The Journal of Muamalat and Islamic Finance Research
ISSN: 1823-075X e-ISSN: 2948-5266
Vol. 17, No. 1, June 2020, Pp. 33-55
DOI: https://doi.org/10.33102/jmifr.v17i1.259

UNIVERSITI SAINS ISLAM MALAYSIA
جامعة العلوم الإسلامية الماليزية
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

Article

The Waqf Integrated Financial Instrument of Pension Model in Malaysian Social Security: A Conceptual Proposition

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ABSTRACT - The ageing population trend is a problem for almost all countries in the world. In Malaysia, the issue is exacerbated by insufficient employee savings to face retirement. The majority of Malaysian employees have savings no more other than mandatory savings of the Employees Provident Fund (EPF) account. On the other hand, *waqf* has many roles in the country's economic development as it helps to improve welfare of the community. This paper aims to connect the gap between pension and *waqf* issues through a new proposed Waqf Based Pension Model. This study uses descriptive analysis to propose a Waqf Based Pension Model. This study employs library research approach to collect secondary data from journal articles, books, reports, and websites that contain existing pension schemes and *waqf*. This new model improves weaknesses in the existing pension scheme using annuity-based calculations. This study finds that productive *waqf* assets may be used to generate greater profits. In addition, *waqf* funds are then allocated to build the infrastructure needed by the community such as health services, education, housing, transportation and religious facilities. The new Waqf Based Pension Model is expected to be supported and applied by the government and the community.

ARTICLE HISTORY

Received: 21st November 2019
Revised: 17th April 2020
Accepted: 27th April 2020
Published: 29th May 2020

KEYWORDS

Pension scheme, waqf, ageing population, savings, Employees' Provident Fund

INTRODUCTION

Each country has a social security system that serves to protect the rights of its people. It is as stated in the UN Declaration on Human Rights in 1948 and the ILO Convention no. 102 of 1952 concerning Social Security (Minimum Standards). Social security is one form of social protection organised by the state to guarantee its citizens to meet basic living needs. Such guarantee may be in the form of financial assistance granted to individuals or families with inadequate incomes or even no income at all.

Specifically, the social security covers state protection for minimum standards of income, nutrition, health, housing and education for every citizen (Elveren, 2008). Some examples of social security services include disability insurance, unemployment insurance, medical care, workplace safety and financial support during unemployment, sickness or retirement. In Malaysia, social security is organised by several institutions: Social Security Organization (SOCSO) or Pertubuhan Keselamatan Sosial (PERKESO), Employees Provident Fund (EPF) or Kumpulan Wang Simpanan Pekerja (KWSP) and Retirement Fund (Inc) or Kumpulan Wang Persaraan (Diperbadankan) (KWAP). Malaysia requires contributions to the the schemes for its

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workers (Malaysian citizens and eligible permanent residents) (EPF, 2018b; PERKESO, 2017). The scope of this paper focuses on retirement schemes only.

Beginning of the 21st century, many countries in the world start to face problems related to ageing population, including Malaysia. Malaysia is predicted to be an ageing state by 2020 as it will have 7.2 percent of the population aged 65 and older, and this percentage is expected to rise to 15 percent by 2030. This situation will be challenging to the government in providing pension money and restraining rising health care costs (Ministry of Finance Malaysia, 2017).

Meanwhile, Malaysian government's spending in 2018 was allocated for operating expenditure as much as 84.7 percent of overall spending as compared to the development expenditures (15.3 percent) (Ministry of Finance Malaysia, 2018). It will be difficult for the government to hold new infrastructure development, especially for the ageing population. The needed infrastructures related to the basic needs of retired people include hospitals, housing, educational and transportation facilities. To build a standard hospital, for example, it costs RM 500-600 million (Lasa et al., 2018).

Malaysia's expenditure targeted in 2018 is amounted to RM 280,250 billion. These expenditures are paid out of revenues that are largely sustained by tax revenues (68.4 percent). The rest is derived from non-tax revenues of 17.2 percent and state debts of 14.4 percent. Taxes applied to the Malaysian people are felt to be very burdensome to some even though the tax returns will be returned to the people (Osman, 2018). Therefore, if the government wants to build new infrastructure, it should not rely on state revenues (taxes) but also other incomes.

Although the government has provided social security schemes, such as assistance primarily in the form of pension money, it is still felt to be lacking. According to EPF statistics, the majority of its members (68 percent) aged 54 years have accumulated savings less than RM50,000. While the minimum amount of savings recommended for the age of 55 years is RM196,800 (Poh, 2015). In contrast, the cost of living in Malaysia is getting higher, as a result, relying solely on pension money is not enough (Osman, 2018; Yusoff & Aziz, 2012).

The mechanisms of pension schemes that have been provided by the government are not yet able to meet the needs of the community. A new retirement scheme mechanism is needed to address the issue. Therefore, this paper aims to propose a pension scheme using a *waqf* system. This article is important because it contains the framework of the new pension scheme. The scheme has benefits such as irrevocability, perpetuity and inalienability from the use of *waqf* assets (Ismail et al., 2015). *Waqf* is chosen because it is a valuable asset owned by people who have enormous potentials. *Waqf* funds can be used to build the infrastructure in which the *waqif* can benefit from the endowment assets (As-Sadlan, 1996; Sobri, 2011). The use of *waqf* in the new pension scheme is also able to reduce dependence on government spending. This article also provides options for policymakers to implement new pension funds.

To do so, this study uses qualitative research approach. The library research method was employed to collect all relevant information and data from published documents including journal articles, books, and relevant agencies' reports and websites. Next, this study used descriptive analysis approach to overview existing pension schemes and their weaknesses, and to propose a pension scheme using *waqf*. Lastly, this study run a simulation to indicate the potential of the proposed model.

The paper is structured as follows: the next section is the literature review, followed by findings and discussion of existing pension schemes and the proposed model in collaboration with *waqf*, and lastly the paper concludes with a conclusion.

LITERATURE REVIEW

This section will describe the reviews and research that have been done on social security and *waqf*. From these, the two points are specified into several sections, among others, an ageing population, health care for the elderly population, pension schemes in Malaysia, issues in current pension schemes, and the ability of *waqf* assets to be used for *waqif*.

Ageing Population

Ageing population according to United Nations is a phenomenon that occurs when the median age of the population of a region or country has increased due to increasing life expectancy or reduced levels of fertility. It is a joint success of several aspects, such as decreasing infant mortality rates, improving access to education, increasing job vacancies, increasing gender equality, incessant health production programs, and even more affordable access to health facilities for as many people as possible. All these factors contribute to rising life expectancy (United Nations, 2015).

However, the ageing population does not always bring opportunities; challenges also accompany it. Especially for a group of developing countries that usually have low per capita income. An ageing population brings challenges to various parties (individual, family or state level). Challenges at the individual level is that as an individual gets older, it leads to some health problems and the need to adjust the current lifestyles. At the family level, elderly family members need long-term care that is consistent with the increased financial burden for those who work. In addition, the ageing population has the potential to cause psychological problems associated with coping with ageing family members. At the country level, additional resources such as finance, infrastructure and labour are needed to provide social protection as the group contributes to depreciation (Yew & Cheong, 2013).

According to Heryanah (2015), the population is divided into three major groups based on age structure. First, the young age group is a population under the age of 15 years (0-14 years). Second, a productive age group that is a population aged 15 to 64 years. Third, the elderly group of people aged 65 years and over. United Nations in 2017 released data on the number of world population aged 60 years or more who reached 962 million people. This amount is more than twice the number in 1980 (382 million). The number of older people is expected to double by 2050. It is projected to reach nearly 2.1 billion people. The ageing population is spread over more than two-thirds of the developing world. Their numbers grow faster than in the developed regions. By 2050, it is expected that almost 8 out of 10 older people in the world will live in developing regions (United Nations, 2017).

According to the United Nations, based on 67 countries data, there is a tendency for the elderly to live independently in 2010 by 37 percent as compared to 24 percent in the 1990s.. While ageing people who live with their children become less common as it decreases to 53 percent in 2010 as compared to 65 percent in 1990 (United Nations, 2017). This statistic is supported by research from Yew and Cheong (2013) which examines the trend of an ageing population in some ASEAN countries. Most of the older Malaysians still live with their adult children and receive financial assistance from them. It is due to the inadequacy of pension funds collected to finance longer retirement periods as the life expectancy increases. In Thailand, about 40 percent of the population over 65 is still working, while only 4 percent of these people have retirement funds. Approximately 45 percent of elderly people aged 65 years and older are taken care of by girls or daughter-in-laws, while the other 38 percent take care of themselves.

Healthcare for Elderly Population

Health care problem is consistent with the increasing age of the elderly. The older a person's age, the higher is his potential for exposure to various diseases. This problem can be even worse if the elderly comes from the lower middle class. If they have a chronic disease, their care would cost up to tens of thousands of ringgit for treatment alone (Lutfi & Ismail, 2016). According to

Holzmann (2013), the government and society, in general, need to consider and seek a "welfare maximising approach". It is an approach that seeks to reduce premature death by focusing on the prevention and combat of infectious and non-infectious diseases. This approach is reported as a much cheaper approach. Cheah (2017) also states a similar point. One form of prevention that must be done is to perform diagnostic tests to determine the early detection of disease. It is reinforced by Awang et al. (2018) which states that many people have fear of health problems, especially for elderly people. People will at least have higher confidence in their level of health if from the young have adopted a healthy lifestyle (Tsou, 2018).

