

## Exploring the Behaviour of Retail Investors Regarding Choice of Unit Trust Funds Using Prospect Theory

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### Abstract

This study aims to explore the behaviour of retail investors in the states of Kelantan, Terengganu, Penang and the Federal Territory of Kuala Lumpur in Malaysia regarding their choice of unit trust funds, using the Prospect Theory. The respondents, who were unit trust fund investors were selected using purposive sampling. A total of 600 adapted questionnaires were distributed to the selected states for data collection purposes and analysed using SPSS software to provide results to meet the research objectives. The findings revealed that the Prospect Theory could explain the behaviour of investors based on subjective reference point. The significance of this paper lies in the application of the Prospect Theory as the leading theory to explain retail investors' behaviour. Unquestionably, the originality of this paper is in the focus on the behaviour of retail investors and the application of the Prospect Theory. Future research will need to focus on more respondents from other states and other fields of investment.

*Keywords:* choice, unit trust fund, behavioural finance, prospect theory

### Introduction

Unit Trust Funds are structured shared investments with investors that have the same objective of contributing to the funds to invest in a portfolio of securities or assets (Gan, 2008). The funds are managed by professional fund managers and invested in a portfolio of funds that may include cash, bonds and deposits, shares, properties and commodities. In Malaysia, the right to the fund is according to the units owned

as the fund is broken down into units (Gan, 2008). The whole portfolio is not owned by the investors; they only own the amount of units they have invested in according to the price of the day. If a fund increases or decreases in value, the value of each unit is affected accordingly. The Federation of Investment Managers Malaysia reported that Malaysia had 42 unit trust management companies, 56,202 unit trust consultants, together with 441 conventional funds and 190

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Syariah funds to choose from as at December 2015. The Net Asset Value for conventional funds was RM 294,454 billion and for Islamic-based funds, it was RM52,124 billion or 20.45% of the nett asset value of Bursa Saham Malaysia as at 31 December 2015 (Federation of Investment Managers Malaysia, 2016). The projected penetration rate for unit trust funds according to the Securities Commission Malaysia (2014) is likely to be a double-digit growth from 18% in 2010 to 34% in 2020, which is almost the same as the rate observed in developed countries.

Choosing the right fund that suits our financial objective is not as easy as a retail investor may think. With the number of the options continuing to increase, going through the choices is very taxing, time-consuming and requires mathematical and analytical skills.

The problem with choosing, according to Iyengar, is that to determine a choice means to turn ourselves to the future while the future is invariably uncertain. So, to choose means to assert some control over the unknown, no matter how modest and ephemeral it may be (Portnoy, 2014) due to lack of knowledge or behavioural problems faced by investors. With inaccurate information, insufficient or incorrect analysis, and a slew of cognitive and emotional biases, humans are prone to errors. These are signs of behavioural problems faced by investors as acknowledged by Portnoy (2014).

Bogel (1993) discovered that nobody has problems with investment. Instead, there are always issues with people and this happens because people are the ones who create the funds and it is people who invest in them. This is because the economic environment investors face today has become dramatically more perilous than before (Boshara, 2010) and most of the research done is on the fund (Ramasamy, 2003; Jamaludin et al., 2012) and not on the investors.

Many studies in developed countries such as that by Eric Kutchukian (2013) and Shleifer & Vishny (1997) have investigated behavioural influence on unit trust fund investment. Most research on unit trust fund investment such as that by Bailey (2010) and Portnoy (2014) has been based on behavioural factors and using secondary data available in a particular country, and have focused on fund managers and institutional investors. Studies that have been carried out have been at the market level and rarely at the individual level.

According to Lu (2010), compared to institutional investors, retail investors face trying issues to make rational decisions regarding their investment. Institutional investors have more resources to obtain crucial information to process and to come to a logical decision rapidly. Lu (2010), in his study, found that retail investors not only face problems with the information, but they also "chase return". He discovered that between 1992 and 2000, the fund holding period in the US declined from 3.75 years to 2.4 years. The findings

of Voon (2012) reveal that a retail investor could lose up to 30% of their investment if they choose the wrong fund. Many were asked to dispose of the fund but preferred to wait for the fund to rebound. This study thus focused on retail investors.

It was not a surprise when Pengarang (2006) released a shocking report of a RM600 million loss in Employees Provident Fund (EPF) savings invested in unit trust funds. In response to this, President of Federation of Malaysian Unit Trust Managers, YM Tunku Dato' Yaacob Tunku Abdullah, stated in a press release on 8 August 2006 that as Standard and Poors reported on 28 July 2006, the average return from Malaysia's unit trust funds for 7 years was 24%, for 5 years it was 56% and for 3 years it was 26%. He further said that it was a clear sign of investing in the wrong fund. With this in mind, clearly, the choice of fund is very critical in unit trust fund investment.

