

Evidence of Behavioural Finance Theory in Financial Planning: An Empirical Study of the Employees Provident Fund (EPF) Retirement Scheme in Malaysia

¹Khoong Tai Wai

¹*Institute of Malaysian & International Studies,
Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia*

ABSTRACT

Even with an economy favourable for investment, a considerable number of Employees Provident Fund (EPF) members still choose pre-retirement housing withdrawal over EPF Members Investment Scheme (EPF-MIS) withdrawal. This paper discusses this EPF pre-retirement withdrawal phenomenon from the perspective of the application of behavioural finance theories. The researcher only focused on the choice of financial planning related activity aspects, which are EPF Members Investment Scheme (EPF-MIS) and housing withdrawal. Interviews using qualitative face-to-face in-depth, open-ended questions were conducted with 30 purposive selected participants to evidence the phenomenon application behavioural finance theories. The paper concludes that a combination phenomenon application of both the Expected-Utility Theory and the Prospect Theory did occur in EPF pre-retirement withdrawal. Furthermore, the paper recommends more studies of the factors influencing EPF pre-retirement withdrawal for more unique and innovative financial planning product marketing strategies.

Keywords: Behavioural Finance, Financial Planning, Retirement

INTRODUCTION

Complex decision-making includes analysis of several factors following various steps (Kengatharan & Kengatharan, 2014). This is the same for behavioural financial planning decision-making derived from complex models of finance. Classical behavioural financial theory is based on the assumption that individuals always act to maximize return on wealth. However, a number of studies have indicated that individuals

do not always act in a rational manner (Chaudhary, 2013). When the uncertainty element occurs during the decision-making process, individuals tend to be confused. Thus, individuals are not always rational and markets are inefficient (Chaudhary, 2013; Kengatharan & Kengatharan, 2014).

The decisions of individuals regarding EPF pre-retirement withdrawal play an important role in achieving personal

Correspondence: kt_wai15@yahoo.com

financial planning. EPF pre-retirement withdrawal activities that are identified as able to achieve financial planning are EPF-MIS and housing withdrawal (Khoong, 2014). The chosen decision can be explained using behavioural finance theory. Through an understanding of individuals' financial behaviour, financial institutions may gain better understanding about individuals to provide innovative financial products to meet market demand (Khoong, 2014).

Typically, comprehensive financial planning includes credit and cash management, insurance and risk management, tax planning, investment planning, and retirement and estate planning (Malaysian Financial Planning Council, 2014). However, most behavioural finance theories apply to insurance and investment financial planning strategies (Dichtl & Drobetz, 2011a; Chaudhary, 2013). Furthermore, among the behavioural theories being applied in financial planning related strategies is dollar-cost averaging (Dichtl & Drobetz, 2011b). Effective and efficient dollar-cost averaging is not only found in investment planning but in debt planning too (Khoong, 2014). The dilemma is the lack of discussion in behavioural finance theories regarding retirement planning, which is an essential aspect in financial planning. Thus, this study fills the gap in the discussion of behavioural finance theories regarding retirement planning. In order to understand the phenomenon, the researcher is guided by the inquiry, 'What are the applications of behavioural

finance theories in retirement planning decision-making?' The purpose of this study is to discover the application of behavioural finance theories in the retirement planning decision-making phenomenon for EPF members.

LITERATURE REVIEW

Behavioural Finance Theory

Even though finance has been studied for thousands of years, behavioural finance study is still in its infant stage (Chaudhary, 2013; Kengatharan & Kengatharan, 2014). Debondt, Forbes, Hamalainen and Muradoglu (2010) defined behavioural finance as a science concerning how psychology influences the financial market. This view emphasizes that psychological cognitive factors rather than rational and wealth maximizing affect individuals' decision-making (Chaudhary, 2013). Using psychology, behavioural finance tries to understand how emotions and cognitive errors influence individual behaviour (Kengatharan & Kengatharan, 2014). Currently, behavioural finance looks at individuals' decision-making in the finance aspect (Kengatharan & Kengatharan, 2014).

Expected-Utility Theory was first developed by Von Neumann and Morgenstern in 1947. This theory summarizes that individuals are able to make rational decisions even under situations of uncertainty. As stated by Dichtl & Drobetz (2011a), Expected-Utility Theory is based on three principles: (1) the overall expected

utility of a choice is equal to the sum of the probability weighted utilities of all possible outcomes; (2) a choice is acceptable if it adds value to the existing outcomes; (3) all individuals are strictly risk-averse. This theory is based on monetary objective probabilities outcomes rather than subjective expected utility. Individuals are completely rational and able to deal with complex choices, risk-averse, and wealth maximizing (Nagy & Obenberger, 1994).