Generally, ageing people need health care in two types: medical care and long-term care. Medical care services (MC) include hospitalisation, treatment, medical care, surgery, rehabilitation and visiting nursing services. Long-term care services (LTC) include home-based care and community-based care. If an older adult needs acute medical care, he or she will receive medical treatment and be hospitalised. Once allowed home, the person can use home care services and receive rehabilitation services to maintain the ability of his physical activity. It is as exemplified in Japan which has the most elderly population in the world (Akiyama et al., 2018).

Several things affect an elderly in utilising health services. These factors include gender, age, education level, living arrangement, disease severity, the convenience of a health facility, and health awareness (Tsou, 2018; Wang et al., 2018). Women are more likely to use health services than men. Different age groups have differences in choosing health care services. Higher educated people are more likely to use health services than people with lower education. Elderly people living with families are more likely to use health care services than those who live alone. Elderly who have greater health problems tend to use health facilities. Convenient health facilities will make the elderly tend to utilise health services. Low health awareness will make the elderly tend to ignore his health conditions.

Pension Scheme in Malaysia

Pension funds have different goals to follow according to the perspective of each party (Wahab, 2005). For employers, pension funds have several objectives, among others, giving rewards to employees who have long served them, providing guarantees on employee retirement, improving employee performance and motivation and improving the employer's image in the eyes of the community. For the employees, the pension fund has the purpose of providing certainty in the form of earning income upon entering retirement as well as to provide a sense of security and improve motivation to work. For the management institution, pension funds have a goal to benefit from the investment of pension funds and to help organise programs from the government.

The pension system in Malaysia consists of at least two types: pension schemes exclusively for civil servants provided by KWAP and pension scheme for other workers provided by EPF. According to Holzmann (2015), most of the Malaysian workforce of 52 percent has been protected by EPF, while government pension schemes cover 6.2 percent of the workforce. The remaining 42 percent of Malaysian workforce are not covered by any pension scheme. The government pension scheme is administered by the Post-Service Division, Public Service Department, Malaysia (JPA) which now shifts to KWAP under the Retirement Fund Act 2007 (Act 662). EPF is administered under the Employees Provident Fund Act 1991 (Act 452). Both schemes can be referred as employment-based pension systems.

Foziah et al. (2017a) have reviewed the existing pension schemes in Malaysia on sustainability and the types of benefits provided by the schemes. In addition to the employment-based pension scheme system, there are other schemes, namely Private Retirement Scheme (PRS) and Deferred Annuity Scheme (DAS). PRS is a pension scheme organised by eight financial institutions[1] in Malaysia under the supervision of the Securities Commission of Malaysia. The purpose of the PRS is to provide alternative retirement savings tools for

[1] Refer Table 5

employees especially for those working in the informal sector to increase their accumulated retirement savings. On the other hand, DAS is a contract offered by insurance and takaful operators to provide income streams in exchange for lump-sum payments.

Issues in Current Pension Scheme

Although the government has provided various retirement schemes, according to Foziah et al. (2017a), these schemes are not yet practical to solve the problem of the adequacy of pension income and individual pension scope. Malaysia's life expectancy in 2015 for men and women reaches the age of 75, so they suggest that retirement savings should be better prepared for more than 20 years. The study also suggests the EPF to reform to a fully-fledged pension fund like mainstream retirement scheme in Malaysia and at least offers some minimum annuities. Hence pension payments received by lump-sums are not immediately exhausted in the first three or five years because they can not manage the money.

In another study, Foziah et al. (2017b) supported the study by giving examples of mathematical applications based on an annuity approach to retirement income benefits received by retirees. They demonstrate the results of 30 years of retirement payments assuming a 21 percent contribution from employee salaries, expected EPF returns of 5 percent per annum and a 20 year retirement period. Simulations are made in two categories: low income RM1,000 a month and medium income RM5,000 a month. By maintaining the same lifestyle, the cash flow received at retirement must equal the salary received before retirement. Hence by comparing the results of the 30-year retirement instalment, it was found that the saving money of an annuity received pension income exceeded salary before retirement.

However, there is still a weakness in Foziah et al. (2017b) research because it does not consider pension risks such as health care costs, longer life expectancy assumptions, misjudging how long a couple's life, demographic changes and other consequences to retire. Moreover, according to Folk et al. (2012) most elderly people aged 60 years and over, on average spend much for their health care as much as six times a year for treatment.

Waqf

Waqf is one of the most important public financial instruments in Islam that has the potential as a medium of wealth distribution to address socio-economic problems of society (Ab Malik et al., 2015). The term *waqf* is derived from Arabic *waqf* which means stop, prevent and hold. The word *waqf* has a synonym in Arabic *al-habs* (Rahman, 2009). In term, the word *waqf* has a meaning to hold something of someone's treasure to be exploited by another party. *Waqf* is not intended except for good to draw closer to God. *Waqf* property must be good and eternal goods (not easily damaged). *Waqf* has three main principles: *waqf* properties should not be sold, should not be given (donated) to others and should not be inherited (Rahman, 2009).

Waqf property should have long-lasting properties instead of disposable property. Nevertheless, in practice, it is permissible to provide *waqf* in the form of cash which will be used to buy useful goods. This type of *waqf* is called cash *waqf*. The cash *waqf* has several limitations such as irrevocability, perpetuity and inalienability (Mohsin, 2013). Irrevocability means the founder can not revoke after creating a cash *waqf*. However, he is allowed to benefit from the profits generated. Perpetuity has a meaning of immortality. Cash *waqf* can be used to finance the needs of the community. This fund is derived from the revenue generated by cash *waqf* as a sustainable and continuous support assurance. Inalienability means that anyone should not own *waqf* property, but it will be a "frozen asset" (Mohsin, 2013).

Waqf has a great role in the history of the great Islamic civilisation. *Waqf* for charity, education, religious service and social welfare of Muslim communities have been the solution to the limited involvement of Islamic countries in providing social services. This type of *Waqf* has long been practiced by the descendants of Late Mamluk who act as high social strata in society instead of as rulers, governors or senior officials (Layish, 2008). Long before that, the Umayyad

Caliphs had used *waqf* to finance the education sector including the construction of libraries and schools, teacher financing as well as sponsorship of scholars and students. They even founded Diwan al-Abbas as a place to manage *waqf* to avoid abuse (Ambrose et al., 2016). Another time, the Caliph Al-Ma'amun of the Abbasid Caliphate had used the *waqf* for the provision of health and education services. Hospital operating costs are derived from investment funds in the form of agricultural land, business and rental housing (Kahf, 2014). Sultan Salahuddin of the Ayyubid dynasty also practised the same thing (Frenkel, 1999). This *waqf* type is called *waqf khayri* which is *waqf* for virtue.

Another type of *waqf* is *waqf dzurry*. *Waqf dzurry* or *waqf ahli* is a *waqf* devoted to certain people, one or more, whether there are family ties with *waqif* or not. *Waqf* is not valid unless it is addressed to a particular person and for kindness. Certain people, in this case, are well-known people such as children, grandchildren, close and distant relatives. While the purpose of kindness such as building mosques, schools, bridges, hospitals, and others (As-Sadlan, 1996). If anyone donates a piece of land to his son, then to his grandson, his *waqf* is legitimate and whose right to benefit is those appointed in the *waqf* statement. *Waqf dzurry* is very good because *waqif* will get two advantages, those are the goodness of his charity worship *waqf* and his friendship with the closest relatives (Sobri, 2011).

RESULTS

Current Practice of Pension Scheme

Pension schemes in Malaysia are divided into two types, namely public pension schemes and private pension schemes. The public pension scheme is the main pension scheme managed by the Malaysian government. There are two institutions namely the Employees Provident Fund (EPF) and Kumpulan Wang Persaraan (Diperbadankan) (KWAP) which provide public pension scheme. Meanwhile, the private pension scheme is administered by a commercial pension institution that is given permission by the government. Until 2018, there are eight institutions that have been given permission to manage private retirement schemes for workers in Malaysia.

Employees Provident Fund (EPF)

The Employees Provident Fund (EPF) is a federal statutory body under the Ministry of Finance Malaysia. The EPF was established under the Malaysian Law, Employees Provident Fund Act 1991 (Act 452). As of December 2017, EPF has 13.79 million members consisting of Private and Non-Pensionable Public Sector employees. Of these, the total members who are still active and contribute to the fund are 7.11 million workers and 494,945 employers (EPF, 2018a). Malaysian citizens employed in the private sector are mandatory to become EPF members, but non-Malaysian citizens are not obliged (voluntary).

Each EPF member must pay contributions every month. The EPF will manage the contribution funds and invest the money so that they can generate benefits for EPF and the members as well. The amount of contribution that must be submitted to the EPF depends on how much the worker's salary. However, EPF has set that the percentage of 11 percent is paid from the salaries of workers and 13 percent is paid by the employers (if the worker's salary is RM5,000 and below) or 12 percent (if the worker's salary is above RM5,000). Workers must pay this contribution up to the age of 55 years. To simplify management, EPF divides the contribution funds from its members into two saving accounts namely Account I and Account II. Account I contains 70 percent of member's saving funds, while the remaining 30 percent is included in Account II. Withdrawals in Account I are limited to some reasons, including if the member reaches the age of 55, is unable to work, leaves Malaysia or dies. Whereas Account II is more flexible because withdrawals from it are permitted by reason of completion of loans for members' first homes, education costs and medical expenses, investments, and when members reach 50 years old. The EPF retirement scheme is illustrated in Figure 1.