Therefore, the present study aimed to bridge the gap by exploring the behavioural factors (independent variables) of retail investors influencing the choice of fund (dependent variables) using the quantitative method and using the Prospect Theory to explain this. The significance of this study is behavioural as behavioural factors play an intricate role in the choice of fund.

Secondly, Jamaludin (2012) found that studies focusing on investors' behaviour in investment in unit trust funds is still very insufficient and this

research will enrich and advance the literature in this field. It is interesting as Malaysia is a multi-racial and multi-cultural nation, and different races behave according to differing sets of beliefs and norms (Albaity & Rahman, 2012). The critical contribution of this study is that the findings will show whether behavioural factors influence the choice of funds in unit trust fund investment.

Thirdly, investment in unit trust funds is for the medium to long-term, and studying this together with behavioural factors will contribute to a better understanding of investment choice decision in unit trust funds. The findings of this research may help to conclude whether the rationality assumption holds for current unit trust fund investment. If the rationality assumption does not hold in this case, the study may provide evidence whether the Expected Utility Theory is still applicable in investment choice of the fund in unit trust fund investment.

This study will also help to conclude whether psychology is able to explain the behaviour of investors in investing in unit trust funds as behavioural finance is an interdisciplinary subject which includes psychology, sociology and finance, and whether the Prospect Theory can explain the behaviour of retail investors. This will help the government to provide better legislation to protect the retail investor and also help the fund management company to promote their funds.

## Literature Review

### Prospect Theory

The Expected Utility Theory discusses how people should act, while the Prospect Theory is about how people act as claimed by Ackert and Deaves (2010). The work of two psychologists, Daniel Kahneman and Amos Tversky who contributed to psychology literature in 1970, resulted in the Prospect Theory. It is a positive theory based on what people do and observe. The theory has become a first substitute for the Expected Utility Theory as a theory of decision under risk. It is the best alternative to conventional wisdom. Baker (2011) said that the possible explanation to Prospect Theory-like behaviour is the role of imperfect and asymmetric information.

Tversky (1981) employs it to understand human decision making better, and it is used to measure what they believe to be the degree of inaccuracy in judgment. Altman (2011) stated that the Prospect Theory is a theory of average behaviour, and it assumes, on average, how humans, either an individual or a group, behave in a world with a risky and uncertain environment. Thus, there will be a deviation from the mean. The Prospect Theory points to the probability that individuals' sub-optimal behaviour is smart and thus rational, given the limitations facing the individual.

The Prospect Theory is capable

of explaining better the biases of cognitive false belief in human choice behaviour where biases are the result of the heuristics used. The Prospect Theory is the base for a variety of descriptive hypotheses about so-called persistent biased decision-making under risk and uncertainty (Altman, 2011). The introduction of a short-term emotive factor as a determinant of choice behaviour and profit and loss in the short term is another substantial essential component of the Prospect Theory (Kahnman, 2003).

The inherent capability of the Prospect Theory to explain behaviour in financial markets lies upon three unique features of the Prospect Theory, as follows:

1. Choice decision-making depends on a subjective reference point, which is autonomous to the decision maker's state of resources.
2. The forming of framing is due to a prospect's subjective reference point, which affects the choice behaviour.
3. At a reference point of the Prospect Theory's value function, a kink exists, believing individuals weigh losses at above twice as gains.

### Assumptions of Prospect Theory

The biases and cognitive false belief approach to choice behaviour by Kahneman (1979) has now become conventional knowledge among a significant number of behavioural economists. This theory assumes that an individual is risk-averse. There

<sup>1</sup>Expected utility theory states that the decision maker chooses between uncertain prospects by comparing their utility value.

are three critical aspects of observed decision-making that provide the basis for this theory and are incorporated in this study.

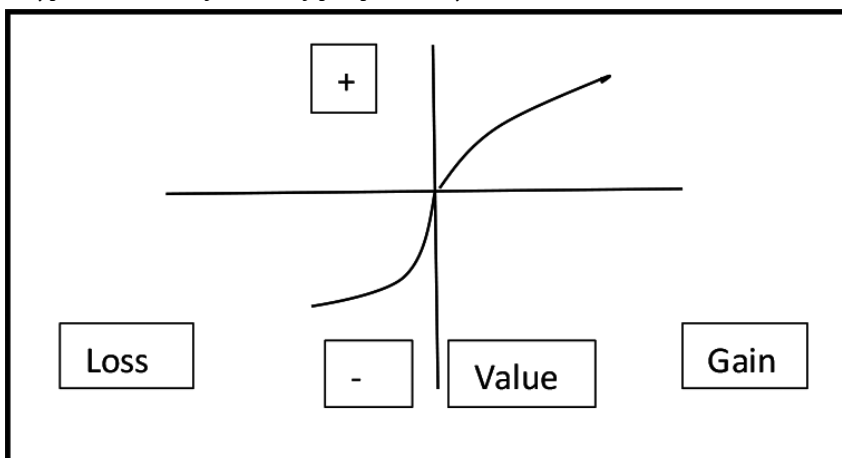
***Exhibiting Risk Aversion or Risk-seeking Depends on the Nature of Prospect.*** The Prospect Theory allows for changes in risk attitude depending on the nature of the prospect. In the positive domain, people exhibit risk aversion and risk-seeking in the negative domain, which means the value function is concave in the positive domain and convex in the negative domain. The value function is drawn to reflect changes in states of wealth from some subjective reference point and serves to frame the decision parameter (Altman, 2011). Thus, profits and losses are separately treated. When they join, we obtain an S-shaped function of the type as displayed in Figure 1.

