Management Analysis Journal

Management Analysis Journal

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Problematic Firms Mostly Take More Risks?: Prospect Theory Testing in Indonesia

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Article Information

Article History:
Received May 2021
Approved June 2021
Published June 2021

Keywords:
Prospect Theory, Risk-Taking, Risk Aversion, Risk and Return.

Abstract

Prospect Theory Kahneman and Tversky (1979) is a behavioral theory that discusses risk taking viewed under certain conditions, whether in a win or loss condition. There is inconsistent behavior between theory and reality in companies in Indonesia. This research method uses a quantitative approach with the object of research being all companies listed on the Indonesia Stock Exchange from 2010 to 2019. The sample selection uses a purposive sampling method. The sample used as many as 206 companies with 1614 observations. This research uses ANOVA data analysis technique. Based on the results of this study, it shows that prospect theory is not supported in this study.

INTRODUCTION

Decision making under risk is still a concern until today. Decision-making theory and economics have long been based on the assumption that decision-making is rational, selfish, and stable (Johnson, 2014). But a psychologist, Kahneman (2011),states that the assumption of rationality is contrary to what is happening in real, that humans are not entirely rational, nor entirely selfish, and that the person's tastes are not stable. Classical economic theory was developed as a model that described the behavior of rational people idealized, not as a model that explained the behavior of people in real (Tversky & Kahneman, 1986)

The theory of financial behavior that criticizes the assumption of rationality, one of the well-known theories is Prospect Theory introduced by Kahneman and Tversky (1979). The theory is that utilities are based on win and loss at a time of change in wealth, not the state of total wealth (Kahneman & Tversky, 1979). The testable hypotheses provided by the research framework include; when decision makers are above the reference point, they will exhibit risk aversion, which is reflected by the positive relationship between risk and return. While when decision makers are below the reference point, they will show a risk-seeking, which is reflected by the negative relationship between risk and return. Prospect theory shows that the relationship of risk and return is not always positive.

Although prospect theory was developed to explain individual decision making, since the 1980s it has often been used in individual decision-making at the manager at the organizational level (Fiegenbaum, 1990; Sinha, 1994; Kliger & Tsur, 2011; Dasgupta, 2017;) to analyze the relationship between risk and return. In particular, prospect theory is used to explain the organization's decision-making attitude to risk which is reflected in the relationship between risk and the observed return.

Early studies such as Fiegenbaum and Thomas (1988) tested prospect theory at the organizational level and analyzed the relationship between risk and return previously studied by

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e-ISSN 2502-1451

Bowman (1980) on the risk-return paradox. They studied the characteristics of a few industries using Return on Equity (ROE) and ROE variance as measurements of return and risk. The study tested the Kahneman and Tversky (1979) hypotheses using accounting data, ROE. They divided the reference point as the median return, and divided the company sample into two groups, above and below

By adopting the methodology by research Díez-Esteban et al. (2017) to measure risk and return from the table below. Researchers used standard deviation roe with a period of five years (2015 to 2019) as a measurement of risk, as well as ROE as a measurement of return. From table 1, the average return (reference point) 5.89%, the average risk of 5.05%.

Table 1. Allegation Data

Company Code	Company Name	Return	Risk
Above the Reference Point			
INAI	Indal Aluminium Industry Tbk	11.93%	1.45%
PICO	Pelangi Indah Canindo Tbk	6.06%	1.47%
CTBN	Citra Tubindo Tbk.	6.08%	6.80%
JPFA	Japfa Comfeed Indonesia Tbk.	8.58%	6.42%
TBMS	Tembaga Mulia Semanan Tbk	10.02%	6.16%
Below the Reference Point			
ALKA	Alakasa Industrindo Tbk	0.08%	10.57%
TPIA	Chandra Asri Petrochemical Tbk	3.03%	10.63%
TRST	Trias Sentosa Tbk.	1.29%	0.56%
IPOL	Indopoly Swakarsa Industry Tbk	1.74%	1.07%
DPNS	Duta Pertiwi Nusantara Tbk	4.09%	1.13%
Reference point (average return)		5.89%	
Average Risk		5.05%	

Companies with CTBN, JPFA, and TBMS codes that are above the reference point, take a higher risk than the company's average risk. Meanwhile, companies with TRST, IPOL, and DPNS codes that are below the reference point, take a risk that is lower than the company's average risk. These findings can be concluded that the prospect theory is not supported. The same result was also found by research (Miller & Bromiley, 1990; Dananjaya et al., 2018) which showed the results of research that did not support prospect theory.

