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## **A FRAMEWORK FOR RETIREMENT PLANNING BASED ON FINANCIAL LITERACY AND WEALTH ACCUMULATION**

### **Abstract:**

Purpose – Saving alone is not adequate to achieve financial independence to an effective retirement planning because financial literacy we have is not properly transferred and applied to financial planning. This paper aims to study the moderating role of wealth accumulation with the financial literacy that affects retirement planning.

Design/methodology/approach – This study uses multiple regression and hierarchy regression to analyse 250 data to reflect the retirement planning related to financial planning. A closed-ended questionnaire is adopted and the unit of analysis is an individual.

Findings – The study finds the following: the constructs of availability, awareness, affordability, and accessibility help in improving retirement planning; financial literacy improve the effectiveness of financial planning. In addition, wealth accumulation serves as a moderator for retirement planning to enhance the effectiveness of financial planning.

Practical implications – Individuals are urged to devise an effective retirement planning mechanism by careful thought on the needs of an individual. Furthermore, an effective planning helps to develop an environment that will encourage the high integrity of financial literacy for individual to apply their skills and knowledge.

Originality/value – This study highlights an essential issue. It analyses the interactions between the dimensions of wealth accumulation with the financial literacy and retirement planning in improving the financial planning effectiveness in Malaysia.

### **Keywords:**

financial literacy, retirement planning, financial independence, financial planning, wealth accumulation

**JEL Classification:** D14, D19, D00

## Introduction

National Economic Advisory Council of Malaysia, in the New Economic Model (2010), sets the Quality of Life of Rakyat (i.e. People) as its ultimate goal, when embarking on targets of high income, sustainability, and inclusiveness. This is the cornerstone which country's social-economic master plans are based on Malaysia as a developing country and aims to reach the developed country level by 2020. Such level of development requires various initiatives to promote not only national infrastructures, but also to improve the quality of life of individuals living in the country. Among various factors that affect the quality of life of people, financial empowerment of different segment of population has a significant role. For instance, senior citizens, in their post retirement ages, lose their salary as a main source of income. Hence, their financial independence and capability to afford the cost of living is of particular importance.

Improvement in the quality of healthcare and other social services over past decades significantly increased the expected life of Malaysian citizens. Hence, the average span of life after retirement which requires to be financed without having work-based income has increased over time and the trend shows continuous increment. It is expected that by 2020, more than 9.9 percent of Malaysians become older than 90 years. Based on United Nation medium projection, the proportion of the Malaysia population age 60 and older will climb up to fourteen percent by 2028 where it this trend also implies that Malaysia will experience a steep increase in the share of the population of working age (Chan et al, 2010). This upward trend suggests that wellbeing of aging population of Malaysia requires immediate attention. In addition to that, one should bear in mind the higher-than-average inflation rate on medical expenses, and the fact that senior citizens are subject to more medical procedures.

EPF annual report (2012) highlights that average saving of active members at age 54 rose to RM158,302, which is RM175,377 and RM128,682, respectively for male and female members. Based on EPF annual report 2012, one may suggest that only 30 percent of members (68151 active members out of 225576 total members as of 2012) are active contribution at the age of 54. The average EPF saving of inactive members is only RM24,155. EPF reports fail to answer the question about inactive members that either they stop saving at EPF but continue saving in private retirement plans, or do not save at all. Chen et al. (2002) claimed that more than 90 percent of individuals at the age of retirement own less than RM100,000 in their EPF accounts, which is not sufficient for covering post-retirement living expenses. Therefore, the accumulation of private wealth becomes crucial.

The inadequacy of retirement planning by Malaysians results in dependency on their children, family, NGOs, and the Government in their retirement life. With the enhancements in quality of healthcare and other social services, people live longer than before. In 1960, average life expectancy was 59.4 years, while it has increased to 72.6 years for male and 77.2 years for females in 2013 (Department of Statistic Malaysia, 2013). The extended average life implies that an older person might have more chance to get sick and may have to visit the doctor more frequently. All this would eventually

add up to the higher medical costs per capita, and especially for retiree. The subsistence costs at old age can be high and may be a financial burden to the family members. Therefore, the proceeds from the life insurance policies, in addition to EPF savings, may act as a financial buffer against this eventually (Chan et al, 2010).