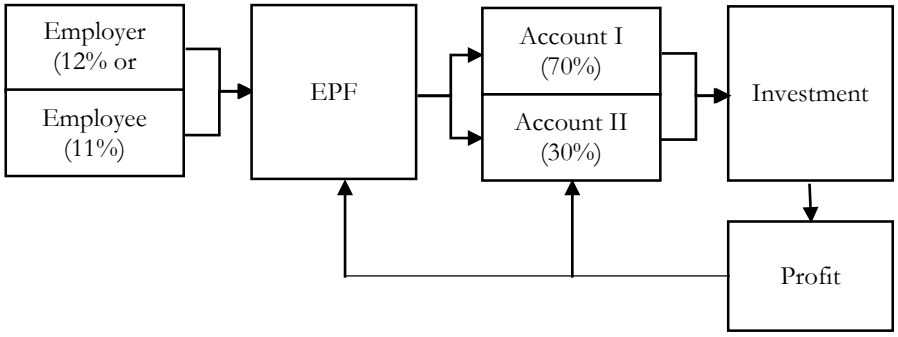
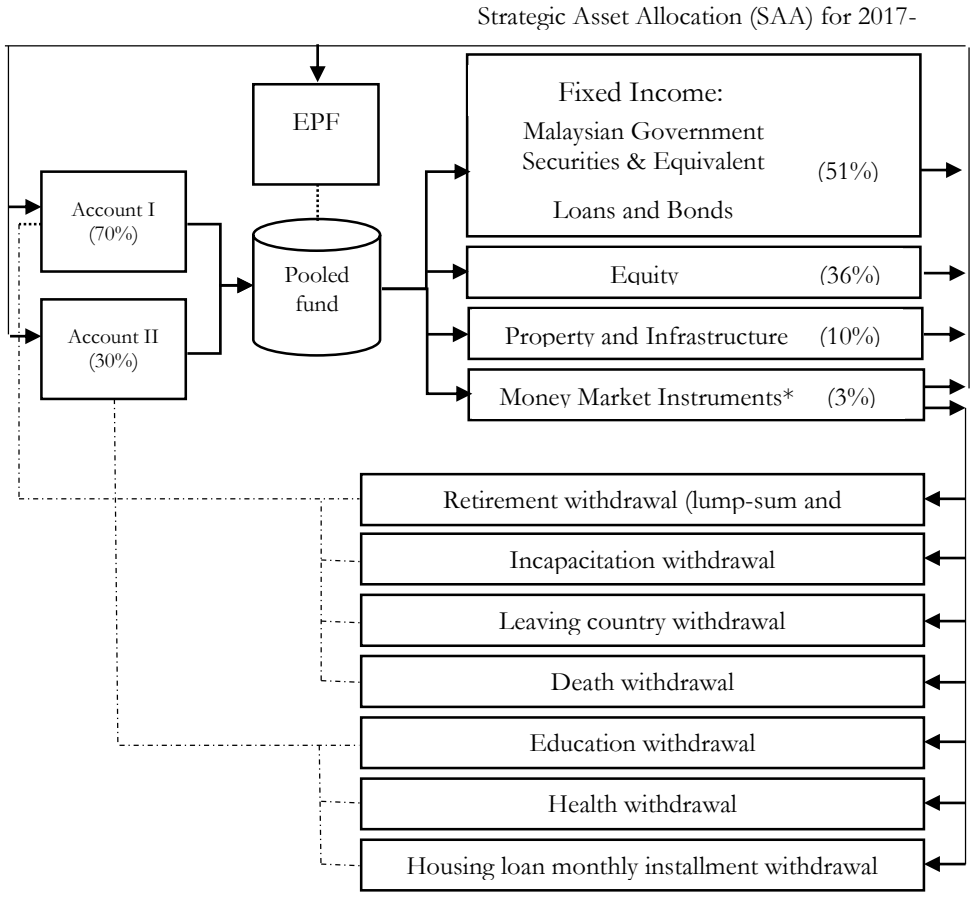


Figure 1: EPF Pension Scheme

Contributions paid by members will be invested in several recommended financial instruments. EPF expects its investment returns to be at 2.5 percent per annum. Therefore, EPF invests these funds in Malaysian Government Securities, Money Market Instruments, Equities and Property as well as Loans and Bonds. Nevertheless, in 2017 EPF dividend rate reached 6.9 percent for conventional deposits and 6.4 percent for Shariah deposits. The use of pension funds from all EPF members is shown in Figure 2.



Note: *The EPF should maintain a healthy cash balance to meet members' spending requirements, administrative expenses and investment utilisation.

Source: (EPF, 2018a)

Figure 2: The Use of All Pension Funds in EPF

In determining the proportion of the investment portfolio, the EPF is guided by Strategic Asset Allocation (SAA) that they have set. The EPF has updated the percentage of SAA for 2017 to 2019 as shown above (Figure 2).

However, as a record, EPF has invested funds collected according to SAA that have been set in previous years as shown in Table 1.

Table 1: Proportion of EPF's Investment Portfolios in Last Five Years (in Million Ringgit)

Account	2013	2014	2015	2016	2017
Total members' funds*	593,450.87	640,207.42	688,294.55	737,048.39	810,399.34
Dividend Credited to Account Members	31,200.17	36,656.46	38,243.40	37,076.32	48,130.15
Value of investment assets	589,870.00	636,530.00	684,530.00	731,110.00	791,480.00
Strategic Asset Allocation (SAA):					
Fixed Income Instrument:					
Malaysian Government Securities & Equivalent Bonds	156,050.00	164,160.00	178,110.00	181,300.00	208,940.00
Loans and Bonds	154,760.00	159,900.00	171,700.00	173,850.00	182,940.00
Equity**	251,600.00	269,630.00	299,760.00	309,480.00	334,230.00
Property and Infrastructure	14,390.00	19,180.00	22,010.00	29,460.00	32,170.00
Money Market Instruments	13,080.00	23,670.00	12,940.00	37,020.00	33,200.00

Note:
*Consisting of the Contribution Account, the Available-For-Sale Financial Asset Reserve (from 2010 onwards) and Cumulative Income.
**Private and listed equities in domestic and global markets

The difference between total member funds and the value of investment assets is caused by the balance stored in the bank and available cash. In addition, EPF uses funds in money market instruments for the purpose of member withdrawals and costs incurred. Withdrawals relating to EPF members will also affect the balance in the member account according to their respective uses as shown in Figure 2.

As one of the institutions that protect social security, EPF is always required to be ready to meet the needs of its members. EPF has created schemes that allow withdrawal requests submitted to them. The entire fund that has been issued by the EPF for the needs of its members is shown in Table 2.

Table 2: Retirement Withdrawal Related to Social Security (in Million Ringgit)

Types of withdrawal	2013	2014	2015	2016	2017
Retirement withdrawal (lump-sum and periodically)	19,906.52	20,557.14	28,207.69	29,308.42	29,089.06
Incapacitation withdrawal	280.06	275.35	331.06	360.19	384.86
Leaving country withdrawal	241.30	303.59	377.36	445.24	427.41
Death withdrawal	894.21	1,089.05	1,233.88	1,386.62	1,520.98
Education withdrawal	338.14	372.94	578.18	1,459.20	1,695.21
Health withdrawal	43.13	46.06	51.77	57.00	58.18
Housing loan monthly installment withdrawal	4,680.59	4,831.04	5,696.67	5,625.94	5,636.42

Source: EPF (2018a)

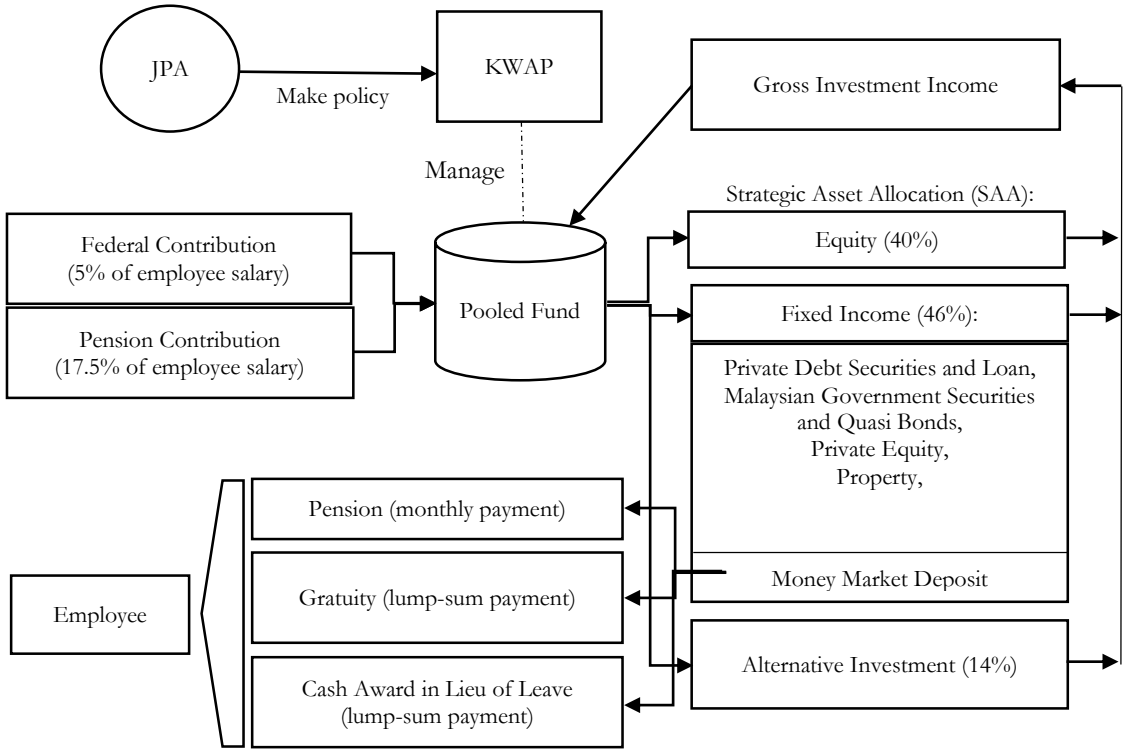
From the data, the greatest need is pension money itself, then followed by housing. The intended residence is the first house to be occupied by members, however not all EPF members have houses due to high housing prices. The third important necessity is the asset left for heirs by EPF members who are deceased. The fourth important need is to finance education. It is not only intended for EPF members but his heirs. Education is an important need because it is one of the ways to improve individual living standards.