Most of the previous theories argued that individuals are rational when making decisions related to financial aspect. However, since the 1970s, studies have found that individuals behave differently. The Prospect Theory was introduced following those studies. Prospect Theory states that individuals tend to be more risk-averse in 'gain' decision situations, and individuals tend to be more risk-seeking in 'loss' choice situations (Mori, Diaz, Ziobrowski & Rottke, 2010). This Nobel Prize winning Prospect Theory tries to explain why individuals act irrationally under different situations.

Prospect Theory begins from empirical evidence to describe individuals' irrational decisions that involve risks. Figure 1 illustrates Dichtl and Drobetz's (2011) description of the way individuals evaluate potential 'gain' and 'loss'. The explanation is as follows:-

1. Individuals evaluate their choices in terms of potential 'gain' and

'loss' relative to individual specific reference points, in which a phenomenon refers to the wider concept of framing. As compared with Expected-Utility Theory, individuals evaluate choices in terms of the total expected wealth.

2. Individuals are risk-averse in a 'gain' situation, while they are risk-seeking in a 'loss' situation. As compared with Expected-Utility Theory, individuals are always risk-averse. Prospect Theory risk implies an S-shaped value function, in which the curve passes through the reference point and is concave over gains and convex over losses.
3. Individuals demonstrate loss aversion. In S-shaped value function, given the same variation in absolute value away from the reference point, there is a bigger impact of losses than of gains. Gains and losses of the same amount are valued in an asymmetric way, and individuals care more as regards potential losses than potential gains.
4. Individuals weigh the probabilities of various outcomes. This allows incorporating the empirical

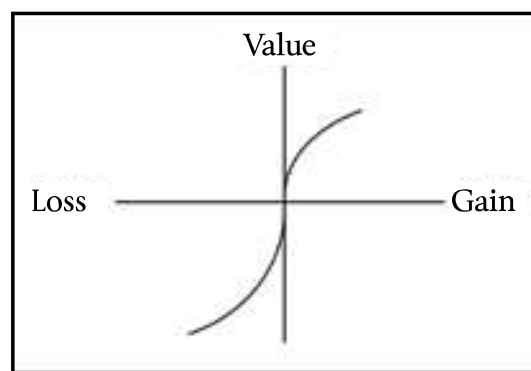


Figure 1: Prospect Theory

observation that individuals overweigh events with low probability of occurrence, but underweigh 'average' events. As compared with Expected-Utility Theory, individuals use the statistical probabilities.

Malaysian Employees Provident Fund (EPF) Retirement Scheme

The Employees Provident Fund (EPF) is a social security institution set up according to the Employees Provident Fund Act 1991. EPF members include both private and non-pensionable public sector employees. As at June 2014, EPF had a total of 14.05million members, and 6.57million were active contributors (Employees Provident Fund, 2014). A contribution constitutes the amount of money credited to members' individual accounts and calculated based on their monthly wages. Currently, for employees who earn monthly wages of RM5,000 and below, the employee's contribution portion is 11 per cent, and the employer's contribution portion 13 per cent of the employees' monthly wages. For employees who earn monthly wages of above RM5,000, the employee's contribution portion remains 11 per cent, while the employer's portion remains at 12 per cent. The primary functions of EPF includes maintaining members' contribution accounts, ensuring capital preservation,

and at the same time adding value to members' savings (EPF, 2013). EPF will invest members' saving into various approved financial instruments to generate income, such as Malaysian Government Securities, Money Market Instruments, Loans & Bonds, Equity and Property (EPF, 2013). According to the Employees Provident Fund Act 1991, EPF guarantees a minimum of 2.5 per cent dividend annually. Nevertheless, EPF has been able to provide dividends above the minimum value. From 1960 until 2013, EPF dividend payout ranged from 4.0 to 8.5 per cent (EPF, 2013). The EPF scheme allows members to make withdrawal at different ages. As shown in Table 1, there are three types of EPF withdrawal, comprising retirement withdrawal, pre-retirement withdrawal, and other withdrawal.