***The appraisal of a prospect depends on profit and losses relative to a reference point.*** Profit and loss of the prospect are the criteria when making a decision, which means that the argument is not wealth but a change in wealth. It illustrates that risk attitude is not the same across gains and losses, implying that it is the change in wealth, and evaluation is based on a reference point.

***People are averse to losses looming larger than gains. Investors dislike losses, so the value function is steeper for losses than for gains.*** The term "loss aversion" is used to describe the observation that most people's losses loom larger than gains. Fisher (2015) said that the Prospect Theory amounts to investors feeling the pain of loss about two and a half times as much as they appreciate an equivalent gain. The loss is more painful as the

**Figure 1**

*A hypothetical value function of prospect theory*



Source: (Kahneman, 1979)

feeling is more real compared to profit (Fisher, 2015).

As defined by Mallouk (2014), "loss aversion" is the bias where humans tend to avoid a loss rather than to make a gain. Humans fear losing more than enjoy winning. Losses hurt more than the pleasure we get from gains (Mallouk, 2014). Loss aversion comes in all forms; perhaps it causes more damage to investors than any other groups. The main reason why investors keep cash despite knowing well that they are purposely losing the purchasing power of their money is that they are afraid of losing. The average money market returns have been well below the inflation rate for years. Despite that fact, investors willingly lose a little each day to avoid potential losses with real investment (Mallouk, 2014).

Kahneman (1979) discovered that usually, the value function is concave for gains and commonly convex for losses, and it is steeper for losses than for gains. This pattern demonstrates that the reaction towards good news should be different from the reaction towards bad news.

The Prospect Theory is a theory about choice. The choice among risky prospects will exhibit the different behaviour of investors. Therefore, it is appropriate to test this theory on unit trust fund investors as there are many funds in the market.

### Choice

A choice is an act of selecting or making a decision when faced with two

or more alternatives (Schwartz, 2004). The study by Iyengar (2011) has shown that the power of choice stems from its promise of almost infinite possibility, but what is possible is also what is unknown. According to Iyengar, we use the choices that we have decided to shape our lives; despite those choices we have, uncertainty still exists. Choice has the power of possibility. To face the future and only be equipped with the complicated tools of choice can be scary and exciting at the same time. We are the sum of our choices. Perhaps all three, our destiny, chance and opportunity are attributable to where and how we end up being. However, choice alone gives us some measure of control and allows us to participate in our decision-making actively. It also provides us with the opportunity to make the most of whatever destiny and choice that set the way. When things do not go as planned, the choice enables us to recover, survive and even thrive (Iyengar, 2011).

### Paradox of Choice

A survey carried out by MFS<sup>2</sup> Investing Sentiment in 2012 found that 40% of investors thought that investment products were too complicated to understand and 34% felt that they were unable to make decisions on investment choices available for them. There have been some studies by psychologists and economists on the issue of having too many choices (e.g. Iyengar (2001); Schwartz (2004); Iyengar (2006)). Iyengar (2011) concluded that having too many opportunities is likely to render people

incapable of making decisions or lead them into making decisions that are against their best interest. In theory, the presence of many choices may seem appealing, but in reality, people may feel depressed when faced with more than one opportunity to take. It also shows that an excess of choice often leads us to be less, not more, satisfied once we have made a decision. Along the same line, Schwartz (2004) clarified that it is not clear if more choice gives you more freedom to select.

As posited by Iyengar (2006), it is undeniable that choice will improve the quality of our life. With choice, we can manage our objectives and draw ourselves closer to our destination. It is also necessary for our independence and fundamental to our well-being. Furthermore, a rational human being will always want to have control of their life, many needs are universal, and many preferences are customised and highly individualised. Iyengar (2006) further elaborated that by that, choice gives us the authority to precisely pursue what we want and gratify our preferences that are confined to our wealth. Iyengar (2006) affirmed that in regulating our choice in some manner, along the way, there are surely humans who feel rundown of the prospect to pursue something of personal value.

