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### AN ANALYSIS OF FRAMING EFFECT ON FIXED ASSET INVESTMENT DECISIONS USING DISPOSITIONAL AND SITUATIONAL FACTOR AS THE MODERATING VARIABLES

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#### ABSTRACT

*The presentation of the underlying cause of making an investment decision becomes important, because a different decision will be generated when the information is presented in different frames (positive or negative). In addition to it, it turns out there are other factors which influence financial managers to make one; they are dispositional (security potential minded) and situational factor (aspirations or targets to be achieved). This study aims to investigate the information framing effect on a fixed asset investment decision using dispositional and situational factor as the moderating variables. In this study, quasi experimental method and a questionnaire were used to collect data. The questionnaire was used to determine whether the participants were security minded or potential minded. Moreover, as many as 120 students majoring in accounting were chosen randomly and given a role as a finance manager to choose a fixed asset investment decision. This study used a one way anova test tool to see if there were differences in investment decisions on fixed assets taken by security and potential minded financial managers when confronted with information with positive or negative frame accompanied by targets or without targets. The result of this study indicated that financial managers with security minded type tended to choose less risky or safer fixed asset investment option compared to the ones with potential minded type. This was caused by the tendency of the security minded individuals to be risk averse while the potential minded consider risks as opportunities. The result of this study are in line with security-potential/aspiration theory.*

Keywords: framing effect, fixed asset investment decision, dispositional factor, situational factor

#### INTRODUCTION

In recent years, many companies in Indonesia have started to invest to increase market share and corporate income. This is indicated by the increase of fixed assets of the companies. The decisions to invest in fixed assets is certainly controlled by financial managers. More importantly, in making ones, they will definitely be confronted with several relevant financial information related to the investments. The presentation of this information becomes important in determining investment decisions, because the same information, when accompanied by different perspectives, will result in different decisions – framing effect. The framing effect can be explained by the prospect theory triggered by Kahneman & Tversky (1979).

Several previous studies have found that this framing effect affects the investment decisions. Page et al. (2007), found that individuals who were in a state of loss tended to be more courageous in taking risky decisions (risk seeker). However, in contrast, those who were in a state of gain tended to take safer decisions (risk averse). Druckman (2008) found that when a person was in an emotional state (angry), he/she tended to be a risk seeker, while a distressed one tended to be a risk averse person. Zhang et al. (2008) found that someone tends to be a risk seeker when he/she is confronted with information in a negative frame rather than positive frame. Mishra and Fiddick (2012) argue that the framing effect occurs due to the descriptions of the existing information as well as the conditions during the decision making processes. In addition, Huangfu (2014) found that, in positive frames, individuals who had a low tendency of taking risks, tended to make safer decisions and vice versa. However, in negative frames, individuals, whether they were risk averse or risk taker, tended to make risky decisions.

In brief, when individuals are confronted with information in positive frames, they tend to avoid risks and vice versa. However, in making decisions, there are another factors which are explained in the SP/A theory triggered by Lopes (1987). This theory states that in making a decision, one is influenced by two factors called dispositional factor (security and potential) and situational factor (aspiration). These two factors may make the decisions taken differently. Therefore, this study aims to analyze the effect of framing on fixed asset investment decisions with dispositional and situational factor as the moderating variables. This study also aims to investigate whether or not security minded individuals, especially financial managers, tend to make safer decisions compared to the potential minded ones, when they are confronted with information in a positive or negative domain accompanied by targets or without targets.

#### LITERATUR REVIEW

##### *Prospect Theory*

The prospect theory was first triggered by Kahneman & Tversky (1979) as a critic of the expected utility theory. The expected utility theory states that taking decisions is based on assumptions of rationality. The rational individuals will choose choices in which the highest outcome is achievable. However, in fact, when one is confronted with two choices, he/she will choose the

more certain one instead of the one with higher outcome as well as the risk – certainty effect. The certainty effect ultimately encouraged the emergence of the prospect theory. This theory classifies the framing effect into two domains: positive/gain and negative/loss. When a person is confronted with information with a positive/gain domain, he/she tends to make safer decisions. However, when he/she is confronted information with a negative/loss domain, he/she tends to make more risky decisions.

### **Security-Potential/Aspiration Theory**

In addition to the prospect theory, another theory used in this study is the security-potential/aspiration theory (SP/A Theory) triggered by Lopes (1987). This theory states that in making decisions, one is influenced by two factors called dispositional factor and situational factor. The dispositional factor describes the motives that generally underlie why a person is oriented to avoid risks (security minded) or exploit opportunities (potential minded). Security minded is described as the motives to focus on the worst outcome will occur. Otherwise, potential minded focuses on the best result will occur. Situational factor (aspiration) shows a person's response to the needs and opportunities available. This factor is illustrated with an aspiration at the time of a decision making process. The aspiration is considered to be a deemed satisfactory minimal result by the decision maker, based on the choices provided in certain situations. A high level of aspiration makes a person to be more tolerant of some existing risks to achieve his/her goals, while a low level of aspiration increases the tendency of a person to avoid risks.