While in companies with the code INAI, PICO, ALKA and TPIA support the prospect theory hypothesis that is also in the way with research (Alam & Boon Tang, 2012; Marzo, 2012; Patel et al., 2018). Such inconsistencies are possible due to the management of companies not using their industry median as a reference point (Dananjaya et al., 2018).

Determining the reference point is an important step in prospect theory testing. Previous research (Dasgupta, 2014; Fiegenbaum & Thomas, 1988; Miller & Bromiley, 1990) used ex-post measurements in determining reference points. Reference point is determined by calculating the industry average or median return once during the research period, assuming no change in the situation and habits of the company in the observation period. But according to Mushtaq et al. (2015) the method is appropriate if the expected return is constant during the research period, as well as the measurement has another drawback, namely that the company is assumed to know the current performance of its industry, which should only be fully known in the next period.

Research conducted by Kliger and Tsur (2011) provides another alternative in determining reference points in prospect theory testing to resolve the above shortcomings, namely by using ex-ante measurements. The study calculated reference points using the industry's median return each year, as well as the industry's median return that year compared to the company's risk the following year. They argue that the industry's influence on decision-making behavior in the following year. Briefly, the study analyzed the effect of a company's return position on risk levels the following year, allowing the company's behavior to change over time.

Several studies in Indonesia have tested prospect theory at the organizational level (Joehana & Suk, 2016; Lazuardhi, 2016; Dananjaya et al., 2018; Sajjad Nuir & Asri, 2019). However, as far as researchers know, previous prospect theory studies in Indonesia using ex-ante measure-

ments provided research with research samples on Kompas 100 index Putri (2018), samples from three industries Lazuardhi (2016), as well as in the five-year research period. On that basis, this research contributed to the literature on prospect theory with samples at all companies listed on the Indonesia Stock Exchange, as well as a research period of ten years.

The main topic of this study focuses on prospect theory and its relation to the relationship between risk and return. The purpose of this study is to see how the company's return position against the reference point, above or below the reference point, with the next level of risk taking. This study is based on a study conducted by Kliger and Tsur (2011) conducted using data collected from COMPUSTAT in the United States. This study adopted the research method in the Indonesian context.

Hypotheses Development

Economic theory has been based on the assumption that humans are rational, selfish and tasteless (Johnson, 2014). But researchers in the field of psychology, Kahneman (2011),stated that man is neither entirely rational nor entirely selfish, and that the person's tastes are unstable.

Much of the early literature relating to under-risk decision-making behavior was developed under the assumption of Expected Utility Theory (EUT) developed by Von Neuman and Morgenstern (1944), which resulted in that humans were likely to avoid risk, predicting a positive relationship between risk and return (Fisher & Hall, 1969; Cootner & Holland, 1970). The theory is considered not entirely in accordance with reality, because it still rules out the possibility of inconsistencies in human behavior (Asri, 2013).

On that basis Kahneman and Tversky (1979) introduced prospect theory which explains risky decision-making behavior. The theory aims to document and explain violations on the basis of rationality in risky choices (Kahneman, 2011). The theory is contrary to the EUT used in explaining the decision-making process (Asri, 2013).

Kahneman and Tversky (1979) find that humans take or avoid risk depending on when facing win or loss measured based on a particular reference point. When in a loss, the individual will take the risk, and in a win condition, then the individual will avoid the risk. Prospect theories explain the relationship between risk and return which is based on the curve of the value in the form of the letter S. As shown on the Figure 1.