According to Iyengar (2006), freedom has significant value. It is the

choice that enables us to inform the world what we want, what we care about, and who are we. The choice we make reflects our independence, and since the time of Plato, philosophers in all fields have always appreciated such freedom. Schwartz (2008) explained that the new additional choice creates a new opening to state our independence and thus present our character. Nobody will be able to recognise us if we give up our collective social life.

Research by Goldberg (2002) on dissonance theory found that dissonance can arise if a decision is voluntary i.e. a free choice has been made from at least two alternatives. If we were asked to carry out a particular activity, then there is no question of commitment, and there is no emotional attachment to the decision. The boss will be responsible if the outcome is not as expected. Responsibility is minimal if the boss orders for everyone souvenirs in advance for a year-end dinner. In financial markets, accountability is very high, as usually nobody is compelled to invest. Instead, the decision to invest is voluntary. The trader who merely executes an order for his clients will not experience dissonance.

The paradox of choice infuses the process of picking one's retirement choice. Iyengar (2004) examined 401(k) participation rates among clients of an investment firm called Vanguard,

<sup>2</sup>MFS is a premier global money management firm with investment offices in Boston, London, Mexico City, Singapore, Sydney, and Tokyo. The firm's history dates back to March 21, 1924, and the establishment of the first U.S. "open-end" mutual fund. MFS manages \$237.1 billion in assets on behalf of individual and institutional investors worldwide, as of July 31, 2011



across more than 600 plans covering more than 800,000 employees. She discovered that the more funds offered, the lower the rate of participation. For every ten additional funds included in a plan, there was a 1.5% to 2.00% decline in participation rate. The low participation rate was due to difficult choices available and investors reacting to side-line the plan.

### Choices and Reasons

We need to justify when we make choices, and we feel that there is a need to articulate to ourselves why we make such a decision. It is beneficial to know why such judgment has been established as it enables us to improve the quality of our picks in the future. Every choice we make needs to be justified as a study by Weiner (1985) suggests that the decision-making model that is simple and straightforward is not always accurate. Two groups of participants involved in the research were asked to taste and rank five different kinds of jam. For the first group, the participants did not need to give reasons for their choice, but reasons were necessary for the second group. After their tasting session, comparing took place with rankings of experts published in consumer reports. The group which had freedom produced a ranking closer to that of the experts, indicating that thinking about reason can change our decision, and implying that people do

not always think first and decide later (Weiner, 1985).

### Choice and Opportunity Cost

The quality of any choice cannot be determined in isolation. It is necessary to compare with other choices available due to the cost involved. According to economists, this is the opportunity cost. If we forgo a choice and choose the other, an opportunity cost is involved. In decision-making there is an opportunity cost attached to every choice we make. The opportunity cost considered is the one associated with the next best alternative.

This advice is not easy to follow as, according to Iyengar (2006), today's products have different features. Some features may rank higher than the others in various products. According to Iyengar (2006), even though there may be a single, second best choice overall, each of the choices may have highly recommended features compared to the others. The higher our experience on the opportunity cost, the less satisfaction we will obtain from our chosen alternative. Both Brenner (1999) and Schwartz (2008) agree with this form of dissatisfaction.

### Choice and Decision-Making

Lepper (2000) reported that the decision-making process with extensive choice is more complicated than with limited choice as it can be very

<sup>3</sup>Dissonance Theory by Leon Festinger (1957) states that there is a tendency for individuals to seek consistency among the cognitions (beliefs & opinions). If there is a conflict between behaviour and attitude, something must change to eliminate the dissonance.



frustrating. Nevertheless, for some people, selecting from many choices can be enjoyable and overwhelming. Lepper (2000) found that having more choices might appear to be pleasing and desirable; however, sometimes, it can be detrimental due to human motivation. Satisfying the heuristic tends to be useful in this circumstance. He also found that people with extensive choices enjoy the process of choice-making only because of the ease they can afford. They will feel accountable for their actions. It may result in dissatisfaction with the choice-making process and later cause discontent with their selection. Gilovich (1995) found that frustration and unhappiness are the results of the initial failure to disengage from the choice-making process. It results in the choosers' inability to use the psychological operations for the enrichment of the attractiveness of their own choice (Gilovich, 1995).

Lepper (2000) viewed that people are unsure about which one to choose when faced with many choices but happy with the decisions they make. They carry a heavy responsibility to distinguish between good and bad decisions. What Lepper (2000) discovered is that the offer of too many choices is relatively trivial in the choice-making context, but it can have significantly demotivating effects because of the cost associated with creating "wrong" decisions, or even beliefs. Besides, it requires substantial time and effort to create a genuinely informed comparison among the alternatives available. One crucial

paradox confronting the modern world, according to Schwartz (1994), is that as the freedom of individuals expands, so does our reliance on other institutions and people.