EPF annual report (2012) indicates that there are 6,389,080 active EPF contributors out of 13,585,007 members nationwide. In other words, about 53 percent of account holders are not actively saving for their retirement. This statistic should raise flag for further actions. Moreover, among the active contributors, around 90% of them have less than RM100,000 in their EPF accounts, which is difficult to sustain an individual for his remaining years out of the workforce. In addition, it shows more than 70% of contributors use up their EPF money within three years after withdrawal a lump sum at their retirement. The statistics reinforces the necessary of taking action to tackle the issue of post retirement financial burdens. It is necessary to highlight the fact that Malaysian Government cannot afford to provide sponsorship for all retirees in the country. Hence individual's retirement planning becomes the utmost importance.

Moreover, many research have been conducted in developed as well as developing countries suggest that financial literacy of individuals has a direct role in their approach toward wealth accumulation during career life, and also on planning for their retirement. The higher the financial literacy of individuals is, the better they plan for their future financial needs, including their retirement. This research aims to assess the financial literacy of Malaysian working adults and examine the impact of financial literacy on wealth accumulation and retirement planning.

The finding of this research enables policymakers to incentivize private retirement planning in conjunction with EPF and other State-sponsored support mechanisms. In addition, it helps the industry to develop retirement packages favored by wider range of individuals and develop customized products for different risk tolerance of clients.

## **2. Literature Reviews**

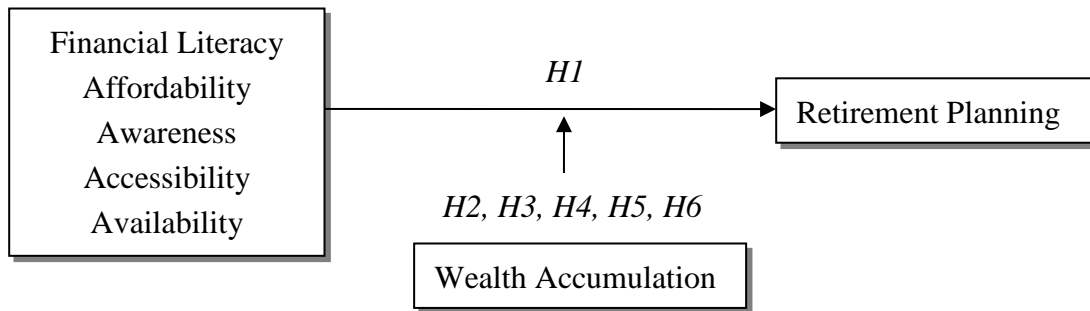
Mitchell and Moore (1998) investigated the retirement saving adequacy in USA and claimed that the American do a poor job preparing for retirement. Lusardi and Mitchell (2011) argued that relatively little is known about why people fail to plan for retirement and whether planning and information costs might affect retirement saving patterns. They report a survey on financial literacy which measures how people make financial plans, collect the information needed to make these plans, and implement the plans. They show that financial illiteracy is widespread among older Americans, particularly women, minorities, and the least educated. They also find that the financially savvy are more likely to plan and to succeed in their planning, and they rely on formal methods such as retirement calculators, retirement seminars, and financial experts, instead of family/relatives or co-workers. These results have implications for targeted financial education efforts.

Lusardi and Mitchell (2007) found that planning behavior can explain the difference in savings and why some people arrive close to retirement with very little or no wealth. They evaluated how successfully individuals plan for retirement, whether financial literacy is associated with better planning, and whether retirement preparedness is associated with these behaviors. They provide evidence regarding people's economic knowledge and planning, and how these are associated with saving behavior.

Fontes (2001) examined foreign and native-born individuals' tendency in USA toward ownership of retirement saving. She found that the country of origin, similar to demographic variable of ethnicity, can affect the saving behavior of individuals. She also argued that government sponsored pension mechanism is not adequate to support the financial needs of post-retirement life of individuals.