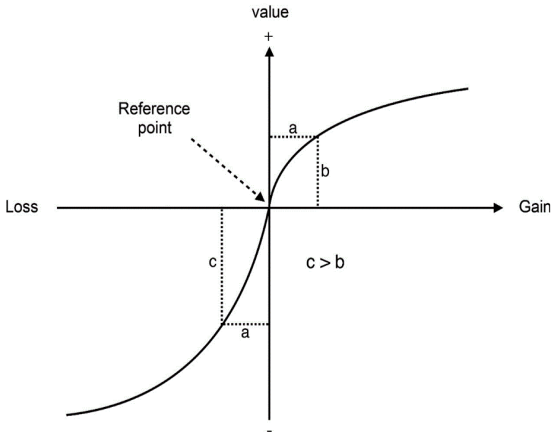

Figure 1. S-Shape Prospect Theory

The value curve reflects the weight of the value at the time of win or loss, on the curve above the reference point reflects the win side, while on the curve below the reference point reflects the loss side (Kahneman, 2011). In the value curve it can be seen that the curve is not symmetrical on both sides. The slope of the value curve is greater in the loss area than the slope in the win area. The larger slope explains that the feeling of loss will be greater than the win.

Kliger and Tsur (2011) assume that each company has a company's target return adjusted to the average or median return of its industry. Miller and Bromiley (1990) assume that companies with above average industry performance will avoid risk, and are willing to accept increased risk if returns from investment opportunities offer a high expected return. The better a company's performance, the less it desires to take additional risks to increase returns. When high-performing companies take risks, those risks promise a high return. Assuming the same, if the company performs poorly or is below average the performance of the industry will take a risk. The lower the performance of the companies, the more likely the company is to choose a risky project.

Kliger and Tsur (2011) argue that the company evaluates the return in the previous year (t-1) against the return of other companies in the same industry and in the following year (t), each company will decide the next level of risk based on its industry position, below or above the reference point. Based on this, it is assumed that a company's risk level is measured as the distance between the realization of return and median return industry in the t year. Risk in this study is defined as the absolute value of the difference between the company's return and the median return of the company's industry.

Kliger and Tsur (2011) also developed the hypothesis that companies that have positions above reference points will have a lower level of risk reflected in smaller absolute differences. Conversely, companies that have positions below the reference point will have a higher level of risk, which is indicated by a greater absolute difference.

Based on the description above, the hypotheses to be tested in this study are as follows:

H1: The company is above the reference point of taking low risk.

H2: The company is below the reference point of taking a high risk.

METHOD

This type of research used in this research is explanatory research with a quantitative method approach. This research was conducted to explain the difference on the average of risk-taking of the company on the companies' return position even though at above or below the reference point at the company level, on companies listed on the IDX for the 2010-2019 period.

The population in this study is all companies listed on the Indonesia Stock Exchange for the 2010-2019 period. The population in this study was 712. In determining the sample, the researcher used a purposive sampling method with the consideration of subjective criteria to obtain a representative sample according to the specified criteria.

The following criteria are used with the purposive sampling method: (a) Companies listed on the Indonesia Stock Exchange for the 2010-2019 period (b) companies that are included in non-financial companies. (c) Have financial statement data for at least 5 consecutive years throughout the research observation period. After conducting purposive sampling, it was obtained a sample of 206 companies.

In this study, the regression model used is Analysis of Variance (ANOVA). The dummy variable regression model in this study is to examine the average difference between the company's return position on the reference point and the level of risk taking in Indonesia. ANOVA is a regression model that contains qualitative, indicator, categorical, or dummy variables. Qualitative or dummy variables can be part of the regression model, modern regression that contains a regressor, all of which are qualitative or dummy variables, is known as the ANOVA model (Gujarati & Porter, 2015).

An important step in implementing prospect theory is to define a reference point. Research by Kahneman and Tversky (1979) showed that there are no general rules in determining reference points. But in previous studies on prospect theory at the organizational level using mean or median return as a reference point (Fiegenbaum & Thomas, 1988; Miller & Bromiley, 1990; Kliger & Tsur, 2011; Mahmood et al., 2015; Joehana & Suk, 2016; Das Gupta, 2017; Díez-Esteban et al., 2017). In this study, researchers used the industry's median return as a reference point, because the median represents the middle value of the return distribution and is not affected by outliers.

To find out differences in decision-making behavior when the company is in a profit or loss position, it is necessary to create variables that explain these differences. Return position is an independent variable used in the research hypothesis. In this study researchers used ROE as a measurement of company return, as well as robustness check researchers added ROA as a measurement of return.