### Methodology

According to the Federation of Investment Managers Malaysia (2014) and Securities Commission Malaysia (2014), the population of unit trust accounts was around 16,000,000 in Malaysia. Thus, non-probability purposive sampling was appropriate to use in this research due to the large population. However, the researcher did not have a list of the respondents. As such, the researcher was unable to contact the investors. All the respondents were chosen from those who met the following criteria: (a) Malaysian retail investors in unit trust funds (b) Volunteers for this survey (c) Retail investors residing in Kelantan, Terengganu, Kuala Lumpur and Penang.

### Questionnaire Design

The principal instrument used in this study was an adapted questionnaire. It is in line with (Luong, 2011); Jamaludin, Smith, and Gerrans (2012). The questionnaire was written in two languages, English and Bahasa Malaysia. For respondents' responses to the items, a categorical scale for demographic variables and the five-point Likert scale ranging from 1= Strongly Disagree to 5= Strongly Agree were used to elicit individuals' dependent and independent variables responses. The questionnaire was in two main parts. Section A

concerned the background of the respondents while Section B concerned the behavioural factors influencing the choice of fund. The funnel approach was adopted in designing the questionnaire, which started with broad and general questions such as getting to know the investors and progressively narrowed down to specific questions about the variables in this study. It started by providing the general information and objective of the study as well as the right to confidentiality. The development of the questionnaire is shown in Table 1.

### Process of Data Collection

Three of the 13 states in Malaysia (Kelantan, Terengganu, and Penang) and one of the three federal territories (Kuala Lumpur) were selected for the study. 600 sets of questionnaires were distributed to the offices of fund management companies, enumerators and retail investors in the four states of interest to enable factor analysis to be carried out and to reduce the effect of defective questionnaires. Questionnaires were distributed to investors through the intermediary at the launch of new funds and to investors who gathered at the fund management office. These gatherings

were carried out at the state level by the intermediary to create awareness, sales and information. The researcher cooperated with all intermediaries from CIMB Principal Asset Management Company, Public Mutual, Prudential, RHB Asset Management Company and Maybank Asset Management Company.

The researcher appointed enumerators in each state to distribute the questionnaires. The enumerator had to be an intermediary. Five enumerators were appointed for Penang, five for Kuala Lumpur, five for Terengganu and five for Kelantan. They helped in contacting the respondents and assisting the respondents in answering the questionnaire. Six hundred questionnaires were distributed to fulfil the needs of the statistical tools used. The questionnaires were analysed using SPSS for preliminary analysis, followed by testing to answer all research questions developed for the study.

### Statistical Tools

The Statistical Package for Social Sciences (SPSS) was used as it is in line with Gözbaşı & Çıtak, (2010), Jamaludin (2012). SPSS helps to facilitate data

**Table 1**  
*Sources for Questionnaire*

Section	Items	Sources
Understanding the investor	7	Adapted from Wang (2012); Awan (2012)
Choice of fund	8	Adapted from Nurasyikin (2012); Awan (2012); Capon (1996); Teoh (2012)

**Table 2**  
*Descriptive Statistics of Profile of Respondents and Choice of Fund*

Items	Descriptive Statistic
Demographic Variables	Frequency And Percentages
Choice of fund	Mean and Standard Deviations

screening, cleaning and checking for logical inconsistencies. In addition, it was to be used to analyse the data for this quantitative study.

### Data Analysis

Descriptive statistics were employed to check for any logical errors and discrepancies. These were also employed to analyse the backgrounds of the respondents. Table 2 provides the descriptive statistics regarding the respondents' profiles and choice of fund, and the mean and standard deviation.

The measurement scale used in this particular study was a five-point Likert Scale. For ease of interpretation, the range of the 5-point Likert scale was ranked into three groups. A score of between 1.00 to 2.33 (4/3 + lowest value (1) was considered low in importance; 2.34 to 3.66 was considered moderately important, and 3.67 to 5.00 was considered high in importance. Values of 5 - 4/3 and above were considered highly important (Boon, 2018).

Next, factor analysis was used to confirm the findings of the descriptive statistics. The primary objective of using factor analysis was to identify a small set of factors that represented the underlying relationship between the group of related variables (Pallant, 2005). Thus, factor analysis was used to identify the items which measured the essential

underlying variables. According to Fern (2016), factor analysis and reliability measures such as Cronbach's Alpha are used to assess the extent to which the separate items are assessing a single attitude dimension.