Typical comprehensive financial planning should include credit and cash management, insurance and risk management, tax planning, investment planning, and retirement and estate planning (MFPC, 2014). EPF members are encouraged to make withdrawals in order to achieve quality financials in future years (EPF Annual Report 2013). Pre-retirement withdrawal for investment and housing withdrawal are essential to achieve a comprehensive

Table 1: EPF Types of Withdrawal

Retirement withdrawal	Pre-retirement withdrawal	Other withdrawal
Age 55	Age 50, health, education, excess RM1 million, investment, housing	Incapacitation, death, living country, pensionable employee/option, haj

financial plan (Khoong, 2014). In the Integrated Model for Financial Planning (IMFP) (Chieffe & Rakes, 1999), both investment and housing are mentioned. Their 2X2 matrix symbolizes the area positioning for the various topics in financial planning, time and whether or not the occurrence of the financial event elements play an important role. Investment is a standalone event, categorised under planned financial events and future period element. On the other hand, housing, is one type of long-term commitment. In Malaysia, housing is considered one type of credit debt since availability of the credit facilities is from financial institutions (Khoong, 2014). However, under the IMFP model, debt planning is only highlighted in credit management.

Thus, from the financial planning aspect, both investment and housing EPF withdrawal are considered as part of financial planning. Since both investment and housing withdrawal are from different accounts, members are allowed to make withdrawal for both investment and housing at the same time if they fulfil the requirement. However, there is a phenomenon where members only make either withdrawal for investment or for housing, even though they understand and fulfil the requirement for both the investment and the housing withdrawal.

EPF Pre-retirement Withdrawal Phenomenon from the Application of Behavioural Finance Theory Perspective

The decision choice of EPF members can be described using both Expected-

Utility Theory and Prospect Theory. If an individual is eligible for EPF pre-retirement withdrawal for both investment and housing withdrawal, the individual will tend to choose to investment withdrawal. The Expected-Utility Theory explains that individuals are rational and tend to choose higher rate of return to maximizing wealth (Dichtl & Drobetz, 2011). However, there occurs individuals choosing housing withdrawal over investment withdrawal even when eligible for both withdrawals. This can be explained by the Prospect Theory as shown in Figure 2. In order to understand the application of Prospect Theory, researcher needed to decide the frame for both situation and risk. Firstly, the situation frame. Participants were in a situation that allows both investment and housing withdrawal. Thus, they have a positive cash flow (Mori et al., 2009). Second, determine the risk frame. This can be explained by Maslow's Hierarchy of Needs Theory. Housing is placed in the category of basic needs and present a low risk level (Kaur, 2013). Thus, housing withdrawal has a low risk level compared with investment, and suits risk-averse individuals. This housing withdrawal under the EPF scheme is justified as being in the basic needs category. This is because the only purpose for housing withdrawal is for one house only. Withdrawal is allowed for a first house. For a second house, members can make withdrawal after meeting the condition of having sold the first house. This setting justifies that housing withdrawal is to achieve a

basic need. According to the Prospect Theory, if an individual is in a 'gain' situation, he or she tends to make a risk-averse choice.

METHODOLOGY

From the understanding of the researcher, there are few studies on the use of both EPF pre-retirement withdrawal for investment and for housing as a choice in financial planning. The closest study may be that done by Jamaludin and colleagues (2012), which looked only at the choice of investment withdrawal. Thus, this study can be considered an initial stage in the study of both choices from the financial planning point of view. Since this present study is an empirical study, it adopted the qualitative approach. By employing the strategy of inquiry through the use of case studies, the researcher explores in depth the programme (Creswell, 2003) of EPF pre-retirement withdrawal. Face-to face in depth, interviews using open-ended questions were conducted with 30 selected participants. The advantage

of this data collection procedure is participants can provide historical information (Creswell, 2003). Thus, researcher gains explanation of their historical experience phenomenon decision choice. Those who have experience with such withdrawal perhaps have the clearest understanding of the needs (Khoong, 2014). For this purpose, the participants were selected through purposive sampling. The participants selected had to fulfil two criteria. First, the participants had to understand they could make withdrawal for both investment and housing and had been were eligible to do so from 2000 until 2014. This was to reflect the current finance behavioural choice. Second, those selected participants had to have experience in EPF pre-retirement withdrawal, either investment or housing, and not both together. For this empirical study, 30 participants who fulfilled the two criteria were selected for the interview session. They comprised 15 participants for investment withdrawal and 15