Moreover, Bumcrot et al.(2011) investigated the financial literacy between states of the United States. They recorded a significant difference in average financial literacy between states. They associated such difference with demographic factors of gender, race, and education. Mahdzan and Tabiani (2013) examined the relationship between financial literacy and individual saving in Klang Valey and find a positive relationship. Their findings suggest that the financial literacy has a positive impact on individual saving. However, due to small sample size and other limitations, their findings cannot be generalized to the whole country. Chan et al. (2010) examined the factors that drive Malaysian to work after the retirement age. They found that a major important factor is the financial needs of the retirees. They also investigated the expenditure pattern of retirees and found that the EPF savings are consumed, on average, within the first three years after retirement.

Relevance to government policy, if any government, in recent decades, has faced an increasing demand for improved welfare mechanism in Malaysia. Welfare of senior citizens is one of the fundamental social welfare issues in all economies; resulting to allocation of considerable portion of welfare budget. In order to offset part of such cost, EPF mechanism was employed. However, based on the statistics discussed earlier, EPF saving is not sufficient anymore. Therefore, private retirement plans would be an alternative. By promoting private financial planning, the budgetary burden of welfare of senior citizens would be partially eased. This research aims to investigate the underlying factors of retirement planning in Malaysia by assessing the financial literacy of Malaysians across different walks of life; and evaluate the impact of financial literacy on wealth accumulation as a prerequisite for retirement planning. Finding of this study would have utmost implication for policy makers in terms of identifying potentials venues to improve financial literacy among Malaysians, as well as to recommending potential policies that will promote wealth accumulations, and eventually retirement planning. Therefore, we develop the framework and hypothesis as below

**Figure 1: Framework of the Retirement Planning**

### Hypothesis

*H1.* At least one of the  $\beta$  is not equal to 0.

*H2.* Wealth accumulation moderates the relationship between financial literacy and retirement planning.

*H3.* Wealth accumulation moderates the relationship between affordability and retirement planning.

*H4.* Wealth accumulation moderates the relationship between awareness and retirement planning.

*H5.* Wealth accumulation moderates the relationship between accessibility and retirement planning.

*H6.* Wealth accumulation moderates the relationship between availability and retirement planning.

### 3. Methodology

This research was conducted in Malaysia, a fast growing developing country in South-East Asia. Malaysia aims to achieve developed country by 2020 and the central bank is taking a huge stride to enhance the financial planning industry. In the Malaysian New Economic Model (2010), government has set the Quality of Life of Rakyat (i.e. People) as its ultimate goal to embark on targets of high income, sustainability society.

The research instrument of this study is close-ended questionnaires. The data were collected from Klang Valley areas which represent the Malaysian population via administrated survey. Individual was used as the unit of analysis. The questionnaires captured information about the:

- financial literacy to enhance individual financial knowledge and ability to make decision
- financial planning in place in the responding individual to retirement planning and wealth accumulation

- saving attitude that has been taken place by individual

The questionnaire was sent to 250 respondents at random. Respondents consist of different backgrounds such as self employed, government servant, private sector employee and professional body. This is to make sure the sample has cover different income equality and different risk tolerance of respondents.

## Measures

### *Retirement Planning*

Measure on retirement planning was adopted from MacFarland et.al (2003), Petkoska, and Earl (2009), Noone et al (2010). Measurement on retirement planning consisted of six questions with five-point Likert items that measure the extent of individual unit agreement (1= strongly disagree, 5 = strongly agree) for six retirement planning knowledge in respect to financial issues, retirement funding, retirement seminars (Cronbach's alpha = 0.76).