In the research of Kliger and Tsur (2011) this variable is written as I_gain which is a dummy variable. The value given depends on the situation faced by the decision maker. I_gain at firm i in industry j and year t, as follows:

$I\_gain_{i,j,t}$ = 1, if $Return_{i,j,t-1} > Reference\ Point_{i,j,t}$

$I\_gain_{i,j,t}$ = 0, if $Return_{i,j,t-1} < Reference\ Point_{i,j,t}$

The reference point in company i, in j industry and t year, , which is calculated manually, is the median return of the previous year's industry, where is the median ROE and the ROA median of industry j in years t-1.

$$Ref_{i,j,t} = MED\ Industry_{j,t-1}$$

Some previous studies have determined reference points using ex-post measurement methods Fiegenbaum & Thomas (1988); Dasgupta (2017), which determines the reference point is calculated once by calculating the industry average or median return in the observation period. In kliger and Tsur (2011) using ex-ante measurement, researchers calculated reference points each year based on industry performance in the previous year. They argue that the conditions and results obtained from the previous year have a high influence on decision-making behavior for the following year. Therefore, this study uses ex-

ante measurements that use industrial ROE median and industry ROA median of the previous year (t-1) to be used as reference point.

In this study, researchers used risk level measurements applied by Kliger and Tsur (2011) with ex-ante measurements. Risk is calculated on each company based on the absolute difference between the company's return and the company's median industry return. Risk measurement in this study uses the following calculations:

$$RISK_{i,j,t} = |Return_{i,j,t} - MED\ Industry|$$

In this study, the risk level variables that are willing to be borne are notified by the name of the RISK variable. The results of these calculations will be the risk variables in this study. The higher the risk value of the company, the higher the absolute value between the return achieved and the median return of the industry. On the contrary, the lower the RISK value of the company, the lower the absolute value between the return achieved and the median return of the industry.

In this study, the hypothesis will be tested using a model adopted from research conducted by (Kliger & Tsur, 2011). The model uses return variables that will be tested using ROE measurement and ROA measurement as robustness check. ROE demonstrates the company's ability to generate profit after tax with capital (Soejono & Heriyanto, 2018), while ROA is the level of ability of all company assets in making a profit (Dewi Sanjaya & Martono, 2019).

The basic model is represented by the linear regression model below:

$$RISK_{i,j,t} = \alpha + \beta_1\ I\_gain_{i,j,t} + e_{i,j,t}$$

The model includes dummy variables controlling for industry- and time-specific effects

$$RISK_{i,j,t} = \alpha + \beta_1\ I\_gain_{i,j,t} + Dummy\ Year + Dummy\ Industry + e_{i,j,t}$$

The effect of the state variable (firm's return position in the industry) on the firm's risk is represented by the coefficient β. According to the main hypothesis, the sign of β should be negative, that is, high (above the reference point) return firms are expected to take a lower level of risk than low (below the reference point) return firms.

In this study, the regression model used was ANOVA. The regression model with dummy variables in this study was to test the average difference between the company's return position against the reference point and the level of risk-taking in Indonesia.

RESULTS AND DISCUSSION

In this study, using descriptive statistical analysis to describe each variable individually with the results can be seen in tables.

Descriptive Statistics

Table 2. Descriptive Statistic of Research Variables ROE

Variable	ROE	RISK_ ROE	IGAIN_ ROE
Median	0.08	0.06	1.00
Std Dev	0.09	0.06	0.50
Min	-0.25	0.00	0.00
Max	0.32	0.32	1.00
N	1614.00	1614.00	1614.00

The table provides descriptive statistics of the research variables. ROE is return on equity of firm, Risk is the absolute difference between the firm's return and its industry's median return at year t and Ref is the reference point of firm which is defined as median ROE of industry at year t-1. For each measure the presented descriptive statistics are number of observations, minimum and maximum value, average, median and the standard deviation.