Kumpulan Wang Persaraan (Diperbadankan) (KWAP)

The civil servant pension scheme in Malaysia is carried out by KWAP. KWAP is an authority under the Ministry of Finance, that began operating effectively on March 1, 2007, under the Retirement Fund Act 2007 (Act 662) which replaced the Pensions Trust Fund Act in 1991 (Act 454) which was revoked. Those who are members of KWAP are pensionable employees from Statutory Bodies, Local Authorities and Agencies that have been registered with KWAP. Through this Act, all duties and responsibilities for managing pension money from the organisation Kumpulan Wang Amanah Pencen are switched to the Kumpulan Wang Persaraan (Diperbadankan) (KWAP). In addition, the duties and responsibilities of other government institutions that also deal with pension funds such as the Public Service Department (JPA), the Malaysia Treasury and the Accountant-General's Department were taken over by KWAP starting March 1, 2007. However, the JPA is still kept standing. The difference is that JPA deals with policy issues, while the implementation is done by KWAP.

Until March 2018, the number of active members of KWAP who still contribute is 195,191 workers. There are 513 contributing employers, consisting of 198 statutory bodies, 150 local authorities and 165 agencies (data as of December 2016). Pensionable employees from all statutory bodies, local authorities and agencies must contribute to KWAP, but it is not mandatory because they are allowed to choose and join EPF.

The KWAP pension scheme is different from EPF. KWAP uses a conventional scheme that is by giving a monthly pension in addition to gratuity money and other benefits. Monthly pensions are given to retirees until he dies or if he dies early, the pension can be transferred to his wife or to the children until they are 21 years old. The interesting thing is that there are no instalments charged to workers but rely solely on fixed contributions from employers which amount to 5 percent of the federal government and 17.5 percent of statutory bodies, local authorities and agencies. The contribution money collected in KWAP will be invested in accordance with the Strategic Asset Allocation set by KWAP. The scheme can be visualised in Figure 3.



Source: KWAP (2017)

Figure 3: KWAP Pension Scheme

As with other pension management service providers, KWAP invests pension instalment funds collected in accordance with the SAA that has been made. One of the success rates is shown in the composition of additional assets collected. Gross investment income contributes the majority of the growth in KWAP fund size with a composition of more than 50 percent. However, investment income or dividends are not shared with KWAP members. A summary of KWAP's investment portfolio over the past five years is presented in Table 3.

Table 3: The Proportion of KWAP's Investment Portfolios in Last Five Years (in Million Ringgit; at cost)

Account	2012	2013	2014	2015	2016
Fund Size at Cost:	88,730	99,920	109,430	116,700	125,000
Gross Investment Income	5,750	6,660	6,470	6,430	6,360
Pension Contribution	2,670	2,700	2,870	2,780	2,950
Federal Contribution	1,500	1,500	1,500	500	400
Domestic:					
Equity	27,370	29,000	35,850	39,060	45,730
Private Debt Securities and Loan	25,720	28,630	28,780	31,400	29,110
Malaysian Government Securities and Quasi Bonds	22,010	25,550	29,490	29,430	32,860
Money Market Deposits	7,800	7,160	5,010	5,910	6,700
Private Equity	430	440	520	120	110
Property	0	0	0	1,210	1,810
International:					
Equity	1,890	2,960	4,160	5,400	6,870
Fixed Income	1,540	1,660	2,470	2,510	2,560
Private Equity	240	370	670	1,140	1,640
Property	2,000	4,070	3,710	3,920	2,560

The 2017 data cannot be displayed because there is no publication of the KWAP annual report in 2017 until this article is published.

JPA determines retirement policies for government employees. Three basic pensions can be accepted by retired government employees. The first benefit that can be obtained is a pension service that is paid monthly until the retiree dies. The gain can be as much as 1/600 multiplied by the length of time of devotion that can be calculated, multiplied by the last monthly salary received. It should not exceed three fifths (3/5) of the final salary. The second advantage is the gratuity paid in lump-sum. The amount is 7.5 percent multiplied by the length of time of devotion that can be calculated, multiplied by the last monthly salary received. The third benefit is Cash Award In Lieu of Leave which is paid in lump-sum. The amount is 1/30 multiplied by the basic salary plus fixed remuneration then multiplied by the amount of rest paid up to 150 days.

Private Retirement Scheme (PRS)

A Private Retirement Scheme (PRS) is the third type of pension scheme in Malaysia where membership is additional or voluntary. PRS was introduced in 2012 with the aim of being a solution to the insufficient retirement savings along with the increase of life expectancy and living standards of the Malaysian population. The PRS operating license is under the Capital Markets and Services Act 2007 (Act 671) and is regulated and supervised by the Securities Commission Malaysia (SC). In addition, there are several parties related to PRS including PRS Providers, Scheme Trustees, Private Pension Administrator (PPA), and PRS Distributors and Consultants. These institutions have their respective roles and are interconnected as shown in Figure 4. The implementation of the PRS itself is managed by eight PRS Providers who have been permitted by SC. PPA acts as the administrative and development centre of the PRS industry. Scheme Trustees have a role in ensuring the compliance of PRS Officers and Delegates and the accuracy of all transactions to avoid unnecessary risks and costs to PRS funds. PRS

Distributors and Consultants are parties who are licensed to represent the PRS provider and provide consultation to PRS members.

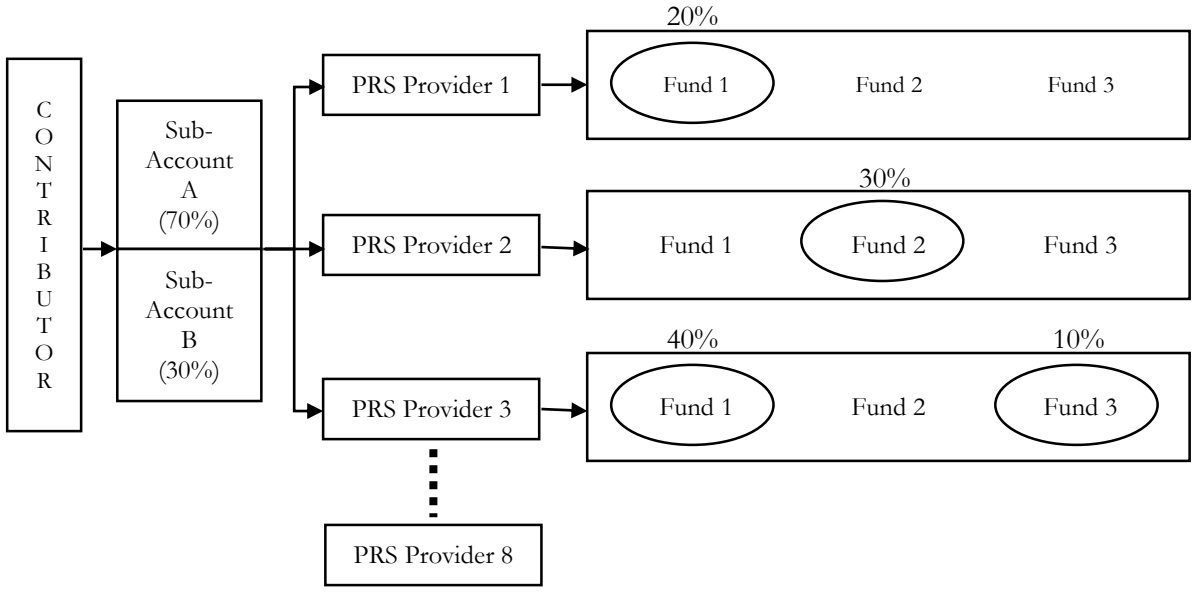
Participation of PRS is voluntary or no coercion. It means there are no specific rules that PRS contributors have to pay in instalments every month with a certain amount. PRS Contributor, both from the workers and employers, is free to choose which PRS providers that they want to place their funds and in what amount. It is because PRS providers manage their funds with the principle of investment. The PRS Contributor is allowed to place funds in one or more PRS providers as well as one or more types of fund products from each PRS provider. Fund placement in PRS providers is not absolute. The contributor is allowed to move it to another provider if he wants but is subject to the terms and conditions.