### *Wealth accumulation*

Wealth accumulation was measured using the construct of saving attitude proposed by Brandstatter (2005) using five-point Likert scale ranging from 1=strongly disagree to 5 = strongly agree which consisted of 6 items (Cronbach's alpha = 0.80)

### *Financial Dimensions*

The financial dimensions are measured using five constructs five-point Likert scale ranging from 1=strongly disagree to 5 = strongly agree which consisted of 27 items for the financial literacy (Cronbach's alpha = 0.70), availability (Cronbach's alpha = 0.72), accessibility (Cronbach's alpha = 0.74), affordability (Cronbach's alpha = 0.76), and awareness (Cronbach's alpha = 0.71)

## **4. Results**

This research studies and validates the relationship between retirement planning, wealth accumulation, financial literacy, availability, accessibility, affordability and awareness. In detail, we tested the moderating effect of wealth accumulation of saving attitude between the retirement planning and financial literacy, availability, accessibility, affordability and awareness.

### Validity tests

Before we proceed to hypotheses, we do validity test by running factor analysis on the following dimensions: retirement planning, wealth accumulation, financial literacy, availability, accessibility, affordability and awareness. We used the following criteria for the factor analysis

- factor loading of items on the constructs must be greater than 5.0 (hair et.al, 2010) and the threshold must be greater than 3.3.

The results from factor analysis are satisfied according to established criteria after vet through the questionnaire items to make sure no overlapping items.

Refer to Table 1, after the reliability and factor analysis, we run some diagnosis tests such as Durbin-Watson and VIF. The results show Durbin-Watson is 2.051 which is near to 2, and VIF is less than 1, therefore we do not encounter autocorrelation and collinearity problems. To test our hypotheses, we run multivariate regression to test the relationship between financial dimensions and retirement planning. From the results, AC, AF and AW have a significant relationship with retirement planning. Therefore, we reject null hypothesis and accept H1, at least one  $\beta$  is equal to 0.

**Table 1: Results of regression for the retirement planning**

Retirement Planning	Unstandardized Coefficient	Tolerance/ VIF
Constant	1.275 4.492***	-
$\beta_1$ FL	0.000 0.002	0.908/ 1.101
$\beta_2$ AV	0.005 0.066	0.438/ 2.282
$\beta_3$ AC	0.107 1.659*	0.320/ 3.128
$\beta_4$ AF	0.190 4.879***	0.968/ 1.034
$\beta_4$ AW	0.276 3.238***	0.318/ 3.147
Observation	250	
Durbin-Watson	2.051	
R-squared	0.28	
F-value	19.117*	

Notes: Significance at 10, 5 and 1 percent level as indicated by \*, \*\* and \*\*\* respectively. The value in parentheses is t-statistics.

Refer to Table 2, for the hierarchical regression models, in the first model, retirement planning is the dependent variable and financial literacy, availability, accessibility, affordability and awareness are independent variables. For the hierarchical regression models, dependent variable and independent variables are input as block one. The wealth accumulation is treated as moderating variable by computing the interaction effects and input as block two.

This is done to assess the interaction effect of the wealth accumulation that has significant impact on retirement planning. The results of hierarchical regression models are given in Tables 1. The result of the first model is:

**Table 2: Results of hierarchical regression**

Independent constructs	Model I (unstandard coefficient / standard coefficient/ p-value)	Model II (unstandard coefficient / standard coefficient/ p-value)
Wealth Accumulation	1.275/1.275/0.000*	2.062/2.062/0.000***
WA x AV		-0.903/-5.505/0.000***
WA x AC		0.667/5.504/0.002***
WA x AF		0.628/4.307/0.000***
WA x AW		-0.186/-1.205/0.397
WA x FL		-0.090/-0.651/0.163
R squared	0.281	0.45 (R-sq change =0.169)
F-value/ p-value	19.117/0.000	19.562/0.000 (Sig. F change =14.656/ p-value =0.000)