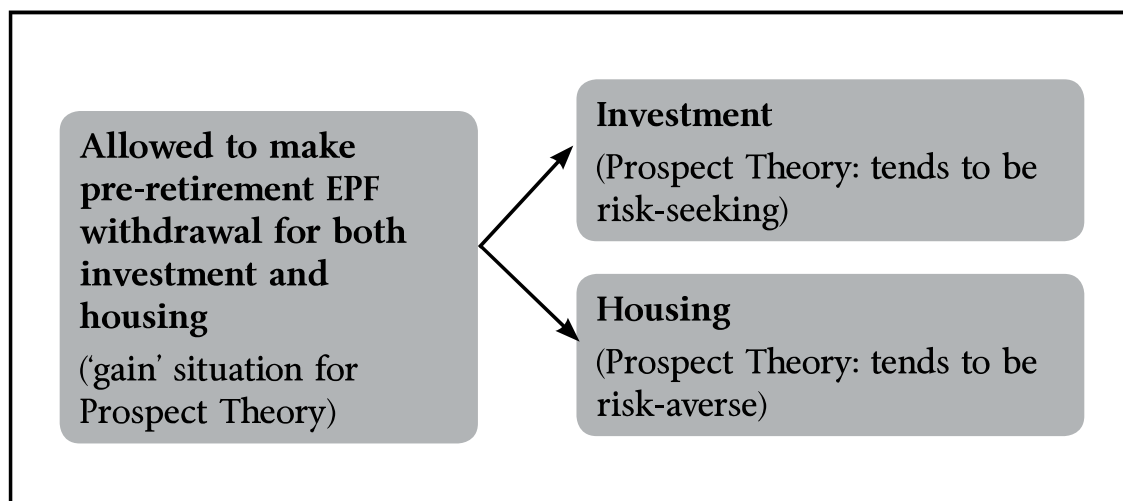


Figure 2: Application of Behavioural Theory in EPF Withdrawal

participants for housing withdrawal. The interview sessions were held between June and November 2014 and at a place convenient to the participants.

FINDINGS AND DISCUSSION

The findings of the study are divided into three main sections. The first covers the demographic character of the participants while the second covers the overall finding of the decision for their choice of EPF pre-retirement withdrawal. The third section, further finding, includes section two and three, each discussing the participants' investment and housing withdrawal separately. The occurrence of both Expected-Utility Theory and Prospect Theory application is discussed.

Demographics of Participants

The participants were divided into two categories, pre-retirement withdrawal for investment and pre-retirement withdrawal for housing. The participants for investment withdrawal were labelled MIS1 to MIS15, and participants for housing withdrawal were labelled HOUSE1 to HOUSE15. The demographics for participants in

both categories are shown in Tables 2 and 3 respectively.

Table 2 highlights the demographics of the 15 investment withdrawal participants. This category comprised 11 male and four female participants. Their ages ranged between 24 to 53 years. Most of the participants (nine) were Malay, four were Chinese, and two were Indian. Eight participants were single and seven participants were married. The majority of the participants (13 participants) had tertiary education, and nine participants worked at the management level. All of the participants made investment withdrawal for unit trust type of investment.

Table 3 highlights the demographics of the 15 housing withdrawal participants. In this category, there were eight male and seven female participants. The age of the participants ranged between 23 to 52 years. Most of the participants (eight) were Malay, five were Chinese, and two were Indian. The majority of the participants (12) were married. 11 participants had tertiary education, and 10 participants worked at the management level. The

Table 2: Demographics of Investment Withdrawal Participants

Participants	Gender	Age	Ethnicity	Marital Status	Education Level	Occupation (level)	Types of Withdrawal
MIS1	Male	32	Chinese	Married	Degree	Management	Investment (unit trust)
MIS2	Male	33	Malay	Married	Diploma	Non-management	Investment (unit trust)
MIS3	Female	43	Malay	Married	Degree	Management	Investment (unit trust)
MIS4	Male	27	Malay	Single	Secondary school	Non-management	Investment (unit trust)