The contributor funds will be invested in several options, namely default options age-based fund and self-selected fund option. The first option is an option if the contributor submits the full choice to PRS providers. This option will place the contributor funds in several portfolios based on the age of the contributor. The closer to retirement age, the percentage of the portfolio will involve more conservative assets than risky assets. The second option can be chosen if the contributor has his own plans related to the investment of the fund. The choices included are whether the contributor wants to place funds based on conventional or Shariah laws. The default options age-based fund is illustrated in Table 4 while the example of self-selected fund option is illustrated in Figure 5.

Table 4: Default Options Age-Based Fund Scheme of PRS

Core Funds	Age	Asset Allocation
Growth Fund	Below 40 Years	Maximum 70% in equity; 30% in debentures/fixed income and money market instruments Investment outside Malaysia is permitted
Moderate Fund	40-50 Years	Maximum of 60% in equity; 40% in debentures/fixed income and money market instruments Investment outside Malaysia is permitted
Conservative Fund	50 Years and above	80% in debentures/fixed income instruments of which a minimum of 20% must be in money market instruments and a maximum of 20% in equity Investment outside Malaysia is not permitted

Source: PPA (2018b)



Source: Securities Commission Malaysia (2014)

Figure 5: Example of the self selected fund option scheme of PRS

PRS follows the EPF style by separating contributor funds into two sub-accounts namely sub-accounts A and B. Sub-account A contains 70 percent of the contributor funds while the remaining 30 percent is placed in sub-account B. Sub-account A cannot be withdrawn except with the contributor terms already reaches retirement age (55 years), or the contributor passes away, or leaves Malaysia forever. While the sub-account B may be taken at will, but the contributor has a chance to withdraw only once a year and will be subject to an 8 percent tax penalty.

Since PRS was introduced from 2012 to 2018, SC has issued licenses to eight PRS providers with a total of 56 fund products. By the end of 2017, the total members who had joined PRS were 301,279 people with total assets of RM 2.23 billion. Although each PRS provider has a different product but overall each has the same characteristics. Each PRS provider has a default option age-based fund which consists of a growth fund, moderate fund and conservative fund, as well as conventional and sharia funds. All fund products from all PRS providers are summarised in Table 5.

Table 5: List of schemes and funds of PRS

PRS Provider	Name of Scheme	Name of Funds	Effective Date
Affin Hwang Asset Management Berhad	Affin Hwang Private Retirement Scheme	• Affin Hwang PRS Conservative Fund • Affin Hwang PRS Moderate Fund • Affin Hwang PRS Growth Fund • Affin Hwang Aiiman PRS Shariah Growth Fund	31-Oct-12
		• Affin Hwang Aiiman PRS Shariah Moderate Fund	01-Jul-15
AIA Pension and Asset Management Sdn Bhd	AIA Private Retirement Scheme	• AIA PAM – Conservative Fund • AIA PAM – Moderate Fund • AIA PAM – Growth Fund • AIA PAM – Islamic Moderate Fund	16-May-13
AmFunds Management Berhad	AmPRS	• AmPRS-Conservative Fund • AmPRS-Moderate Fund • AmPRS-Growth Fund	02-Apr-13
		• AmPRS-Dynamic Sukuk • AmPRS-Tactical Bond • AmPRS-Islamic Fixed Income Bond • AmPRS-Islamic Balanced Fund • AmPRS-Islamic Equity Fund	25-Nov-13
		• AmPRS-Asia Pacific REITs	19-Nov-14
		• AmPRS Dynamic Allocator	07-Oct-16
CIMB-Principal Asset Management Bhd	CIMB-Principal PRS Plus	• CIMB-Principal PRS Plus Conservative • CIMB-Principal PRS Plus Moderate • CIMB-Principal PRS Plus Growth • CIMB-Principal PRS Plus Equity • CIMB-Principal PRS Plus Asia Pacific Ex Japan Equity	12-Nov-12
	CIMB Islamic PRS Plus	• CIMB Islamic PRS Plus Conservative • CIMB Islamic PRS Plus Moderate • CIMB Islamic PRS Plus Growth • CIMB Islamic PRS Plus Equity • CIMB Islamic PRS Plus Asia Pacific Ex. Japan Equity	12-Nov-12
Kenanga Investors Berhad	OnePRS	• Kenanga OnePRS Conservative Fund • Kenanga OnePRS Moderate Fund • Kenanga OnePRS Growth Fund	20-Nov-13
		• Kenanga OnePRS Shariah Equity Fund	28-Oct-14
	Shariah OnePRS	• Kenanga Shariah OnePRS Conservative Fund • Kenanga Shariah OnePRS Moderate Fund • Kenanga Shariah OnePRS Growth Fundth Fund	18-Aug-16
Manulife Asset Management Services Bhd	Manulife PRS NESTEGG Series	• Manulife PRS-Conservative Fund • Manulife PRS-Moderate Fund • Manulife PRS-Growth Fund	19-Nov-12
	Manulife Shariah PRS NESTEGG Series	• Manulife Shariah PRS-Conservative Fund • Manulife Shariah PRS-Moderate Fund	24-Jul-13

		• Manulife Shariah PRS-Growth Fund	
Public Mutual	Public Mutual Private Retirement Scheme-Conventional Series	• Public Mutual PRS Conservative Fund • Public Mutual PRS Moderate Fund • Public Mutual PRS Growth Fund	26-Nov-12
		• Public Mutual PRS Equity Fund • Public Mutual PRS Strategic Equity Fund	03-Sep-15
	Public Mutual Private Retirement Scheme-Shariah-based Series	• Public Mutual PRS Islamic Conservative Fund • Public Mutual PRS Islamic Moderate Fund • Public Mutual PRS Islamic Growth Fund	26-Nov-12
		• Public Mutual PRS Islamic Strategic Equity Fund	06-Nov-15
RHB Asset Management Sdn Bhd	RHB Retirement Series	• RHB Retirement Series – Growth Fund • RHB Retirement Series – Moderate Fund • RHB Retirement Series – Conservative Fund	18-Dec-12
		• RHB Retirement Series – Islamic Equity Fund • RHB Retirement Series – Islamic Balanced Fund	01-Sep-16

Weaknesses of the Current Pension Scheme

The first weakness of the pension scheme in Malaysia, EPF, KWAP and PRS, is the funds are not enough to pay for a daily living after retirement. It is commonly experienced by pensioners in Malaysia so they have to burden their families who are still actively working. A high consumptive lifestyle accelerates the decrease of retirement savings in a short time. Especially for EPF and PRS members, even though they can withdraw their savings regularly but there is no guarantee they will get pension money on a monthly basis like KWAP. Furthermore, not all workers can join the KWAP pension scheme because it is limited to civil servants who meet the requirements, even though the ratio of active members who still contribute to KWAP compared to EPF is large, 195,191:7.11 million or 1:36.

The second weakness is that pension deposit money obtained by pensioners is spent in a relatively short period of time. The EPF has set a basic saving for its members, which is RM228,000, effective starting January 1, 2017. This amount must be available in Account I when the EPF member reaches the age of 55 years. It means EPF members will get RM950 per month for their 20 years of retirement to fund their daily basic lives. This amount is still not enough to maintain similar lifestyle during work. Moreover, the amount does not consider unexpected costs such as health care costs. In fact, the average savings of EPF members who are aged 51-55 years based on the EPF's annual report in 2017 is still RM185,802. This amount is still far from the basic saving target set by the EPF.

The third weakness is the large gratuity money earned by KWAP members is generally used for consumptive expenses such as buying a house. Although gratuity is the right of retirees, it would be wiser if the money could be reinvested or used for entrepreneurship in order to get additional income other than monthly retirement money.

The fourth weakness is that to be able to join KWAP, civil servants need a long period of service until retirement. In addition, they must fulfil other conditions such as not committing violations or criminal acts. Fatal errors such as stopping work before retirement, imposed disciplinary punishment, dismissal or expulsion from work before retirement and being punished for committing criminal acts, can cause workers to not get retired rights. This does not apply if civil servants choose to continue to join the EPF.

***Waqf* Model**

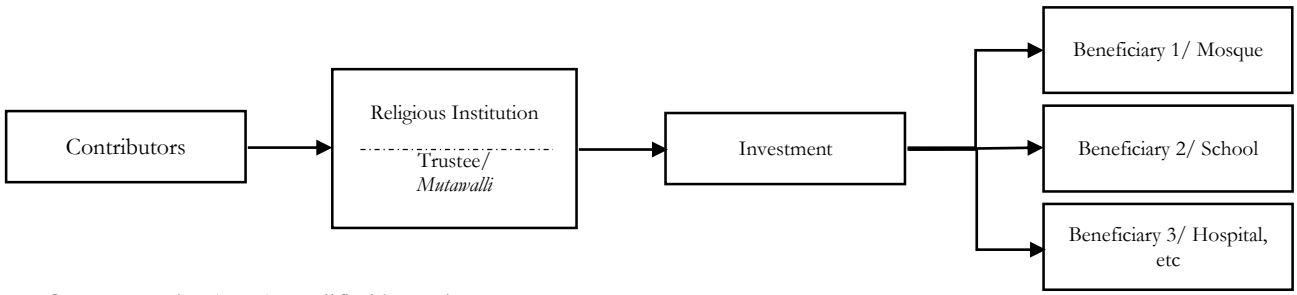
Waqf has long been recognised as instruments that play a role in human development, especially in the Islamic world. One of the eternal endowments of *waqf* can be seen in the world until now. *Waqf* institutions and the Malaysian government have jointly played a role in the country's economic development. The responsibility of providing education, health and reducing poverty which is the responsibility of the government is borne by the *waqf* institution (Rahman, 2009). From here, there is an opportunity to link the gap between the role of *waqf* and the problem of

insufficient retirement savings, especially pensioners in Malaysia. This section will propose and explain the Waqf Based Pension Model in more detail.