## **HYPOTHESES**

10 According to the prospect theory, if individuals are confronted with information in a positive/gain frame, they will tend to choose a safer option. In addition, the absence of targets (aspirations) can also be one factor which affects individuals to choose a safer one, because that option can meet their expectations. When the security minded individuals (oriented to avoid risks) are confronted with information with positive frame and without targets, they have a tendency to choose safer option compared to the potential minded ones (oriented to exploit available opportunities)

**H1a : In positive domain conditions with the absence of aspiration levels, the security minded individuals tend to make less risky decisions compared to the potential minded ones.**

9 Things change when information is presented in a positive/gain frame accompanied by targets to achieve. The security minded individuals who tend to avoid risks, however, may make the same decisions as the potential minded individuals tend to make – risky ones. This is because the less risky decisions are usually below the set targets, so the security-minded individuals will make riskier decisions to achieve the targets. This is in line with the statement of Fiegenbaum and Thomas (1988) which states that one can make for risky decisions when the rate of return is below the specified targets. In this case, the potential minded individuals will make risky decisions, because they basically like to take risks and try to react to specified targets.

**H1b : In positive domain conditions with the existence of aspiration levels, the potential minded individuals tend to make risky decisions compared to the security minded individuals.**

According to the prospect theory, when confronted with information in a negative/loss frame, individuals tend to make risky decisions. The absence of targets can be considered as a factor affecting the decision making processes. When security minded individuals are confronted with information in negative frame and without targets, they tend to make decisions with a relatively small number of loss compared to the potential minded individuals. This is because, even though risky decisions offer the possibility of not experiencing loss at all, the probability of occurrence is very small. However, the potential minded individuals tend to make risky decisions which allow them to experience no loss at all or otherwise, take on relatively larger risks.

**H2a : In negative domain condition with the absence of aspiration levels, the security minded individuals tend to make safer decisions compared to the potential minded individual.**

It will be different when individuals are confronted with information in a negative/loss frame accompanied by specific targets/aspirations. The security minded individuals who usually like decisions with definite risks, may make decisions which are as risky as the potential minded individuals make or even riskier, with expectations that they will not experience any loss at all. The reason is that risky decisions offer a small probability of not experiencing any loss at all and can meet the specific targets set. Fiegenbaum and Thomas (1988) once stated that when the rate of return is below the target set, individuals tend to make risky decisions (risk seeking). However, the potential minded individual still tend to make risky decisions, because they basically like to take risks and try to meet the targets set.

**H2b : In negative domain conditions with the existence of aspiration levels, the potential minded individuals tend to make risky decisions compared to the security minded individuals.**

## **METHODOLOGY**

### **Subjects of the Study**

The subjects of this study were active students of Faculty of Economics and Business of Unika Soegijapranata majoring in accounting. To be able to participate in this experiment, the subjects must meet two requirements – passing the management accounting course and manipulation check. In this study, the subjects were assumed as managers in companies who had to make decisions related to investments. They could only make ones if they had passed or understand the related course.

### **Data Type and Data Collection Technique**

8 The data type used in this study was the primary data. This primary data was obtained by measuring the subjects' perceptions towards the treatment given by the experimenter. Experimental technique was used to collect the data. This study is categorized as quasi experiment, because the subjects were students of Unika Soegijapranata majoring in accounting, who were positioned as if they were companies' financial managers.

**Experimental Design**

The experimental design of this research was 2x2x2 (framing effect x security/potential minded x aspiration) between subjects. Each cell consisted of 15 individuals, so the total sample used was 120 individuals with 8 conditions (2x2x2).

**Tabel 1 : Experimental Design**

		<i>Framing +</i>	<i>Framing -</i>
Aspirasi	Security	1	5
	Potential	2	6
Non Aspirasi	Security	3	7
	Potential	4	8

**Operational Definitions of Variables**

**Information Framing**

In this study, the information framing/framing effect was the treatment variable in which a case related to investment decisions and two options of answers were be presented. Those two options shared the same idea, but was packed with two different point of views – positive and negative. For the framing effect itself was measured using a dummy variable in which positive frame cases was denoted as ‘0’ and negative framing cases as ‘1’.

**Dispositional Factor**

In this study, the dispositional factor variable was measured using a questionnaire. The questionnaire used was risk propensity scale questionnaire of Meertens (2008) which consisted of seven questions. In this study, if one’s average score was > 5, it can be said that he/she had a tendency to be risk-seeker (potential minded), and vice versa. The dispositional factor was also denoted by a dummy variable in which the security minded individuals were denoted by number ‘0’ and the potential minded individuals were denoted by number ‘1’.