Continuation of Table 2: Demographics of Investment Withdrawal Participants

MIS5	Female	31	Indian	Marriage	Diploma	Non-management	Investment (unit trust)
MIS6	Male	28	Chinese	Single	Degree	Management	Investment (unit trust)
MIS7	Male	41	Malay	Marriage	Degree	Management	Investment (unit trust)
MIS8	Female	35	Malay	Single	Degree	Management	Investment (unit trust)
MIS9	Male	53	Malay	Marriage	Diploma	Non-management	Investment (unit trust)
MIS10	Male	48	Chinese	Marriage	Post-graduate	Management	Investment (unit trust)
MIS11	Male	24	Chinese	Single	Secondary School	Non-management	Investment (unit trust)
MIS12	Male	29	Malay	Single	Degree	Management	Investment (unit trust)
MIS13	Female	25	Malay	Single	Diploma	Non-management	Investment (unit trust)
MIS14	Male	37	Indian	Single	Degree	Management	Investment (unit trust)
MIS15	Male	32	Malay	Single	Post-graduate	Management	Investment (unit trust)

type of withdrawal was lump sum (nine participants) and monthly repayment (six participants) housing withdrawal.

Overall Finding - Decision Choice on EPF Pre-retirement Withdrawal

From the semi-structured interview,

participants explained the decision for their choice of EPF pre-retirement withdrawal. Tables 2 and 3 show the summary of the types of EPF pre-retirement withdrawal of the participants. Those who made investment withdrawal were categorised as risk-seeking. On the other hand,

Table 3: Demographics of Housing Withdrawal Participants

Participants	Gender	Age	Ethnicity	Marital Status	Education Level	Occupation (level)	Types of Withdrawal
HOUSE1	Female	27	Chinese	Married	Diploma	Management	Housing (lump sum)
HOUSE2	Male	28	Chinese	Married	Secondary School	Non-management	Housing (lump sum)
HOUSE3	Female	27	Malay	Married	Degree	Management	Housing (monthly)
HOUSE4	Male	30	Chinese	Married	Degree	Management	Housing (monthly)
HOUSE5	Male	37	Malay	Single	Diploma	Non-management	Housing (lump sum)
HOUSE6	Female	41	Malay	Married	Degree	Management	Housing (lump sum)
HOUSE7	Female	35	Malay	Married	Diploma	Non-management	Housing (lump sum)
HOUSE8	Female	37	Chinese	Married	Degree	Management	Housing (monthly)

Continuation of Table 3: Demographics of Housing Withdrawal Participants

HOUSE9	Male	23	Indian	Married	Secondary School	Non-management	Housing (monthly)
HOUSE10	Male	30	Malay	Single	Degree	Management	Housing (lump sum)
HOUSE11	Female	33	Malay	Marriage	Post-graduate	Management	Housing (lump sum)
HOUSE12	Male	52	Indian	Single	Diploma	Management	Housing (lump sum)
HOUSE13	Male	35	Chinese	Marriage	Secondary school	Non-management	Housing (monthly)
HOUSE14	Female	44	Malay	Marriage	Secondary school	Management	Housing (monthly)
HOUSE15	Male	27	Malay	Marriage	Post-graduate	Management	Housing (lump sum)

those who made housing withdrawal were categorised as risk-averse.

The decision choice of the EPF members can be described using both Expected-Utility Theory and Prospect Theory. According to Expected-Utility Theory, if an individual is eligible for both EPF pre-retirement investment and housing withdrawal, the individual will tend to choose investment withdrawal. Individuals tend to choose a higher rate of return to maximize wealth (Dichtl & Drobetz, 2011a). On the other hand, there occurs individuals who choose housing withdrawal over investment withdrawal despite being eligible for both withdrawals. This can be explained by Prospect Theory.

In order to understand the application of Prospect Theory, researcher needed to decide the frame for both situation and risk. Firstly, the situation frame. Participants were in a situation allowing for both investment and housing withdrawal. Thus, they had a positive cash flow (Mori et al., 2009). Second, determine the risk frame. This can be explained by Maslow's Hierarchy of Needs

Theory, in which housing is categorised as a basic need and with a low risk level (Kaur, 2013). Thus, housing withdrawal has a low risk level compared with investment withdrawal, suiting risk-averse individuals. This housing withdrawal under EPF scheme is justified as being in the basic need category. This is because the only purpose for housing withdrawal is for one house only. For a first house, the withdrawal is allowable. For a second house, members can make the withdrawal after meeting the condition of selling the first house. This setting justifies that housing withdrawal is to achieve a basic need. According to the Prospect Theory, if an individual is in a 'gain' situation, he or she tends to make a risk-averse choice.

