International Journal of Engineering & Technology, 7 (3.28) (2018) 185-188

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

Analysis of Private Sector Retiree's Decision Towards EPF Retirement Benefit of Annuity-based Option

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Abstract

Many countries around the world have experienced an ageing population. As an emerging country, Malaysia also facing the same phenomena of ageing population, which brings the problems towards health issues, economic challenges, and longevity risk. As a result, these affect the financial position of the most retirees in the country. In fact, it has been reported that most of the private retirees in Malaysia had depleted all their retirement savings just within 3 to 5 years' period after receiving the lump-sum payment of retirement benefit from EPF. Thus, inadequacy of retirement wealth among private sector retirees in Malaysia a major problem, as Malaysian life expectancy is projected at 75 years old. By simulating the distribution of retirement wealth through annuity-based option, it can be sustaining up to 15 years' period. Therefore, the alternative retirement benefit option of annuity-based system provided by the EPF should be the best solution for this issue. Hence, this research aims to investigate the standpoint of the EPF members towards monthly withdrawal option likes annuity-based system instead of a lump-sum payment in order to sustain the balance of retirement savings for a certain period of time. Thus, 200 set of questionnaires was distributed among prospect retirees and found that they are willing to opt for annuity-based option instead of the traditional choice of lump-sum benefit payment.

Keywords: *Retirement income adequacy; Pension plan; Annuity payment; Retirement form of benefit; Public acceptance.*

1. Introduction

Nowadays, the phenomenal of ageing population has not only become an issue for developed countries but also affected the emerging countries around the world [1-4]. In this regards, as a developing country Malaysia has no exception to face the problem of an ageing population. It has been reported by Department of Statistics Malaysia [5] that in 2014, 5.6% of the total population is from the age group of 65 years old and above, and it is increased to 5.8% in 2015 and estimated to keep increased for 6.0% in the next year. Furthermore, Malaysian people who at 65 years old are also expected to live for another 14.9 and 16.9 years old for men and women respectively [6].

Consequently, the retired people are exposed towards retirement hazards like health problems with unpredicted high in healthcare costs, economic challenges with fluctuation of interest rates, inflation as well as the appreciation of the taxes and the most importance is longevity risk in which not everyone realized of inadequacy of retirement savings to support the expenditures for their remaining life. In [7] have stressed that people should not only consider their basic needs as for example to get sheltered during retirement, foods, and others becomes their only expenditures to be considered. But, those retirement hazards are the most important to be thought of as people always misjudges their high medical and healthcare costs, presuming longer life, their spouse life and so on. In [8] have found that people in Malaysia were still lack of awareness towards their retirement savings preparedness.

1.1. Research problem

Nevertheless, both people in private sector and public sector workforces have not well prepared for their retirement plan except a few of them have taken serious action by looking for an alternative option for their retirement savings such as Private Retirement Scheme (PRS). The government servants would have no problem as the government has already facilitated them with a defined benefit pension plan in which provides with a guaranteed monthly income stream. While, the great concerned here is towards the private sector workforces with defined contribution of EPF scheme which formed the majority labor force in Malaysia [9].

The issues here are 65% of the 54 years old from total EPF members who are going to retire in the next year have less than RM50,000 in the EPF account, and most of them are believed to opt for a lump-sum payment as retirement benefit, and last their retirement savings in 3 to 5 years' period [10]. Thus, it is depicting that Malaysian private sector retirees have currently facing a serious problem with inadequacy of retirement savings.

As an alternative option, EPF retirees have provides with a few options in term of retirement benefit instead of lump-sum benefit payment. In [11] found that using annuity-based system option, the retirement savings can extend more periods as compared to the

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lump-sum payment. This can be realized through the illustration below using the constructed formula of [11]:

$$AF^n = C\frac{(1+r)^n-1}{r} \quad (1)$$

where AF = Accumulated fund, C = Contribution amount, r = rate of profit and n = number of period.