Table 3. Descriptive Statistic of Research Variables ROA

Variable	ROA	RISK_ ROA	IGAIN_ ROA
Median	0.04	0.03	1.00
Std Dev	0.05	0.03	0.50
Min	-0.11	0.00	0.00
Max	0.18	0.18	1.00
N	1614.00	1614.00	1614.00

The table provides descriptive statistics of the research variables. ROA is return on asset of firm, Risk is the absolute difference between the firm's return and its industry's median return at year t and Ref is the reference point of firm which is defined as median ROA of industry at year t-1. For each measure the presented descriptive statistics are number of observations, minimum and maximum value, average, median and the stan-

dard deviation.

Based on Harlan (2018) there are several assumptions that must be met when using analysis of variance (ANOVA), including the assumption of normality, and the assumption of homogeneity. This research has fulfilled these assumptions

Table 4. Regression Result of Return Using ROE

	ROE Model	**Model 1**	**Model 2**	**Model 3**
Intercept	0.2352	0.2196	0.2379	0.2229
	(59.44)	(23.63)	(37.58)	(21.14)
I_gain_ ROE	0.0041	0.0042	0.0038	0.0040
	(0.76)	(0.78)	(0.71)	(0.74)
Time Control	No	Yes	No	Yes
Industry Control	No	No	Yes	Yes
Ajd R-Squared	-0.0003	0.0013	0.0044	0.0058
N	1614	1614	1614	1614
Note: ∗ p <0.10; ∗∗ p <0.05; ∗∗∗ p <0.01)				

The table provides the results of the regression analysis, using four different subsets of the control variables – for industries and for years.

Based on table 4 obtained significance values above 0.05 on the ROE model show that I_gain_ROE variables have no statistically insignificant effect on RISK_ROE variables. In addition, the value of the beta in the ROE model in table 4.17 shows a positive result, meaning that companies that are above the reference point or I_gain_ROE value of 1, have a higher average risk compared to companies that are below the reference point or indicated in the intercept value. In table 4 both by using industry control variables and years separately and together, results are obtained in line with the ROE model. The significance value is above 0.05 and the beta coefficient value is positive which indicates that companies above the reference point have a lower average risk level compared to companies below the reference point.

By using the main ROE model obtained results that are not in line with the hypothesis, that companies that are above the reference point take a high risk, while companies that are under the reference point take a low risk. Researchers tried to further examine the company's risk-taking of the company's return position against the reference point using ROA measurements that will be described in table 5.

Table 5. Regression Result of Return Using ROE

	ROA Model	**Model 4**	**Model 5**	**Model 6**
Intercept	0.1450	0.1391	0.1517	0.1465
	(53.36)	(22.42)	(35.99)	(20.98)
I_gain_ ROA	0.0166	0.0167	0.0165	0.0166
	(4.52)	(4.52)	(4.53)	(4.54)
Time Control	No	Yes	No	Yes
Industry Control	No	No	Yes	Yes
Ajd R-Squared	0.094	0.081	0.214	0.198
N	1414	1414	1414	1414
Note: ∗ p <0.10; ∗∗ p <0.05; ∗∗∗ p <0.01)				

The table provides the results of the regression analysis, using four different subsets of the control variables – for industries and for years.

Based on table 5, significance values are obtained at a rate of 0.01 or 1% on each regression model, which indicates that I_gain_ROA variables have a statistically significant influence on RISK_ROA variables. In the beta coefficient I_gain_ROA obtained a positive value, which means that both the ROA model and the model that added dummy variables year and industry together or not, which indicates that companies that are above the reference point take a higher risk compared to companies that are below the reference point.

Both have consistent results on beta I_gain values that are of positive value. This means that companies that are above the reference point have a higher average risk taking than companies that are below the reference point. Thus, both return measurements using ROE and ROA obtained results that do not support the research hypothesis.

In this study, researchers hypothesized that companies that are above the reference point take a low risk, while companies that are below the reference point take a high risk. The hypothesis is based on Kliger and Tsur research (2011), which

argued that the company would evaluate the return in the previous year, whether it was above or below the industry reference point in the same year, then the company would evaluate the level of risk to be taken the following year.

Kliger and Tsur hypothesis (2011) developed from research Kahneman and Tversky (1979) about prospect theory, at the level of organization or company, companies with return positions above reference point, will take a lower risk, which is seen from the distance between the absolute value of return and the median of the lower industry. While companies with returns below their reference points, will take more risks, which are covered from the distance between the absolute value of the return and the higher median of the industry. The difference in risk-taking, either above or below the reference point, can be explained on the s prospect theory curve in figure 2 below.