FURTHER FINDINGS

Further findings included investment and housing withdrawal as the situation. Both will be discussed under combination application of Expected-Utility Theory and Prospect Theory. The setting for Prospect Theory situation frame was such that investment withdrawal is a 'gain' situation, while housing withdrawal is a

'loss' situation. This was decided in such a way to show that the investment withdrawal is a positive cash flow, while housing withdrawal is a negative cash flow (Mori et al., 2009).

Finding from Investment Withdrawal

For investment withdrawal, the situation is 'gain' due to positive cash flow. In order to decide the risk frame, participants were asked about the type of unit trust product, either equity or bond. Equity indicated high risk level, while bond indicated low risk level (Siswantoro, 2012; Afshar, 2013). With this frame, MIS1, MIS2, MIS6, MIS9, MIS10, MIS13 and MIS 15, were categorized as risk-seeking, while the rest of the participants were categorized as risk-averse, as shown in Table 4.

According to Expected-Utility Theory, individuals tend to choose equity investment withdrawal. Individuals tend to choose higher rate of return to maximize wealth (Dichtl & Drobetz, 2011a). On the other hand, it occurred that individuals chose bond

(risk averse) investment withdrawal even though he or she was eligible for both withdrawals. This can be explained by Prospect Theory as can be seen in Figure 3. According to the theory, if an individual is in a 'gain' situation, he or she tends to make a risk-averse choice.

Finding from Housing Withdrawal

For housing withdrawal, the situation is a 'loss' due to negative cash flow. In order to decide the risk frame, participants were asked on the type of housing mortgage products based on interest rate that is either floated or fixed. Risk frame is determined such that floated rate indicated high risk level, while fixed rate indicated low risk level (Mori et al., 2009). HOUSE1, HOUSE4, HOUSE7, HOUSE10, HOUSE13 and HOUSE14 were categorized as risk-seeking, while the rest of the participants were categorized as risk-averse, as shown in Table 5.

According to Expected-Utility Theory, individuals will tend to choose housing mortgage with fixed rate.

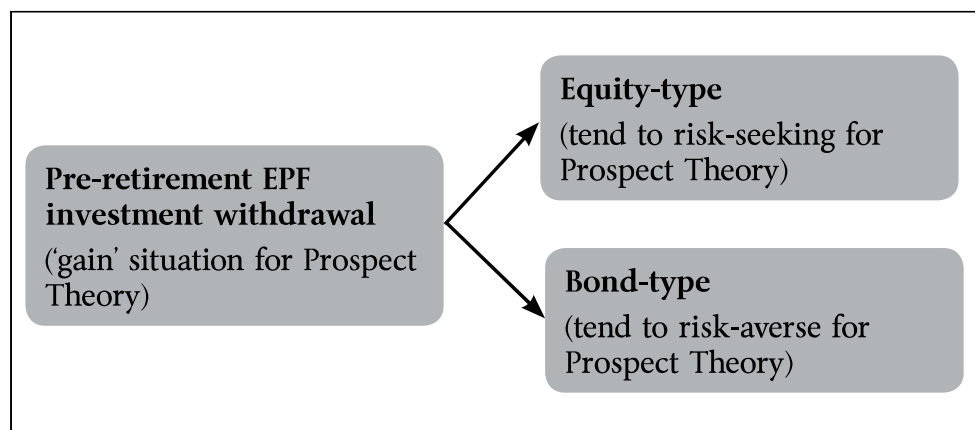


Figure 3: Application of Behavioural Theory in EPF Investment Withdrawal

Table 4: Investment Withdrawal Finding

Participants	Types of withdrawal	Categories of Risk (under Prospect Theory)
MIS1	Investment (unit trust)	Equity (High)
MIS2	Investment (unit trust)	Equity (High)
MIS3	Investment (unit trust)	Bond (Low)
MIS4	Investment (unit trust)	Bond (Low)
MIS5	Investment (unit trust)	Bond (Low)
MIS6	Investment (unit trust)	Equity (High)
MIS7	Investment (unit trust)	Bond (Low)
MIS8	Investment (unit trust)	Bond (Low)
MIS9	Investment (unit trust)	Equity (High)
MIS10	Investment (unit trust)	Equity (High)
MIS11	Investment (unit trust)	Bond (Low)
MIS12	Investment (unit trust)	Bond (Low)
MIS13	Investment (unit trust)	Equity (High)
MIS14	Investment (unit trust)	Bond (Low)
MIS15	Investment (unit trust)	Equity (High)

Individuals tend to choose fixed rate to avoid uncertainty in rate changes (Mori et al., 2009; Mori et al., 2010). On the other hand, there occurred individuals who chose housing mortgage with floating rate even though he or she was eligible for both withdrawals. This can be explained by Prospect Theory as in Figure 4. According to the theory, if an individual is in a 'loss' situation, he or she tends to make a risk-seeking choice.