1.2. Illustration of lower income earners of retirement savings distribution

Therefore, it is good suggestion to have a proper pension scheme that can cater the problem of retirement income inadequacy through the annuity-based system. The important criteria of annuity-based scheme to be considered is the pricing of the scheme, which should be affordable for lower income group as they are the most vulnerable for poverty [12-17]. Thus, the research attempts to simulate the distribution of retirement savings using the available amount of the total accumulated retirement savings in EPF account without having any additional charges to the participants.
As the riskiest income group is lower income, the study brings the illustration on this income group. Currently, the minimum monthly wages in Malaysia is set at RM1,000 in Peninsular Malaysia. Thus, the details EPF profile's member is presented as in Table 1.

Table 1: EPF Profile's Member of Lower Income Earners

No.	Item	Value
1	Monthly income	RM1,000
2	Total of services period	25 to 55 years old (30 years)
3	Contribution to the EPF scheme	11% by employee 13% by employer 24% of total contribution rate per month
4	Expected rate of profit, *r*	5.0%

By using in (1), the total accumulated retirement savings can be calculated:

Total Contribution, C = EPF rate of contribution x annual income
= 24% x (RM1000 x 12)
= 0.24 x RM12,000
= RM2,880

$$AF^{30} = 2{,}880\frac{(1+5.0\%)^{30}-1}{5.0\%}$$
= 191,344

Then, the consumption estimation for lower income earner can be realized using the Table 2.

Table 2: EPF Member Monthly Withdrawal

No.	Age	Withdrawal	Balances
0	55	0	191344
1	56	12000	179344
2	57	12000	167344
3	58	12000	155344
4	59	12000	143344
5	60	12000	131344
6	61	12000	119344
7	62	12000	107344
8	63	12000	95344
9	64	12000	83344
10	65	12000	71344
11	66	12000	59344
12	67	12000	47344
13	68	12000	35344
14	69	12000	23344
15	70	12000	11344
16	71	12000	-656
17	72	12000	-12656
18	73	12000	-24656
19	74	12000	-36656
20	75	12000	-48656

According to Table 2, it is clearly stated that the maximum period the retirement savings can sustain using the monthly withdrawal or annuity-based system up to 15 years' period which give an extension period for another 10 years if the retirees opt for it. Although, the annuity-based system still not reach the age of life expectancy. However, the system definitely far better than the popular choice of lump-sum benefit payment among the retirees.
The most important question is does the prospect retirees in private sector are willing to choose to this option? Therefore, it is intriguing part to investigate the decision of prospect retirees as to whether there are still stick for a lump-sum benefit or annuity-based option given the advantage of the option.

2. Literature Review

The most related theory in this research is Theory of Reasoned Action (TRA), developed by Martin Fishbein and Icek Ajzen in 1967. Under this theory, it attempted to explain the executed action which originated from the individual's motivation. The important element in this theory is behavioral intention in which being determined through the attitude in term of their feeling and how they viewed on particular things. Another construct related to the behavior intention in this theory was subjective norm. This construct related to how people get influenced by relatives, close friends or surrounding themselves that can put a pressure towards behavioral intention. In [18] realized that another vital construct that can determine the behavioral intentions of the people which that perceived behavioral control. This new construct has come into advent by the recognition of Self-Efficacy Theory developed by Bandura in 1977. It presents the unexpected environmental attributes in position of resources, skills and opportunities. This brought towards Theory Planned Behavior (TPB) in 1991 [19].
The last construct of perceived behavior control has closed related and contributed towards the acceptance of the public towards the annuity-based scheme of pension plan model. In this respects, the main features like monthly income stream would determine people to moving from a lump-sum benefit payment which can depict the negative feature in the study.

3. Methodology

The research conducted a survey by distributing around 200 set of questionnaires to the target respondent who are Muslim Bumiputera in Peninsular Malaysia, which become a major population in the states of Kelantan and Terengganu. The questionnaire has 3 construct comprises both independent variable and dependent variable that has been adapted from [20-22], which measured by 10 Likert-Scale. Respondents were chosen among the people who had home financing.
The collected data then analyzed through Statistical-Packages for Social-Science (SPSS) version 22 for the analyses of reliability of the questionnaire by Cronbach's Alpha, normality test of Kolmogrov-Smirnov, Pearson Correlation analysis, and multiple linear regression.

4. Results and Discussion

The analyses results of the research are comprising of reliability test, normality test, correlation analysis, and regression analysis as organized in the following sections.