Waqf Models that Have Been Formed

Basically, *waqf* is given in the form of items that are eternal or that have a long service life. Waqf that has been carried out by the previous Muslims are usually given in the form of infrastructure. For example, *waqf* of places of worship, schools or education buildings, hospitals, housing, roads, bridges, agricultural sector, until infrastructures that are purely commercial, such as *waqf* for shopping facilities, hotels, and buildings that can be rented out. However, *waqf* can also be given through cash that will be used to make or buy infrastructure. Cash *waqf* is used as a solution so that all Muslims have the opportunity to participate in giving *waqf* even in small amounts (Ambrose et al., 2016).

One of the cash *waqf* schemes that are relevant to the pension scheme is the Compulsory Cash Waqf Scheme. The Singaporean government has exemplified this scheme by requiring Muslim employees to donate a portion of their salary every month. Their salary is directly deducted by the employer for $1-7 and then channelled through the Central Provident Fund (CPF). From the collected waqf funds, the Trustee uses it for investment. The investment is divided into two, namely investment in the real sector such as building a hospital and investing in the financial sector. Then, the profit from the investment is distributed to the designated beneficiaries. The mandatory cash waqf is capable of building 22 mosques with an accumulation of funds of $130 million (Karim, 2007). This cash waqf scheme is illustrated in Figure 6.



Source: Karim (2007) modified by author

Figure 6: Compulsory Cash Waqf Scheme

The New Waqf Based Pension Model

This new *waqf* model based on *waqf* is intended to be a solution to the insufficiency of pension funds while utilising *waqf* assets for the country's economic development. To begin with, it can be applied to private workers who have not joined any pension scheme. Employees and employers will pay contributions to the *waqf* fund managers (Trustee Waqf). The trustee will manage the pool fund by investing in infrastructure development. The profit generated from the investment will be partially distributed to the employees. It means that employees at the same time become beneficiaries of *waqf*. The employees as *waqif* can take advantage of *waqf* assets, and this is permissible in Islam as conveyed by As-Sadlan (1996) and Sobri (2011).

Furthermore, this *waqf* model was also inspired by the cash *waqf* financial institution scheme (CWFI) from Mohsin's article (2013). This Waqf Based Pension Model is illustrated in Figure 7.

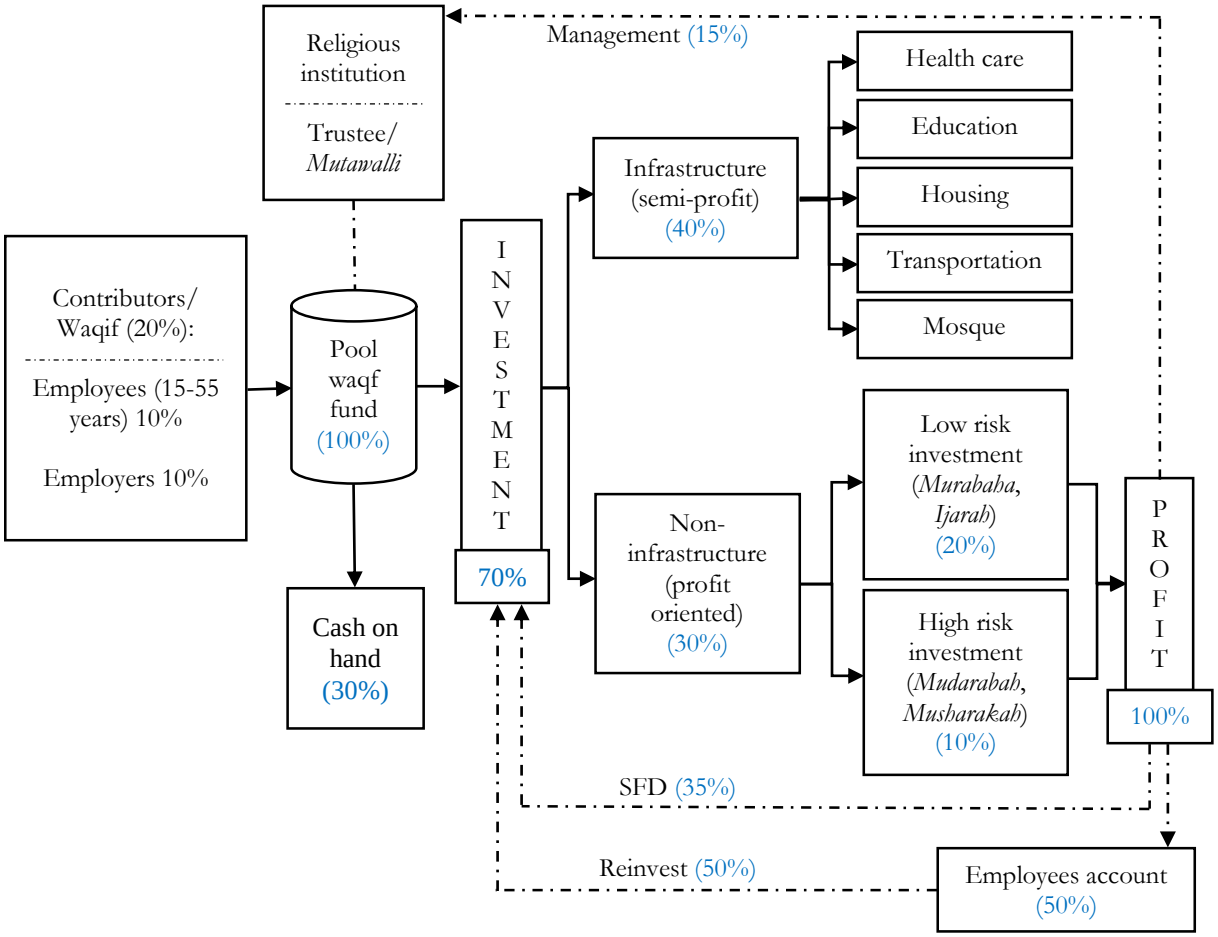


Figure 7: New Waqf Based Pension Model

The following paragraph will explain the Waqf Based Pension Model scenario in more detail.

i. Contributions to *waqf* are required for employees who want to join this scheme. For example, the contribution amount is 20 percent of the salary of the employee every month with a share of 10 percent deducted directly from the salary of the employee and 10 percent paid by the employer.

ii. The cash *waqf* funds are channelled to religious institutions that act as Trustees/*Mutawalli*. Trustees will collect cash *waqf* funds from a collection of contributors or *waqif*. The accumulated funds will be distributed as much as 70 percent for investment, and the remaining 30 percent will be kept to ensure the survival of cash *waqf*.

iii. The investment that will be carried out by the Trustee from 70 percent of cash *waqf* funds is to build the infrastructure needed by the community as much as 40 percent and the remaining 30 percent is rotated in profit-oriented *waqf* assets (productive *waqf*). Investments made by Trustees must be compliant and bound by Shariah rules.

iv. The new *waqf* assets that are formed can open new jobs in addition to providing services to the general public. *Waqf* infrastructure assets are semi-profit. It is because, in addition to serving the general public, these assets will have to allocate 30 percent of their funds to serve the poor, orphans, and other communities who are in dire need. The choice of infrastructure that will be made comes from the needs of the general public such as in the health care sector, education, housing, transportation, mosques or places of worship sector.

v. Investment in profit-oriented *waqf* assets are divided into two, low-risk investment and high-risk investment. Low-risk investments use definite contracts such as *murabahah* and *ijarah* contracts. Whereas high-risk investments use contracts that are uncertain, such as *mudarabah* and *musharakah* contracts.

vi. The benefits obtained from this investment are divided into three parts with different proportions. The first part of 15 percent is channeled to Trustee management. The second part of the 35 percent was channelled back to *waqf* assets to increase the asset capital (self-financing device or SFD). The last 50 percent is allocated to the employee account as a retirement benefit.

vii. The benefits received by employees as *waqif* besides receiving a pension benefit can also enjoy the services from *waqf* assets such as health care and education services for free. However, these two benefits will be eligible for free when they reach the retirement age of 55 years. Even so, employees as *waqif* still have the right to use the services of *waqf* assets as normal as others. For example, they can pray at the mosque of *waqf* assets, can seek treatment at *waqf* health services, study religion in *waqf* schools and so on.

Waqf Based Pension Model has several advantages compared to existing pension schemes. This model uses the principle of mutual help or *ta'awun*. *Ta'awun* occurs between fellow *waqifs* and between *waqif* and underprivileged people. This will help reduce poverty and provide access to assets of *waqf* infrastructure such as health services.