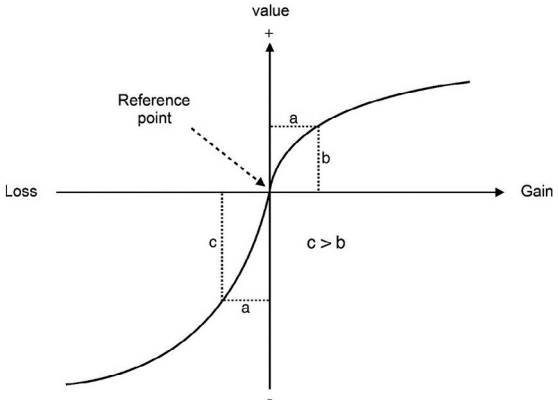

Figure 2. S-Shape Prospect Theory

The curve of the letter S prospect theory reflects the weight of the value in the condition of profit or loss. There is a curve above the reference point reflecting the profit side, while on the curve at below the reference point reflects the loss side (Kahneman, 2011). From the value curve it can be seen that the curve is not symmetrical on both sides fit. The slope of the value curve is greater in the loss area than the slope in the profit area. The larger slope explains that the feeling of loss will feel greater than the profit.

Prospect theory, Kahneman and Tversky (1979), can be used in explaining how organizational or corporate level decision makers behave towards the risks to be taken, which is reflected in the relationship between risk and return. The research hypothesis commonly used in research using prospect theory at the organizational level is that, when a company reaches a return level above the reference point, it will show a risk avoidance attitude, which is reflected in the positive relationship between risk and return. Conversely, when a company reaches a return level below the reference point, it will show a risk-seeking attitude, which is reflected in the negative relationship between risk and return

But in the results of this study, the research hypothesis is not supported. In hypothesis testing both in the model using ROE and ROA measurements obtained positive beta I_gain values, which indicates that companies that are above the reference point take a high risk, while companies that are below the reference point take a low risk. In other words, the prospect theory testing in this study is not supported.

Although the researchers assumed the results showed significant results on the ROE model, the beta coefficient values in this study were not negative using either ROE or ROA measurements, meaning that companies that were above the reference point took a higher risk while companies below the reference point took a lower risk. Because in this study prospect theory seen using the difference in distance between risk taking and reference point, lower if above reference point, and higher if below reference point (Figure 2). In other words, prospect theory remains unsupported. These findings are in line with research (Miller & Bromiley, 1990; Dananjaya et al., 2018).

In Miller and Bromiley (1990) research examined 493 companies in the research period 1978 to 1982, tested prospect theory using return measurements namely ROA and ROE in companies above the industry average. They found results that do not match the prospect theory. The results showed that strategic risk has negative parameters in all model equations, high and low performance, which should be by using prospect theory, the equation has different parameters in companies that have high and low performance. But Miller and Bromiley (1990) found no support for the study's findings.

One of the researches in Indonesia on prospect theory at the organization level Dananjaya et al (2018), also found results that do not support prospect theory. By researching companies Kompas indexed 100 shares with 5 years research period, 2009 to 2014, and using return measurements namely ROE and ROA, as well as median return as reference point measurement. The results of the study obtained t-test scores that are statistically insignificant.

Dananjaya et al (2018) explains some of the factors that cause insignificant results. First,

researchers suspect that there may be variations in long-term debt changes and overly diffuse capital expenditures, thus masking the difference between high- and low-performing companies. Second, there is the possibility that the company's management does not use the median return of the industry as a reference for the company's performance.

Dananjaya et al. (2018) explained that the company compared the company's return the previous year, whether the company was in a high or low performance state, rather than comparing it to the return of the industry. When management feels in a condition of high performance compared to return the previous year, then the management will be risk averse. Meanwhile, when management feels that the company's return is in a low condition from the previous year, then the company will look for risks.