The factor analysis involved some steps. The sample size had to be looked into. According to Pallant (2005), factors obtained from small data sets do not generalise as well as those derived from more extensive data sets. Tabachnick (2001) agreed that it is comforting to have at least 300 samples for factor analysis. In this study, the recommendation of Tabachnick (2001) was followed.

In order is to determine factorability of the data, Measure of Sampling Adequacy (MSA) with a value of more than 0.6, Kaiser-Meyer-Olkin (KMO) with a value of more than 0.5 and Bartlett's test of sphericity (BTS) which is significant (Pallant, 2005) were applied. The number of factors to be used depends on the extraction factor, and the scree plot helps to determine the eigenvalue by looking at the natural bend in the data as the curve flattens out (Osborne, 2005). To ensure meaningful factors are selected, only eigenvalue over one is selected (Pallant, 2005). Osborne (2005) acknowledged that the goal of the rotation is to simplify and clarify the data structure. It cannot

**Table 3**  
*Response Rate*

States	Questionnaires Distributed	Collected	Defects	Useable
Penang	150	110	7	103
Kuala Lumpur	150	100	33	67
Kelantan	150	110	6	104
Terengganu	150	70	11	59

improve the fundamental aspects of the analysis, such as the amount of variance extracted from the items. Rotation, according to Vogt (1993), is in factor analysis by which the researcher attempts to relate the calculated factors to theoretical entities. It is done differently depending on whether the factors are believed to be correlated (oblique) or uncorrelated (orthogonal). More helpful is Yaremko (1986), who defines factor rotation as follows: "In factor or principal-components analysis, rotation of factor axes identified in the initial extraction of factors, to obtain simple and interpretable factors".

Tabachnick and Fidell (2007) stated that "Perhaps the best way to decide between orthogonal and oblique rotation is to request rotation (e.g. direct oblimin or promax from SPSS) with the desired number of factors (see Brown, 2009) and look at the correlation among factors. If the data do not drive factor correlations, the solution remains nearly orthogonal. If correlation exceeds 0.32, then there is 10% (or more) overlap in variance among factors, enough variance to warrant oblique rotation

unless there are compelling reasons for orthogonal rotation." Osborne (2005), stated that varimax rotation is by far the most common choice and according to Leandre (1999), there is no widely preferred method of rotation; all tend to produce similar results. The final step was the definition of the factors. An item with loading higher than 0.6 was chosen to represent a factor (Tabachnick, 2001).

### Findings

Out of 600 questionnaires distributed, only 390 were returned, and 333 questionnaires were found usable.

### Demographic Characteristics

Section A of the questionnaire generated information based on selected demographic characteristics of the respondents. The items were gender, occupation, region in Malaysia which the respondents were residing in, state in Malaysia the respondents were residing in, age, educational level and income per month. A summary of the profiles of the respondents is shown in Table 4.

**Table 4**  
*Demographic Variables*

Demographic Variables	Frequency	Percentages
<b>Gender</b>		
Male	156	46.8
Female	177	53.2
<b>Age</b>		
20-30 years	53	15.9
31-40 years	95	28.5
41-50 years	123	36.9
51 years and above	62	18.6
<b>Education</b>		
Primary School	27	8.1
MCE/SPM	54	16.2
HSC/STPM	116	34.8
Diploma	87	26.1
Degree	44	13.2
Postgraduate	5	1.5
<b>Occupation</b>		
Public Sector (Executive Level)	154	46.2
Public Sector (Support Level)	47	14.1
Private Sector (Executive Level)	86	25.8
Private Sector (Support Level)	46	13.8
<b>Income per month</b>		
RM2000-RM3000	38	11.4
RM3001-RM4000	102	30.6
RM4001-RM5000	100	30
RM5001 and above	93	27.9
<b>Region</b>		
East Peninsular Malaysia	165	49.5
West Peninsular Malaysia	168	50.5
<b>States</b>		
Kelantan	104	31.2
Terengganu	59	17.7
Penang	103	30.9
Kuala Lumpur	67	20.1

**Table 5**  
*Choice of Fund*

Items	N	Mean	Category	Std. Deviation
A fund that makes a profit every year	333	3.43	Moderately Important	1.59
Funds that meet my long-term financial objective	333	3.75	Highly Important	0.87
A fund that diversifies my investment	333	3.91	Highly Important	0.71
Based on advice from intermediary	333	2.55	Moderately Important	1.25
Through extra reading	333	3.55	Moderately Important	0.95
Popular funds among investors	333	2.67	Moderately Important	0.98
Funds from a highly reputable company	333	3.71	Highly Important	0.898
Choice of fund provided by the intermediary	333	3.60	Moderately Important	1.04

### Choice of Fund

Table 5 displays the choice of fund for unit trust investment by retail investors using descriptive statistics.