**Situational Factor**

In this study, the situational factor variable is the treatment. Later in the experiemtn, the subjects of the study were divided into two groups where one group was given aspirations while the other one was not. Aspirations, in this experiemtn, were given in the form of targets to achieve by the subjects. This variable was also measured by a dummy variable. The number ‘1’ was used to indicate that the subjects was given specific targets/aspirations while ‘0’ was used to indicate that the subjects was not.

**Investment Decision**

The investment decision was measured using seven-point likert scale which showed the tendency of the subjects in choosing investment options provided. The greater the number the subjects chose, the more preferences they had on risky options (B). However, the smaller the number they chose, the more preferences they had on safer options (A).

**Hypotheses Testing**

The hypotheses in this study were tested using ANOVA one way. The test was conducted in order to determine whether or not there were differences in investment decisions taken when information was presented differently. The level of significance was set at 5%. If the significance value was less than 0.05, the hypotheses would be accepted. Conversely, if the significance value was more than 0.05, the hypotheses would be rejected.

**RESULT**

In this study, initially, there were 154 subjects who would participate in the experiment. However, as many as 34 did not pass the manipulation check. Those who wrongly answered the manipulation check were excluded from the hypotheses testing experiment, because they might not be able to understand the tasks given. Even if they were included, it was worried that their decisions would be biased. Therefore, as many as 120 subjects were chosen to participate in the experiment.

**Validity and Reliability**

A questionnaire was used as the instrument to collect the data. Thus, testing the validity and reliability was necessary. To measure the validity and reliability of the questionnaire, SPSS was used with cronbach alpha test tool.

**Table 2 : Validity Test Result of the Questionnaire**

	1 Cronbach Alpha	Cronbach Alpha if item deleted	Conclusion
SP1	0.494	0.501	Invalid
SP2	0.494	0.34	Valid
SP3	0.494	0.285	Valid
SP4	0.494	0.662	Invalid
SP5	0.494	0.514	Invalid
SP6	0.494	0.421	Valid
SP7	0.494	0.257	Valid

From table 2, it can be seen that questions number one, four, and five are not valid, because the value of 'cronbach alpha if item deleted' is greater than the value of cronbach alpha itself. Therefore, the corresponding numbers had to be removed and retested.

**Table 3 : Validity Test Result of the Questionnaire**

	1 Cronbach Alpha	Cronbach Alpha if item deleted	Conclusion
SP2	0.735	0.694	Valid
SP3	0.735	0.627	Valid
SP6	0.735	0.764	Invalid
SP7	0.735	0.588	Valid

However, after conducting a re-test, question number six is still invalid, so it had to be removed and re-calculated. After recalculating the validity of the questionnaire, it is seen that the 'cronbach alpha if item deleted' value is below the cronbach alpha value itself. Therefore, questions number two, three, and seven are valid.

**Table 4 : Validity Test Result of the Questionnaire**

	Cronbach Alpha	1 Cronbach Alpha if item deleted	Conclusion
SP2	0.764	0.739	Valid
SP3	0.764	0.591	Valid
SP6	0.764	0.698	Valid

The reliability of the questionnaire used in this study can also be shown from the cronbach alpha test model. From table five, it is seen several criteria of cronbach alpha reliability. The greater the value of 'cronbach alpha', the better the reliability is. From the table, the cronbach alpha value is indicated in the table, which is 0.764. The number shows a high reliability or, in other words, the questionnaire is a reliable instrument.

**Tabel 5 : Reliability Level of the Data**

5 Cronbach Alpha Interval	Criteria
>0.9	Perfect Reliability
0.7-0.9	High Reliability
0.5-0.7	Moderate Reliability
<0.5	Low Reliability

Source: Murniati et al. (2013)

After passing the validity and reliability test, it can be seen that the questions which are valid and reliable are number two, three, and seven. These three questions were later be used in the study to determine whether the subjects were security minded/potential minded. The scores of these three questions would be summed and averaged. If the average was  $\leq 5$ , a person would be categorized as a security minded individual. Conversely, if the average was  $\geq 5$ , a person would be categorized as a potential minded individual. After that, a security minded individual was denoted as number '0' and potential minded individual as '1'.

**Hypotheses Testing**

In this study, the hypotheses testing test was performed using SPSS with ANOVA One Way. Table 6 shows the result of the testing that had been done. The significance level used was 5%, so when the significance value is less than 0.05, the hypotheses were accepted and vice versa.