CONCLUSIONS & IMPLICATIONS

From this empirical small-scale study,

the researcher found this study very useful in contributing to understanding application financial behaviour theory phenomenon. It appears that EPF members apply either Expected-Utility Theory or Prospect Theory in their EPF pre-retirement withdrawal. EPF pre-retirement withdrawal for investment and housing withdrawal are well-suited for the two theories. Thus, the retirement planning choices are related and can be explained by financial behaviour theory.

In order to overcome the increasing demand for total financial planning plans from Malaysians, one of the

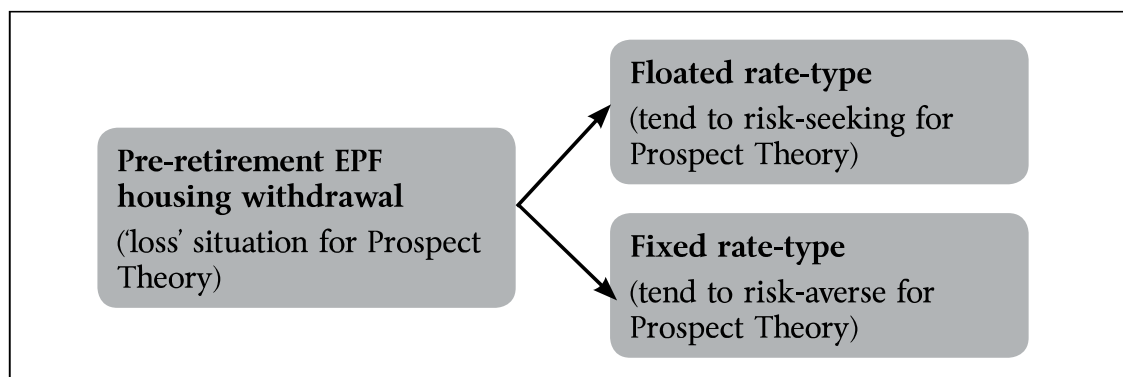


Figure 4: Application of Behavioural Theory in EPF Housing Withdrawal

Table 5: Housing Withdrawal Finding

Participants	Types of withdrawal	Categories of Risk (under Prospect Theory)
HOUSE1	Housing (lump sum)	Floated (High)
HOUSE2	Housing (lump sum)	Fixed (Low)
HOUSE3	Housing (monthly)	Fixed (Low)
HOUSE4	Housing (monthly)	Floated (High)
HOUSE5	Housing (lump sum)	Fixed (Low)
HOUSE6	Housing (lump sum)	Fixed (Low)
HOUSE7	Housing (lump sum)	Floated (High)
HOUSE8	Housing (monthly)	Fixed (Low)
HOUSE9	Housing (monthly)	Fixed (Low)
HOUSE10	Housing (lump sum)	Floated (High)
HOUSE11	Housing (lump sum)	Fixed (Low)
HOUSE12	Housing (lump sum)	Fixed (Low)
HOUSE13	Housing (monthly)	Floated (High)
HOUSE14	Housing (monthly)	Floated (High)
HOUSE15	Housing (lump sum)	Fixed (Low)

ingredients is the need to strengthen the social protection system to ensure basic protection. Thus, the programmes will be able to be sustained so that individuals and retirees have something to fall back on during retirement. In fact, while some of the pre-retirement withdrawal provided reasonable protection, their weaknesses must be overcome so that they can serve their beneficiaries better. While there are many forms of pre-retirement withdrawal, only MIS and housing withdrawals are considered suitable for retirement planning objective. Thus, it must be ensured that those who qualify do make withdrawal for proper objectives.

It is hoped that the results of this study will help policy makers to manage the nation's retirement planning effectively. It is therefore important that policy makers identify financial behaviour and transform them

to achieve retirement planning in their financial plan.