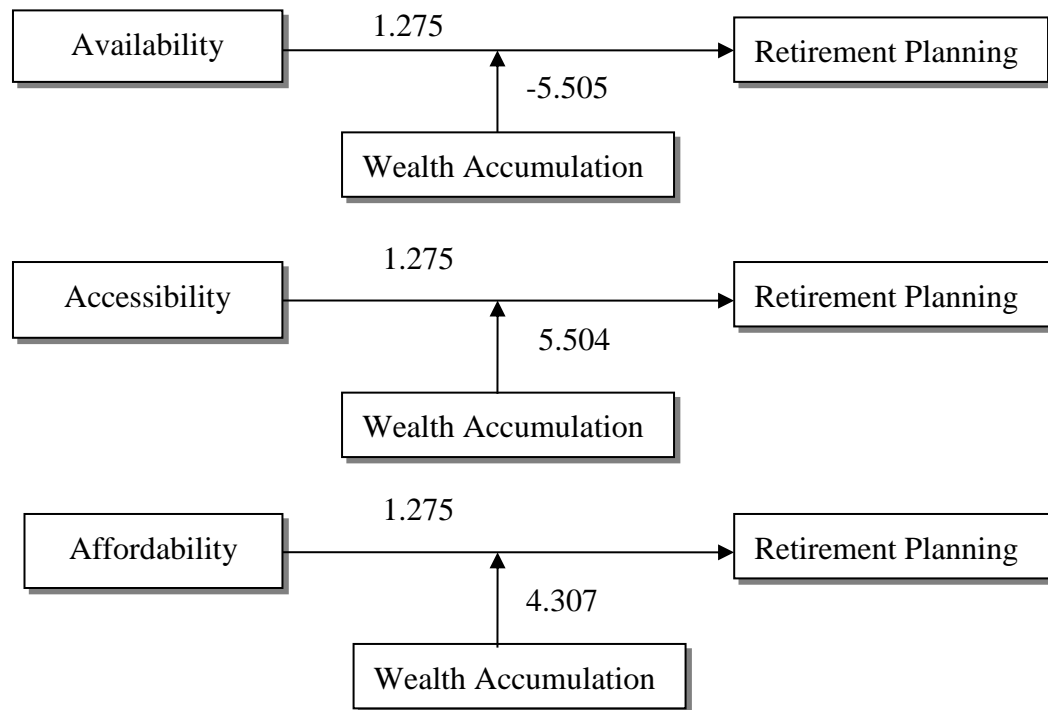
Notes: Dependent variable – Retirement planning; WA – Wealth Accumulation; AV – Availability; AC – Accessibility; AF – Affordability; AW – Awareness; FL – Financial Literacy; Significance at 10, 5 and 1 percent level as indicated by \*, \*\* and \*\*\* respectively.

- wealth accumulation has a positive relationship with retirement planning (standardized coefficient =1.257, p-value=0.000);
- wealth accumulation moderates the relationship between availability and retirement planning (standardized coefficient=-5.505, p-value=0.000);
- wealth accumulation moderates the relationship between accessibility and retirement planning (standardized coefficient=-5.504, p-value=0.002);
- wealth accumulation moderates the relationship between affordability and retirement planning (standardized coefficient=4.307, p-value=0.000);



The summary of the results is given in Figure 2

**Figure 2. The Final Framework (with significant relationship)**



From the model, the financial dimensions have a direct relationship with retirement planning. Our study has emphasized clearly on financial dimension does help in achieving overall retirement planning. Furthermore, how the financial process under the retirement planning can be improved? This question can be answered by analyzing the interaction effects of wealth accumulation and retirement planning. Wealth accumulation with financial dimensions such as availability, accessibility and affordability play a significant role in improving retirement planning.

## 5. Conclusions

The study highlights financial dimensions of availability, accessibility, affordability affect retirement planning. It enables policymakers to implement private retirement planning more effectively in conjunction with EPF and state-sponsored support mechanisms. In addition, wealth accumulation moderates the relationship between financial dimensions of availability, accessibility, affordability and retirement planning. It helps the financial planning industry to design retirement packages to cater for wider range of individuals and develop customized products that suitable for different risk tolerance of clients.

For individuals are urged to devise an effective retirement planning mechanism by careful thought on the element of the availability, accessibility and affordability. Furthermore, an effective financial planning helps to develop a habit that will encourage the higher integrity of financial constructs individual to apply their skills and knowledge.

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