.17	.21	-2.07	-5.46	.000

Source: author, 2017

Based on table above, the regression shows that the variable of expenditure has the significant level below 0.05 and coefficient regression negative 0.73. It means that expenditure has significantly negative relationship with the willingness to invest in the capital market and reject H_1. Interaction test for variable Newlimit (CE) as moderator variable shows significant level about 0.00. This value is lower than 0.05, thus it should accept H_3. It means that new maximum compensation limit is a moderator variable and it is stronger the relationship between expenditure and the willingness to invest.

Test for hypothesis 1 shows that expenditure has negative relationship with the willingness to invest, which means that investor with lower expenditure will be more eager to invest in capital market.

Table 4. F-Statistic Test Model 2

Model Summary (Willingness)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.72	.52	.47	.20

ANOVA (Willingness)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.42	3	.47	11.72	.000
Residual	1.33	33	.04		
Total	2.76	36			

Source: author, 2017

Adjusted R-square is 0.47. It shows that only 47% of willingness to invest under new compensation limit of investor protection fund in capital market can be explained by level of education of respondents. However, about 53% of dependent variable is explained by other variables outside the model.

ANOVA table in table above shows that F-value is 11.72 at the significant level of 0.000. The significant level is lower than 0.05, which means that level of education and new maximum compensation limit variable is simultaneously affect willingness to invest variable.

Table 5. Regression Result Model 2

Coefficients (Willingness)

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.86	.49	.00	7.90	.000
Level_of_education	-.77	.14	-2.64	-5.57	.000
NewLimit	-1.62	.27	-2.87	-5.92	.000
DE	.45	.08	3.41	5.75	.000

Source: author, 2017

Based on table above, the regression shows that the level of education variable has the significant level below 0.05 and coefficient regression negative 0.77. It means that expenditure has significantly negative relationship with the willingness to invest in the capital market and reject H_2. Interaction test for variable Newlimit (DE) as moderator variable shows significant level about 0.000. This value is lower than 0.05, thus it should accept H_3. It means that new maximum compensation limit is a moderator variable and it is stronger the relationship between level of education and the willingness to invest.

Test for hypothesis 2 shows that level of education has negative relationship with the willingness to invest, which means that investor with lower level of education will be more eager to invest in capital market. The result shows different result from Kontogoergos et.al (2014), which state that education is expected to have a positive effect on willingness to invest. Depth analysis about characteristic of respondent show that the respondents in lower level of education is mostly students with the age between 19 and 23 years old.

Table 6. F-Statistic Test Model 3

Model Summary (Willingness)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.44	.19	.14	.46

ANOVA (Willingness)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.69	2	.85	3.99	.028
Residual	7.22	34	.21		
Total	8.92	36			

Source: author, 2017

For non-investor measurement, adjusted R-square is 0.14. It shows that only 14% of willingness to invest under new compensation limit of investor protection fund in capital market can be explained by expenditure and level of education. However, about 86% of dependent variable is explained by other variables outside the model.

ANOVA table in table above shows that F-value is 3.99 at the significant level of 0.028. The significant level is lower than 0.05, which means that expenditure and level of education variable is simultaneously affect willingness to invest variable.

Table 7. Regression Result Model 3

Coefficients (Willingness)					
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.46	.42	.00	3.44	.002
Edu	-.10	.06	-.30	-1.80	.081
Exp	.13	.10	.22	1.35	.186

Source: author, 2017

Based on table above, the regression shows that the level of education variable has the significant level below 0.10 and coefficient regression negative 0.10. It means that level of education has significantly negative relationship with the willingness to invest in the capital market and reject H_1. While, expenditure variable has significant level 0.186. This value is higher than 0.05. Coefficient regression for expenditure variable is positive 0.13, means that expenditure has positive relationship with the willingness to invest in capital market, but this relationship is not significant. Expenditure variable is a proxy to measure respondents' income. Respondents may have high income if they have high expenditure.

Same as with result from investor, non-investor also shows that level of education has negative relationship with the willingness to invest, which means that investor with lower level of education will be more eager to invest in capital market. The result shows different result from Kontogoergos et.al (2014), which state that education is expected to have a positive effect on willingness to invest. Depth analysis about characteristic of respondent show that the respondents in lower level of education is mostly students with the age between 19 and 23 years old. Their knowledge about investment gives significant contribution to their willingness to invest in capital market. But, the interest finding shows in regression result of non-investor side for expenditure variable. The regression shows positive relationship between expenditure variable and the willingness to invest, even though its relationship is insignificant. The positive relationship means that the more expenditure of respondents, the more they will invest in capital market. This result is supported by study from Shum and Faig (2005) who stated that the willingness to invest in capital market is increasing when respondents have higher income. It is because the sensitivity of income to risk in capital market is decreasing. The higher income individual will tend to invest more in risky investment (Benzoni and Chyruk, 2005).

Ⅴ. Summary

The objective of this study was to see the willingness of people, both existing investor and non-investor, to invest their money in capital market after the new regulation about new compensation limit of investor protection fund. This was the question in this survey addressed to 110 respondents in Jabodetabek (Jakarta, Bogor, Depok, Tangerang and Bekasi). Moderated Regression Analysis (MRA) has been applied to identify the willingness to invest under new maximum compensation limit. The expenditure and education level of existing investor is negatively and significantly associated with the willingness to invest, contrary to our initial hypothesis. As well as existing investor side, the expenditure variable of non-investor has statistically significant negative effect on the non-investor willingness to invest. Confirming this study initial hypothesis, education level of non-investor has positive effect on the non-investor willingness to invest but the effect is not statistically significant.

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