4.1. Reliability test

The measurement value of this test can be seen at the coefficient value of Cronbach's Alpha in which less than 0.6 is considered as poor fitness and need to be revised, while 0.6 to 0.8 is considered as acceptable to using the set of questionnaire, and above 0.8 is very good indicator [23]. The reliability analysis applies Cronbach's Alpha measurement and the result as showed in Table 3.

Table 3: The Reliability Results of the Study

Constructs	Items	Cronbach's Alpha	Number of Respondents	Fitness
Public Acceptance	5	0.638	200	Moderate
Monthly Income Stream	5	0.831	200	Very good
Lump-sum Benefit	4	0.459	200	Poor

According to the result from Table 3, it has indicated all conditions with two construct of Public Acceptance is at moderate, monthly income stream is very good indicator and the lump-sum benefit is at poor fitness and need to revised. Table 4 represent the modified construct of third construct by removing the selected items to perform another test of reliability.

Table 4: Modified Reliability Result of the Study

Constructs	Items	Cronbach's Alpha	Number of Respondents	Fitness
Public Acceptance	5	0.638	200	Moderate
Received Monthly Income Stream	5	0.831	200	Very good
Lump-sum payment	3	0.842	200	Very good

Accordingly, after removing certain items of the Lump-sum payment construct, it indicated that the coefficient value of the construct increased to be very good fitness. The new reliability test result depicted an acceptable internal consistency, and all of the items in all constructs are reliable and can proceed for further analysis.

4.2. Normality Test

In this test, the Kolmogorov-Smirnov test will be used to check the distribution of the collected data [23]. Table 5 and 6 represent the normality results of the study.

Table 5: Test Result of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Public_Acceptance	.062	200	.055	.982	200	.012
a. Lilliefors Significance Correction						

From the above result, it is clearly indicated that the p-value of the Kolmogorov-Smirnov test is above 0.055 and thus depicts a normal distribution as it is above 0.05. Therefore, the distribution of collected data is failed to violate the normal distribution and it is recommended to perform a parametric analysis technique for further analysis [23].

4.3. Correlation Analysis

The correlation result of the study can be analysed by SPSS as depicted in Table 6.

Table 6: Bivariate Correlation of the Variables

		Public_Acceptance	Monthly_Income_Stream	Lump-sum_Benefit
Public_Acceptance	Pearson Correlation	1	.463**	.501**
	Sig. (2-tailed)		.000	.000
	N	200	200	200
Monthly_Income_Stream	Pearson Correlation	.463**	1	.577**
	Sig. (2-tailed)	.000		.000
	N	200	200	200
Compensation_Benefit	Pearson Correlation	.501**	.577**	1
	Sig. (2-tailed)	.000	.000	
	N	200	200	200
	Sig. (2-tailed)	.000	.000	.000
	N	200	200	200

It is indicated that the construct of Monthly_Income_Stream and Lump_Sum_Benefit have positively and significant correlation with dependent variable of Public-Acceptance.

4.4. Regression Analysis

As for the regression analysis, the study performed multiple linear regression as it is involved a few variables in this analysis. The result can be referred to the Table 7.

Table 7: Result of Multiple Linear Regression

			Estimate	S.E.	C.R.	P
Public_Acceptance	<---	Monthly_Income_Stream	.140	.015	9.616	***
Public_Acceptance	<---	Lump-sum_Benefit	.067	.225	.299	.765

From the multiple linear regression result, only construct Monthly_Income_Steam has significant in this analysis. While, the Lump-sum_Benefit construct has not significant in the regression part of analysis. Therefore, it can be concluded that the response in the survey has shown a positive feedback towards receiving monthly income stream instead of the previous popular choice of lump-sum payment at retirement age.

5. Conclusion

In conclusion, from the simulation result it is clearly states that the annuity-based scheme has a great impact in extending the period term to sustain the retirement savings of EPF retirees as compared to the lump-sum benefit payment. Moreover, this also brings the positive response by the public to change the retirement form of benefit into monthly withdrawal instead of received a lump-sum payment once retire. Therefore, it is recommended to develop a viable pension plan model based on annuity-based system.

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