This new model has a sustainable nature because it uses eternal assets. These assets are in the form of infrastructure needed by the community and profit-oriented assets. In addition, this model will create many new jobs both to build and manage future *waqf* assets such as hospitals, schools, housing, transportation, religious facilities and so on. Thus, it will help the government to improve community welfare.

Simulation of Waqf Based Pension Model in Health Care

Health care is one of the most important public necessities in the community. The need for health services or hospitals has increased every year. It is believed that the hospitals that already exist in Malaysia are unable to accommodate the excess demand for health services. Therefore, additional hospitals are needed to accommodate the excess demand.

The potential for large cash *waqf* funds has the opportunity to resolve the issue of hospital shortages by building a new hospital. In this case, the cash *waqf* funds that will be used are from the Waqf Based Pension Model. The idea is illustrated in Figure 8.

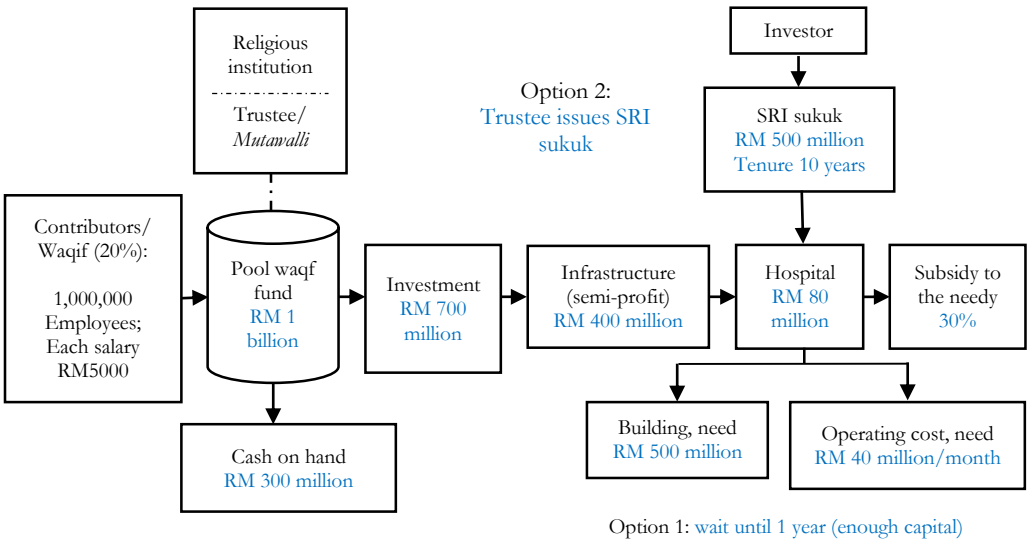


Figure 8: Simulation Waqf Based Pension Model in Health Care

The following paragraph will describe in more detail the explanation of the Waqf Based Pension Model scenario for health cares.

i. The assumption of the first *waqif* number is one million people. Each employee has a salary of RM5,000 per month. The percentage of cash *waqf* funds deposited with Trustees is 20 percent (10 percent paid by employees, 10 percent paid by employers). Therefore, the cumulative cash *waqf* collected from one million *waqif* in the first month is RM1 billion.
ii. The Trustee allocated 70 percent of the total funds totalling RM700 million for investment. The remaining 30 percent is stored to ensure the survival of cash *waqf*. Out of the RM700 million, RM400 million was allocated for investment in infrastructure. The remaining RM300 million is allocated to profit-oriented *waqf* assets.
iii. Suppose that investment in infrastructure has the same proportion. Each sector will get one-fifth of infrastructure funds. Therefore, the hospital was allocated a fund of RM80 million.
iv. To build a new hospital, it costs around RM 500 million. This figure is an estimate of construction costs until the hospital is ready for use. Meanwhile, operational costs are estimated at RM40 million a month. In fact, the allocation of funds obtained from this *waqf* model is only RM80 million. There are two options for resolving the problem.
v. The first option is to wait for a period of one year to get sufficient capital. The advantage of this option is that it is simpler because it does not involve finance from other parties outside of the existing model. The drawback is that it requires a relatively long waiting time of one year for sufficient capital.
vi. The second option, the Trustee will issue the Sustainable and Responsible Investment Sukuk (Sukuk SRI) to get a shortage of hospital development funds immediately. The advantage of this option is that it does not need to wait for as long as one year. However, the drawback is that this adition can make the *waqf* model becomes more complicated.
vii. Health services provided by the *waqf* hospital are the same as other hospitals. The difference is, hospital management will allocate funds as much as 30 percent to serve patients from disadvantaged groups such as the poor, the poor and orphans. In addition, operational costs from this hospital will use *waqf* funds. Profits earned from hospital operations can be used to increase capital so that hospital assets will be greater.

Simulation of Waqf Based Pension Model in *Murabahah* Investment

The second investment of this model is an investment in profit-oriented non-infrastructure assets. Because among the objectives of the Waqf Based Pension Model is to solve the problem of insufficient funds for community pension deposits. In general, this investment is divided into two categories, namely low-risk investment and high-risk investment. The profit generated by this investment was distributed to three parties, namely management, self-financing devices (SFD) and employees' accounts. Hopefully, that the accumulation of funds in this employee account can later be used to give pension money to the retired *waqif*.

Low-risk investment uses contracts that have certain characteristics such as *murabahah* (cost-plus profit financing) and *ijarah* (leasing). *Murabahah* contract is the most widely used contract in the world of Islamic economics. *Murabahah* contract has a meaningful sale and purchase of goods to the buyer by affirming the profit margin obtained by the seller. For example, the Trustee buys items that customers want for RM100 million and then sells to buyers for RM150 million. Here, the seller gets a profit of RM50 million. Meanwhile, the *ijarah* contract is a contract for leasing goods. For example, Trustees build an office building with *waqf* funds. Then the building is rented to another party for a period of for example ten years. From this investment, Trustees will get profit in the form of monthly or annual rent. This percentage of low-risk investment is 20 percent. It is higher than a high-risk investment percentage because it is expected to contribute more profit.

High-risk investment uses uncertain cooperation contract variations such as *mudarabah* and *musharakah*. *Mudarabah* agreement is an investment cooperation contract between Trustees who act as fund owners (*sahibul mal*) and customers who act as managers (*mudarib*). Profit from this investment is distributed to *sahibul mal* and *mudarib* in accordance with the agreement that has been made. Whereas if there is a loss that is not due to the negligence of the *mudarib*, *sahibul mal* will lose the funds, while the *mudarib* will lose the time and energy he has used. The contract of *musharakah* is a simpler contract. It can take the form of collaboration between two parties that give each other their capital, but only one party will manage it. The profit generated will be divided based on agreement or ratio, while the losses incurred will be distributed according to the proportion of the capital deposited.

The Waqf Based Pension Model scenario for *murabahah* investments is illustrated in Figure 9.

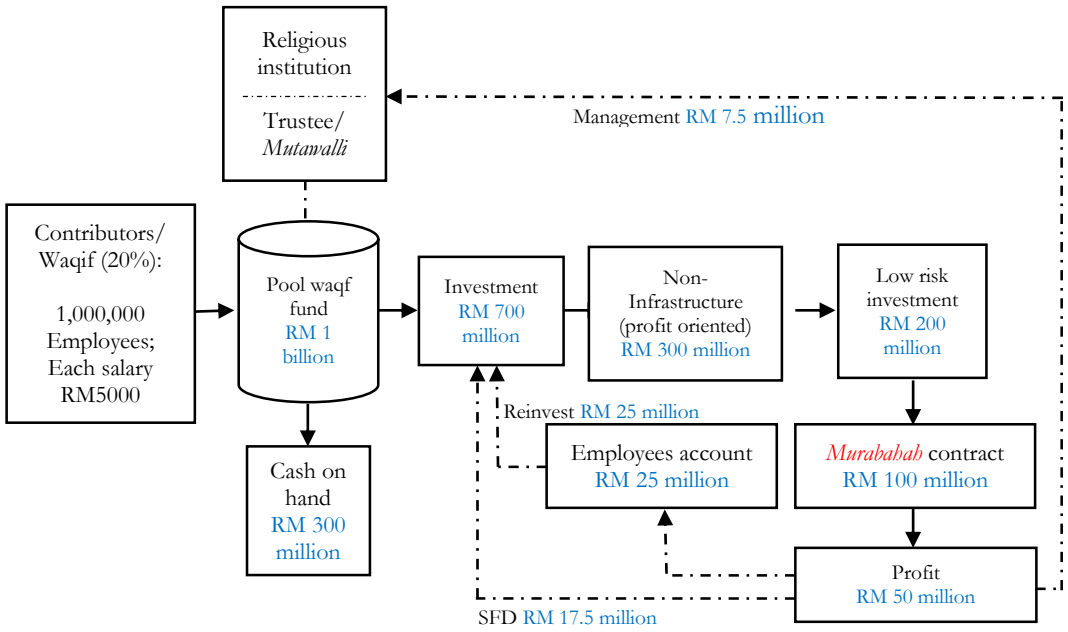


Figure 9: Simulation Waqf Based Pension Model in *Murabahah* Investment

The details of the explanation will be presented in the following paragraphs.