This study found that individuals may perform differently in different situations. Even though they are able to make investment withdrawal, there occurred situations where they make housing withdrawal. Individuals can be made aware of the importance of how to achieve comprehensive financial planning plan by taking the housing debt aspect into consideration. Early intervention programmes by policy makers will enable them to take full advantage of the time value of money. In order to ensure that both withdrawals are made, there is a need to take a relook at the withdrawal scheme and promote it again to EPF members. Financial education should be provided to EPF members on how to use their savings prudently pre-and post-retirement. This to ensure members to take advantage

of the return according to their risk tolerance.

Further studies should concentrate on other factors that may influence the decision in both withdrawals. This may also take into consideration conventional and Islamic products as the choice of participants. Besides, further studies may focus on the EPF pre-retirement housing withdrawal, which includes lump sum and monthly withdrawal. This is because these studies may be able to provide more explanation of financial behaviour theory in bigger context. With an understanding of these factors, more unique and innovative financial planning product marketing can be done. Finally, caution is warranted in the interpretation of the findings of this study, as financial behaviour learning experience pattern will develop as it matures, especially in the retirement planning aspect. ■

REFERENCES

- Afshar, T. A. (2013). Compare and contrast Sukuk (Islamic bonds) with conventional bonds, are they compatible? *The Journal of Global Business Management*, 9(1), 44-52.
- Chaudhary, A. K. (2013). Impact of behavioral finance in investment decisions and strategies – A fresh approach. *International Journal of Management Research and Business Strategy*, 2(2), 85-92.
- Debondt, W., Forbes, W., Hamalainen, P. & Muradoglu, Y. G. (2010). What can behavioural finance teach us about finance? *Qualitative Research in Financial Markets*, 2(1), 29-36.
- Dichtl, H. & Drobetz, W. (2011a). Portfolio insurance and prospect theory investors: Popularity and optimal design of capital protected financial products. *Journal of Banking & Finance*, 35, 1683-1697.
- Dichtl, H. & Drobetz, W. (2011b). Dollar-cost averaging and prospect theory investors: An explanation for a popular investment strategy. *Journal of Behavioral Finance*, 12(1), 41-52.
- Chieffe, N. & Rakes, G. K. (1999). An integrated model for financial planning. *Financial Services Review*, 8, 261-268.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches*. 2nd edition. United States of America: Sage Publications, Inc.
- Employees Provident Fund (2014). Overview of the EPF. Retrieved 26 June 2014, from <http://www.kwsp.gov.my/portal/en/about-epf/overview-of-the-epf>.
- Employees Provident Fund (2013). Annual Report 2013: Operations review 2013. Retrieved 10 January 2014 from http://www.kwsp.gov.my/portal/documents/10180/1607622/7._Ulasan_Operasi.pdf.
- Jamaluddin, N., Smith, M. & Gerrans, P. (2012). Exploring the perceived importance of fund selection criteria



- within the context of retirement savings in Malaysia. *Asian Review of Accounting*, 20(2), 1-11.
- Kaur, A. (2013). Maslow's need hierarchy theory: Applications and criticisms. *Global Journal of Management and Business Research*, 3, 1061-1064.
- Kengatharan, L. & Kengatharan, N. (2014). The influence of behavioral factors in making investment decisions and performance: Study on investors of Colombo Stock Exchange, Sri Lanka. *Asian Journal of Finance & Accounting*, 6(1), 1-23.
- Khoong, T. W. (2014). A practical comparison between conventional housing loans and Islamic home financing. *Journal of Wealth Management & Financial Planning*, 1, 4-11.
- Malaysian Financial Planning Council (MFPC) (2014). Fundamentals of Financial Planning [Class Handout].
- Mori, M., Diaz, J. & Ziobrowski, A. J. (2009). Why do borrowers choose adjustable-rate mortgages over fixed rate mortgages?: A behavioral investigation. *International Real Estate Review*, 12(2), 98-120.
- Mori, M., Diaz, J., Ziobrowski, A. J. & Rottke, N. B. (2010). Psychological and cultural factors in the choice of mortgage products: A behavioral investigation. *The Journal of Behavioral Finance*, 11, 82-91.
- Nagy, R. A. & Obenberger, R. W. (1994). Factors influencing individual investor behavior. *Financial Analyst Journal*, 50(4), 63-68.
- Siswantoro, D. (2012). Is 'not-real' price lawful? The case of Islamic (sukuk) mutual funds in Indonesia during financial crisis. *Journal of Islamic Accounting and Business Research*, 3(2), 163-177.