In line with the alleged results of research Dananjaya et al. (2018), research of Holmes et al. (2011) which reviews, analyzes and advises on literature on prospect theory, criticizes the use of reference points. Holmes et al. (2011) explains that a Behavioral Theory of the Firm (BTOF) study shows company managers compare the company's performance with criteria other than its industry performance. Bromiley (1991) stated that the company is performing highly, clearly not wanting lower performance. High-performance companies can use their own performance history as reference points. Similarly, with companies that are in a position to near bankruptcy, they are likely to focus on the viability of the company (Holmes et al., 2011).

Research by Holmes et al (2011) also explains that there is a possibility that the manager acts to achieve personal or organizational goals or preferences. As such, managers believe that risky behavior will improve the company's performance, while in the prospect theory study it was explained that low-performing companies behave more than high-performing companies do. Ho and Zhang (2008) found that the behavior of individuals seeking risk when experiencing losses, would reduce their performance.

Researchers in this study suspect the inconsistency of the results is also due to differences in cultural dimensions that can influence risk-taking. Literature from Rieger et al. (2011) which examined risk preferences in 45 countries, using the prospect theory framework, found that there was a statistically significant relationship between cultural differences and risk preferences. It can be interpreted that culture forms a preference, as well as in Rieger et al (2011) it is explained that between culture and preference is formed independently by the underlying factors.

In prospect theory research at the individual level in Indonesia conducted by Haryanto (2006), by replicating the initial research of prospect theory from (Kahneman & Tversky, 1979). It was obtained that in the Indonesian sample, when in a condition of loss, Indonesians will tend to take risks, it is in line with the prospect theory. But in fortunate conditions, Indonesians tend to be risk-neutral rather than risk-averse, it is not in accordance with the prospect theory. Haryanto (2006) suspects that the difference in results is caused by differences in clusters of cultural, economic, and research dimensions.

Cross-border research on prospect theory at the individual level is described in the study (Brumagim & Xianhua, 2016). The study compared risk-taking to profit and loss conditions in the United States (US) and China. The results showed that in US respondents, they tended to lead in line with predictions from prospect theory. While in Chinese respondents on the contrary, Chinese respondents showed risky behavior-seekers, either in a condition of profit or loss.

Cultural dimension differences can be explained by measurements from Hofstede and McCrae (2004), one of the studies on cultural dimension differences with individual risk-taking conducted by Illiashenko (2019) who examined decision-making differences in individualist cultures with collectivist cultures, on 25, 39, and 41 countries. The results of the study found a negative relationship between the culture of individualism and individual risk-taking. It can be concluded that collectivist cultures take higher risks than individualist cultures.

CONCLUSION AND RECOMMENDATION

This study was conducted to see how the company's risk taking in companies that are above and below the reference point on samples in Indonesia. This research uses prospect theory approach and assumptions and adopts a research model from (Kliger & Tsur, 2011). This study used all companies listed on the Indonesia Stock Exchange in the period 2010 to 2019 with sample in this study, namely 206 companies 1614 observation.

Overall, the results of this study are not in line with previous empirical research conducted by (Kliger & Tsur, 2011; Lazuardhi, 2016), this research hypothesis was rejected, in the results of hypothesis testing found that the beta coefficient value in dummy I_gain positively marked

in both ROE and ROA measurements, which means that companies that are above the reference point take a high risk, while companies that are below the reference point take a low risk. In other words, it can be concluded that, this study does not support prospect theory.

Researchers suspect it is linked to the unsupported prospect theory. Among them, (a) The Company does not use the industrial return as a reference point, but rather uses the reference point on the company's return the previous year. (b) manager acts to achieve personal or organizational goals or preferences, so that whether the company is at high or low performance, the manager has his or her own preferences. (c) Different cultural dimensions in each country, whether individualist or collectivist, have a role to play in making risk-taking preferences. So, it needs to be further examined related to the findings in this study.

The limitation in this research is Prospect theory is a theory of behavior that discusses the relationship between certain conditions, win and loss, and risk-taking. In this study, the behavior was examined using measurements from secondary data available in financial statements on the Indonesia Stock Exchange. So, researchers can not directly observe the behavior of managers in referencing risk.

For further research is expected to analyze further related to the use of reference points in the company, using reference points on the company's return the previous year.

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