The descriptive statistics employed evaluated the choice of the fund among retail investors in Malaysia. All the eight items of fund choices were found to be important from descriptive statistics. Only three items were categorised as Highly Important, five items were categorised as Moderately Important and none were categorised as Low in Importance. This indicated that retail investors paid attention to specific criteria which would bring them benefits.

Items that were categorised as Highly Important were “a fund that

meets my long-term objectives (M=3.75; SD = 0.87); a fund that is capable of diversifying my investment (M=3.91; SD=0.71) and a fund issued by a highly reputable company (M=3.71; SD=0.898)”. This indicated that retail investors were careful with their investment as they chose their fund by looking at the reputation of the company and also at a fund capable of diversifying their investment, which brings them to face less risk in achieving their long-term financial objectives.

Retail investors did pay attention to other items which were considered Moderately Important in this study. Among the items were funds that profited every year (M=3.43; SD=1.59); advice from an intermediary (M=2.55;

SD=1.25); through extra reading (M=3.55; SD=0.95); popular funds among investors (M=2.67; SD=0.98); and choice of fund from the intermediary (M=3.60; SD=1.04). These findings displayed that retail investors were careful with their money, and there was influence from the unit trust consultant. Chasing profit, popular funds and advice from the intermediary were only treated as Moderately Important items while the choice of the fund from the intermediary was the highest in this category because intermediaries are treated as experts or have the “white coat effect”. The white coat effect symbolises an authoritative figure. It indicates that the intermediary symbolises authority and the investor

prefers to invest with someone who has the knowledge and training in investing.

### Factor Analysis

Eight items were used to measure the choice of fund. The MSA was more than 0.5, KMO was 0.559 with a BTS chi-square of 262.184 ( $p < 0.000$ ), allowing a factor analysis. Factor analysis was used to confirm the results of the descriptive analysis. Two items (diversification of investment, and a choice from intermediary) were dropped as they did not fulfil the factor loading of more than 0.6 (Pallant, 2005) Three factors were extracted with an eigenvalue of more than using KMO. (See Figure 2, Figure 3 and Table 6).

The statement was: My Choice of fund is:

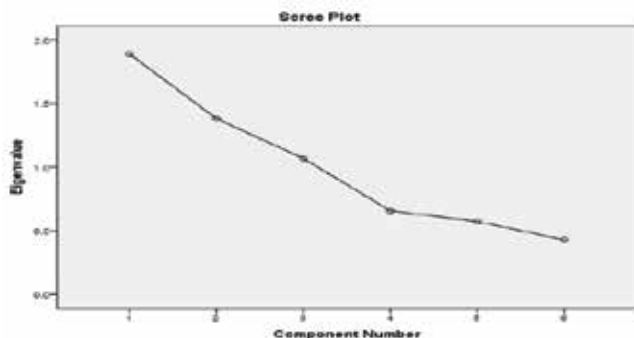
**Figure 2**

*Measure of sampling adequacy for choice of fund*

Profit every year	<b>0.733</b>					
Long term investment	-0.373	<b>0.842</b>				
Advice from intermediary	0.071	-0.094	<b>0.761</b>			
Through extra reading	0.009	0.05	-0.367	<b>0.774</b>		
Popular fund	-0.028	-0.084	-0.014	-0.172	<b>0.868</b>	
Reputable Company	-0.05	-0.014	-0.049	0.005	-0.531	<b>0.762</b>

**Figure 3**

*Scree plot for choice of fund*



**Table 6**  
*Summary of Factor Loading for Choice of Fund*

Section	Factor		
	1	2	3
Profit every year			.824
Long-term investment			.831
Advice from intermediary		.845	
Extra reading		.804	
Popular fund	.859		
Reputable Company	.884		

Eigenvalue 1.068

Percentage of variance explained 72.350%

KMO = .559

Barlett's Test of Sphericity Approx. Chi-Square = 262.184,

df = 15, sig = 0.00

### Discussion

This study explored the behaviour of retail investors in Kelantan, Terengganu, Penang and Kuala Lumpur in Malaysia regarding the choice of fund using the Prospect Theory. The descriptive statistics revealed that only

three items were categorized as Highly Important, five items were categorised as Moderately Important, and none were categorised as of Low Importance. Confirmatory Factor analysis using SPSS confirmed six items as shown in table 7:

**Table 7**  
*Summary of Findings*

Items	Highly Important	Moderately Important	Confirmatory Factor Analysis
Funds that meet my long-term financial objective	M=3.75; SD=0.87		0.831
Reputable companies	M=3.71; SD=0.89		0.884
A fund that makes a profit every year		M=3.43; SD=1.59	0.824
Advice from intermediary		M=2.55; SD=1.25	0.845
Through extra reading		M=3.55; SD=0.95	0.804
Popular funds among investors		M=2.67; SD=0.98	0.859



It was found that retail investors from the four states were educated and they knew what unit trust fund investment was because they were working adults. They invested for the long term as their choice and looked for companies whose funds had performed well. This particular choice reflected highly on the investors as investors considered the past performance of the fund and also the company as a whole. Investors placed this as their priority in deciding their choice of fund. This is positive behaviour, but it requires information and knowledge.