i. The assumption of the first *waqif* number is one million people. Each employee has a salary of RM5,000 per month. The percentage of cash *waqf* funds deposited with Trustees is 20 percent (10 percent paid by employees, 10 percent paid by employers). Therefore, the cumulative cash *waqf* collected from one million *waqif* in the first month is RM1 billion.
ii. The Trustee allocated 70 percent of the total funds totalling RM700 million for investment. The remaining 30 percent is stored to ensure the survival of cash *waqf*. Out of the RM700 million, RM300 million was allocated for investment in profit-oriented *waqf* assets. The remaining RM400 is allocated to infrastructure.
iii. Profit-oriented investments are grouped into two, namely low-risk investment and high-risk investment. The Trustee allocates RM200 million to low-risk investment, the remaining RM100 million is allocated to high-risk investment.
iv. Suppose that investment in low risk investment has the same proportion. Each sector will get half of the fund. Therefore, the *murabahah* contract receives an allocation of RM100 million.
v. The Trustee buys assets that customers want at a price of RM100 million. Then the assets are sold back to customers at a price of RM150 million, repaid within five years. From this transaction, the Trustee will get a profit of RM50 million.

vi. Profits worth RM50 million will be distributed to three groups. First, Trustee management will get a profit allocation of RM7.5 million. Second, RM17.5 million will be re-entered to increase the investment capital of *waqf* (SFD). Third, RM25 million will be allocated to the employee account.
vii. Employee accounts may only be withdrawn when the *waqif* or employee is 55 years old. During the waiting period, funds in the employee account will be reused in Trustee investments to generate greater profits.

Simulation of Pension Benefits that will be Received by Employees

When the employee (*waqif*) enters the age of 55, he will stop depositing cash *waqf*. At the same time, the employee account (EA) will change the role by paying employee pension money every month from the account balance. The account balance is derived from the allocation of profits from the investments distributed as shown in Figure 9. The pension benefits will be given until the retirees die. If the retiree dies early, the compensation will be given to his wife and or to the children until they are 21 years old. The regular pension benefits provided are similar to annuity schemes disclosed by Foziah et al. (2017b).

Table 6 presents a simulation of *waqf* calculation and the benefits that will be obtained by the employee. The table uses the following assumptions: investments made by the Trustee make a profit of 50 percent every year. Employees have a salary of RM5,000 per month and pay regular *waqf* from the age of 26 to 55 years. At the age of 55, the employee will find the retirement benefit balance of RM693,974.

Table 6: Simulation of Waqf Calculations and Benefits for One Employee

Age	Salary	Waqf Fund (WF)	WF in 1 year	WF Cumulative	Investment Based on Profit	Profit Projection	To SFD	To Employee Account (EA)	EA Cumulative
26	5,000	1,000	12,000	12,000	3,600	1,800	630	900	900
27	5,000	1,000	12,000	24,000	8,730	4,365	1,528	2,183	3,083
28	5,000	1,000	12,000	36,000	14,510	7,255	2,539	3,628	6,710
29	5,000	1,000	12,000	48,000	20,567	10,283	3,599	5,142	11,852
30	5,000	1,000	12,000	60,000	26,741	13,370	4,680	6,685	18,537
31	5,000	1,000	12,000	72,000	32,965	16,482	5,769	8,241	26,778
32	5,000	1,000	12,000	84,000	39,210	19,605	6,862	9,803	36,581
33	5,000	1,000	12,000	96,000	45,464	22,732	7,956	11,366	47,947
34	5,000	1,000	12,000	108,000	51,722	25,861	9,051	12,931	60,877
35	5,000	1,000	12,000	120,000	57,982	28,991	10,147	14,495	75,373
36	5,000	1,000	12,000	132,000	64,242	32,121	11,242	16,061	91,433
37	5,000	1,000	12,000	144,000	70,503	35,251	12,338	17,626	109,059
38	5,000	1,000	12,000	156,000	76,764	38,382	13,434	19,191	128,250
39	5,000	1,000	12,000	168,000	83,025	41,512	14,529	20,756	149,006
40	5,000	1,000	12,000	180,000	89,285	44,643	15,625	22,321	171,328
41	5,000	1,000	12,000	192,000	95,546	47,773	16,721	23,887	195,214
42	5,000	1,000	12,000	204,000	101,807	50,904	17,816	25,452	220,666
43	5,000	1,000	12,000	216,000	108,068	54,034	18,912	27,017	247,683
44	5,000	1,000	12,000	228,000	114,329	57,164	20,008	28,582	276,265
45	5,000	1,000	12,000	240,000	120,590	60,295	21,103	30,147	306,413
46	5,000	1,000	12,000	252,000	126,851	63,425	22,199	31,713	338,125
47	5,000	1,000	12,000	264,000	133,112	66,556	23,295	33,278	371,403
48	5,000	1,000	12,000	276,000	139,372	69,686	24,390	34,843	406,246
49	5,000	1,000	12,000	288,000	145,633	72,817	25,486	36,408	442,655
50	5,000	1,000	12,000	300,000	151,894	75,947	26,581	37,974	480,628
51	5,000	1,000	12,000	312,000	158,155	79,078	27,677	39,539	520,167
52	5,000	1,000	12,000	324,000	164,416	82,208	28,773	41,104	561,271
53	5,000	1,000	12,000	336,000	170,677	85,338	29,868	42,669	603,940
54	5,000	1,000	12,000	348,000	176,938	88,469	30,964	44,234	648,175
55	5,000	1,000	12,000	360,000	183,198	91,599	32,060	45,800	693,974

The simulation of the calculation of *waqf* pension benefits for employees aged 55 years and over is presented in Table 7.

Table 7: Simulation of Waqf Benefits to One Pensioner Age 56 Years and Above

Age	Annuity Payout (AP)	AP in 1 Year	WF Cumulative	Investment Based on Profit	Profit Projection	To SFD	To Employee Account (EA)	EA Cumulative
56	5,000	60,000	360,000	185,859	92,930	32,525	46,465	680,439
57	5,000	60,000	360,000	186,990	93,495	32,723	46,748	667,187
58	5,000	60,000	360,000	187,471	93,735	32,807	46,868	654,054
59	5,000	60,000	360,000	187,675	93,838	32,843	46,919	640,973
60	5,000	60,000	360,000	187,762	93,881	32,858	46,940	627,914
61	5,000	60,000	360,000	187,799	93,899	32,865	46,950	614,863
62	5,000	60,000	360,000	187,814	93,907	32,868	46,954	601,817
63	5,000	60,000	360,000	187,821	93,911	32,869	46,955	588,772
64	5,000	60,000	360,000	187,824	93,912	32,869	46,956	575,728
65	5,000	60,000	360,000	187,825	93,913	32,869	46,956	562,684
66	5,000	60,000	360,000	187,826	93,913	32,869	46,956	549,641
67	5,000	60,000	360,000	187,826	93,913	32,870	46,956	536,597
68	5,000	60,000	360,000	187,826	93,913	32,870	46,957	523,554
69	5,000	60,000	360,000	187,826	93,913	32,870	46,957	510,510
70	5,000	60,000	360,000	187,826	93,913	32,870	46,957	497,467
71	5,000	60,000	360,000	187,826	93,913	32,870	46,957	484,423
72	5,000	60,000	360,000	187,826	93,913	32,870	46,957	471,380
73	5,000	60,000	360,000	187,826	93,913	32,870	46,957	458,336
74	5,000	60,000	360,000	187,826	93,913	32,870	46,957	445,293
75	5,000	60,000	360,000	187,826	93,913	32,870	46,957	432,250
76	Dead		792,250	317,501	158,750	134,938	0	0

Note: The Employee Account (EA) becomes 0 when the employee (waqif) dies because the EA balance is invested in the Waqf Fund.

The accumulation of *waqf* assets did not increase after the employee stopped paying *waqf*. However, there is another flow of funds that will still increase the *waqf* fund, especially for profit-oriented investments that come from 35 percent profit (SFD). Pension benefits will be given until the retiree dies. If the retiree dies early before the accumulated employee account becomes empty, the benefit will be transferred to his wife or to the children until they are 21 years old. After that all is achieved, if there is still fund in the employee account, it will be channelled back into the pool *waqf* fund and the balance for the account will be zero.

In addition to the pension benefits that are routinely provided, retirees will also be able to use the *waqf* service for free. For example, health services from *waqf* assets, education services from endowments, and the need for ageing people. Even so, the employee before entering retirement can use the facilities of the *waqf* assets at normal prices like everyone else.

CONCLUSION

The models and simulations above have shown that the Waqf Based Pension Model makes sense to be realised and it is able to overcome the insufficiency of pension funds. This new model can also help the government in economic development one of them by creating new jobs. The assets of the new *waqf* that are formed will further confirm that Islam has treasures in the form of knowledge and material that can be passed on to the successor generation.

Waqf Based Pension Model is expected to be adopted by the community so that goodness can be spread throughout the world. The government is expected to be able to support this plan by applying and issuing rules related to this new model. The large potential of *waqf* can help the government to build the infrastructure needed by its people. It could be a solution for the

government besides raising revenues from taxes and even expecting foreign investment that can pawn the country's resources.

Waqf Based Pension Model can make the *waqif* prosper and calm in living life. Besides he will get a chance of benefits in the form of material, he will also get the reward of kindness in the hereafter later on the endowments that are distributed. They will feel calmer because they get a solution to the inadequacy of retirement savings and reduce concerns about future income when they retire.

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