**Table 6 : Hypotheses Testing Result**

Information	Sig	Average Investment Decision
H1a : Positive Frame, Without Aspirations	0.000	S (0) : 1.33
		P (1) : 3.87
H1b : Positive Frame, With Aspirations	0.000	S (0) : 1.47
		P (1) : 4.13
H2a : Negative Frame, Without Aspirations	0.013	S (0) : 1.73
		P (1) : 3.47
H2b : Negative Frame, With Aspirations	0.000	S (0) : 2.0
		P (1) : 4.27

Hypothesis 1a aims to examine whether or not in the positive domain conditions with the absence of any aspiration levels, security minded individuals tend to prefer safer options compared to the potential minded individuals. In table 6, it is indicated that this hypothesis has a significance value of 0.000. The average score of the investment decisions of the security minded individuals (denoted by by number 0) is 1.33 and the potential minded individuals (denoted by number 1) is 3.86. From those numbers, it can be inferred that the potential minded individuals, despite being confronted with information in a positive frame with the absence of any targets, still chose a riskier investment decisions compared to the security minded individuals. **Therefore hypothesis 1a is accepted.** This hypothesis is in line with the research of Page et al. (2007) who found that then the individuals in the state of gain and has reached a certain target, then the individuals tended to avoid risks.

Hypothesis 1b aims to test whether or not in the positive domain conditions with the existence of aspiration levels, potential minded individuals tend to prefer risky options compared to the security minded ones. Table 6 shows the significance value of hypothesis 1b, which is 0.000. The table also shows that security minded individuals (denoted by number 0) have an average of 1.47 which means that they chose safe investment options. In contrast, the potential minded individuals have an average of 4.13 which indicates their tendency to choose risky investment options. **Therefore, hypothesis 1b is accepted.** This hypothesis is in line with the research of Mishra and Fiddick (2012) which states that the framing effect is not the only thing that influences individuals to make decisions. Need is the other factor that influences individuals in making decisions; it affects individuals' behaviour to tolerate risks that exist to achieve their goals.

Hypothesis 2a aims to investigate whether or not in the negative domain conditions with the absence of any aspiration levels, security minded individuals tend to choose safer options compared to the potential minded individuals. In table 6, this hypothesis has a significance value of 0.013, which means that this hypothesis is significant at 5%. The result of the descriptive statistic of the hypothesis shows the investment decisions value of the security minded individuals (denoted by number 0), which is 1.73, while the potential minded individuals (denoted by number 1) is 3.46. From these numbers, it can be inferred that in the negative domain conditions with the absence of any aspirations/target, the security minded individuals tended to choose safer investment options compared to the potential minded individuals. **Therefore hypothesis 2a is accepted.** This finding is in line with the research of Mishra and Fiddick (2012) which states that need is another factor besides the framing effect that influences individuals in making decisions. In making ones, when there is no target to be achieved, safer decisions tend to be made, because safe choices are adequate for them.

Hypothesis 2b aims to investigate whether in the negative domain conditions with the presence of aspiration levels, potential minded individuals tend to choose risky options compared to the security minded individuals. From table 6, it can be seen that the significance value of this hypothesis is 0.000. It can be inferred that this hypothesis is significant. From the table, it can also be seen that the average investment decision number of the security minded individuals (denoted by number 0) is 2.00 and the potential minded individuals (denoted by number 1) is 4.26. This suggests that the potential minded individuals tend to choose risky options compared to the security minded individuals, when they are confronted with the negative domain conditions with the presence of certain targets to be met. **Therefore, hypothesis 2b is accepted.** This is in line with the research of Page et al. (2007) who found that individuals are likely to take risks when they are in the state of loss and there are certain targets to be met.

## CONCLUSION

This study aims to analyze the effect of framing on fixed asset investment decisions with dispositional and situational factor as the moderating variables. This study shows that :

1. When individuals are confronted with information in positive frames, then the average investment decision numbers are lower than when they are confronted with information in negative frames. This is in line with the prospect theory which states that individuals tend to make less risky decisions (safer) when they are confronted with information in positive frames and vice versa.

2. Human nature (dispositional factor) is the most dominant factor in decision making. This is proven when security minded managers are confronted with information in a positive or negative frame with the absence of any targets, they tend to make safer investment decisions compared to the potential minded ones. By the same token, when potential minded managers are confronted with information with a positive or negative frame with the existence of certain targets to be met, they tend to make risky investment decisions compared to the security minded ones.
3. When information is given in a positive or negative frame accompanied by certain targets, the average investment decision numbers are higher compared to the information presented without targets. This is in line with the SP/A theory which states that making decisions is influenced by the situational factor which affects individuals' behavior to tolerate risks.

#### LIMITATION AND SUGGESTIONS

This study has several limitations and suggestions; they are:

1. As many as 34 subjects did not pass the manipulation test. That means that the test given was not understandable by the subjects. Therefore, in the future, a review on the manipulation check needs to be done in order to make it more understandable.
2. According to Taherdoost and Montazeri (2015), there is another theory that can be used to investigate the effect of framing effect in term of motivation. The theory is called self discrepancy theory. In the future this theory can be used for the development of this framing effect research.

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