The Prospect Theory is capable of explaining the behaviour of unit trust fund investors. It is based on a subjective reference point-the choice of the investors. An investor reacts based on their individual subjective reference point. The investor selects a reference point, and whether the result is perceived as gains or loss will depend on the reference point selected (Ackert & Deaves, 2010). These reference points are the positive trait of the companies and the fund. It is the decisive point where the investors decide as investors are risk-averse. Investors also go for popular funds- another reference point. It is because the reference point is subjective. When everyone invests in a particular fund, investors will follow the crowd. When losses occur, the pain of suffering is less as everyone suffers too.

The demand for information and knowledge in the choice of fund is essential. Advice from the intermediary and extra reading by investors play a

role in their choice of fund as investors decide on their choice of fund. It will decide the subjective reference point as an entry point to their investment. This reference point can move, and this movement depends highly on the information and their reading. This is because of the existence of many funds in the market.

The choice of investors making profit every year was to fulfil their investment objective. It is because according to the Prospect Theory, the appraisal of investment depends on profit and loss of the investment. Profit and loss of an investment are the sole criteria in decision-making. So, it is not the wealth of the investor but the change of wealth of the investor. Loss is more painful than gain, and Fisher (2015) said that the Prospect Theory amounts to investors feeling the pain of loss about two and a half times as much as they appreciate an equivalent gain. The loss is more painful as the feeling is more real compared to profit (Fisher, 2015). It is this reason why investors always look for profit.

The findings revealed that the investors were loss averse. Their choice of fund was based on funds that make a profit and meet their financial objectives. They also selected a fund that was popular, and they sought information from intermediaries and by reading. They also selected a fund offered by popular companies. Humans fear to lose and will take steps to avoid it happening.



Choice is part of life. When making a decision, the choice we make is reflected through the Prospect Theory. Humans make choices in managing and improving their lives. This study reveals that the Prospect Theory is capable of explaining the behaviour of retail unit trust fund investors. The Prospect Theory is capable of demonstrating how retail investors behave in an uncertain investment environment where the investment is for the long term. It establishes that the Prospect Theory is a positive theory- a theory that demonstrates it is also a theory of choice.

### Implications and Future Research

The findings have many implications for the unit trust fund industry. The retail investor must realise that human behaviour influences their investment decision. It is this that causes them to create a subjective reference point (choice) to invest. Retail investors must also realise that past performance does not reflect future performance. Popular funds and a company with a good reputation are all related to the performance of the fund. The performance of the fund is highly correlated with the underlying assets of the portfolio. It is advisable to rebalance the portfolio once in six months to achieve financial goals.

The intermediary must realise that they play a role in creating the subjective reference point (choice) by providing information and knowledge. It is here that investing begins. The role of the intermediary is not only

to promote and sell the fund, but they must help retail investors to achieve their financial objectives. By helping the retail investors to achieve their financial objectives, the intermediary will be able to promote and sell more funds to retail investors.

Unit trust fund companies must provide their intermediaries with up-to-date information and knowledge to guide them in their essential role. With proper guidance, the intermediaries will be more effective in creating a subjective reference point. This will help the intermediary to effectively promote their funds and sell them to prospective investors. At the same time, the fund management company should realise that plentiful choices will not help investors. It will put investors in a challenging position when making decisions. It can be detrimental for retail investors if they make the wrong decision.

The government should draw up regulations to oversee the whole industry and protect retail investors. It will help the industry to grow and provide a healthy competitive environment for all the players involved. The regulations must be enforced to ensure that the companies abide by them and retail investors must be made fully aware of their rights.

The Prospect Theory has proved that it is capable of explaining the behaviour of retail investors in unit trust fund investment. This positive theory, although second to the Expected Utility Theory, is performing better than

expected. Although the Prospect Theory is a relatively new one, it is gaining popularity because of its practicality.

In terms of future research, the Prospect Theory can cover other areas of investment such as gold, shares, derivatives and property investment. The respondents can come from all walks of life and different states in Malaysia. This will help researchers understand whether the Prospect Theory applies to other investment areas and have a clearer picture of the capability of this theory.

### Conclusion

This study explored, using the Prospect Theory, the behaviour of retail investors in Kelantan, Terengganu, Penang and Kuala Lumpur with regard to the choice of the unit trust to invest in. This study fulfilled its objective and concludes that the Prospect Theory is able to illustrate the behaviour of investors in the context of unit trust funds ■

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