

DECISION SUPPORT SYSTEM TO ASSIST SELECTION OF RETIREMENT
SCHEME IN MALAYSIA

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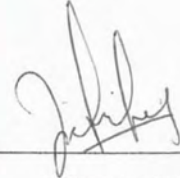
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DECLARATION

I hereby declare that this dissertation is based on my original work except for certain citations, quotations, and summaries which have been duly acknowledge.

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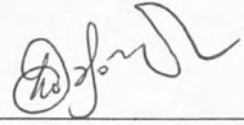


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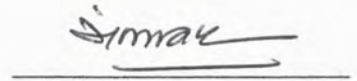
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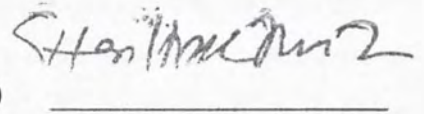
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ABSTRACT

In Malaysia, civil servants will have a choice to choose between two retirement schemes namely Public Sector Pension Scheme and Employee's Provident Fund. However, there is confusion to most civil servants on which retirement scheme is the best for them. This study compares the two retirement scheme and develops a Decision Support System particularly designed for civil servants Grade DS45, DS52, DS54, VK7, VK6 and VK5 in deciding the best retirement scheme. This study is focused on the basic financial benefits of both schemes and promotions are assumed according to rank one in the Matrix Salary Table. All retirements are assumed due to old age and forecast values that are used in calculations are based on assumption. The main considerations when recommending which scheme is suitable, the system is dependent upon certain factors such as assumptions on promotions, medical background, spouse's retirement scheme, and life expectancy rate. Since the decision depends on many variables, a Decision Support System is developed to assist in the process of making decision. Decision Support System is able to illustrate the financial benefits for Public Sector Pension Scheme and Employees Provident Fund in assisting the user in decision making. It is also able to advise which scheme is more financially feasible during retirement. This study concludes that both schemes are beneficial since the selection of the retirement schemes are dependent on factors that are considered in this study and other regulating factors that can affects the calculation of each individual scheme. Further studies can be performed with the addition of housing withdrawals and education withdrawals before retirement, spouse's income profile, and the number of family members in the households to increase the accuracy of this study.



SISTEM SOKONGAN KEPUTUSAN UNTUK PEMILIHAN SKIM PERSARAAN MALAYSIA

ABSTRAK

Di Malaysia, kakitangan perkhidmatan awam diberi dua pilihan skim persaraan iaitu Pencen Awam dan Skim Kumpulan Wang Simpanan Pekerja. Walau bagaimanapun, kekeliruan timbul semasa membuat pilihan dalam menentukan skim pencen yang lebih sesuai bagi mereka. Kajian ini membandingkan dua skim persaraan tersebut dan satu Sistem Sokongan Keputusan dibina untuk membantu kakitangan perkhidmatan awam Gred DS45, DS52, DS54, VK7, VK6 and VK5 membuat keputusan dalam pemilihan skim persaraan. Kajian ini fokus dalam faedah kewangan yang dapat diperuntukan oleh kedua-dua skim persaraan dan kenaikan pangkat adalah berdasarkan Jadual Gaji Matriks. Dalam kajian ini, semua pengguna dianggap mencapai umur persaraan dan nilai ramalan yang digunakan dalam pengiraan adalah berdasarkan anggapan. Sistem ini bergantung kepada beberapa faktor seperti andaian dalam proses kenaikan pangkat, masalah perubatan, skim pencen suami atau isteri, dan umur kematian seseorang. Faktor-faktor tersebut merupakan pertimbangan utama semasa memberi cadangan skim persaraan yang sesuai. Oleh kerana keputusan dalam memilih skim persaraan melibatkan banyak faktor, maka Sistem Sokongan Keputusan dibina untuk membantu proses pemilihan skim pencen yang sesuai. Jumlah faedah pencen yang diterima daripada Pencen Awam dan Skim Kumpulan Wang Simpanan Pekerja dapat ditunjukkan melalui Sistem Sokongan Keputusan ini bagi membantu proses pemilihan skim pencen yang sesuai. Sistem ini juga dapat mencadangkan skim pencen yang lebih sesuai dan menguntungkan semasa alam persaraan. Akhirnya, pengguna sistem dapat membuat keputusan berpandukan cadangan yang dikemukakan oleh sistem ini. Kajian ini dapat menunjukkan bahawa kedua-dua skim persaraan yang dikaji mempunyai kelebihan tersendiri kerana pemilihan skim pencen adalah bergantung kepada pelbagai faktor yang boleh mempengaruhi pengiraan skim setiap individu. Kajian lanjutan boleh dilakukan dengan mengambil kira pengeluaran perumahan dan pengeluaran pembelajaran sebelum bersara, profil pendapatan pasangan, dan bilangan isi rumah untuk meningkatkan kejituan kajian.



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LIST OF SYMBOLS

RM	Ringgit Malaysia
×	multiplication
+	addition
%	percentage



CHAPTER 1

INTRODUCTION

1.1 RETIREMENT PLANNING

Retirement is referring to a situation where an individual who previously having an active career but presently is no longer working due to factor such as having reaching the retirement age. Individuals must carefully plan for their retirement as it affects almost every aspect of their life. Among the aspects that will be affected are physical well being, emotional, social life, and financial.

Averagely, some of the normal retired individual (retiree) will tend to experience poorer health, greater depression and, loneliness as age catches up (Goh, 2006). Subsequently, a retiree should plan and prepare to gain acceptance and settle into predictable and comfortable daily life pattern or life style.

Besides physical well being, there is a possibility that retirees' emotion will be affected too because retiree might face lower life satisfaction (Goh, 2006). Many negative possibilities can be reduced if not avoided, through early emotional planning. Early emotional planning is important for retiree to obtain positive mindset about retirement and during retirement.



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Many retirees' social life will be affected because of lower activity levels and losses of collegial relationships (McNeill, 1999). Therefore, advance retirement planning is vital to accommodate the reorientation. Example of reorientation, include continues participation in activities that they enjoy before retirement or pursuing new interests.

Most of the areas of a retiree that will be affected can be reduced if not solved through proper retirement planning. A proper retirement plan can be achieved by helping retiree to be financially secure through having sufficient passive income or savings. As to highlight again, the importance of been financially secure are to have adequate savings to cope for their future expenses, for example medical expanses and daily expanses, provides a sense of financial security to retirees, and allowing retiree to continue existing activities besides pursuing new interests.

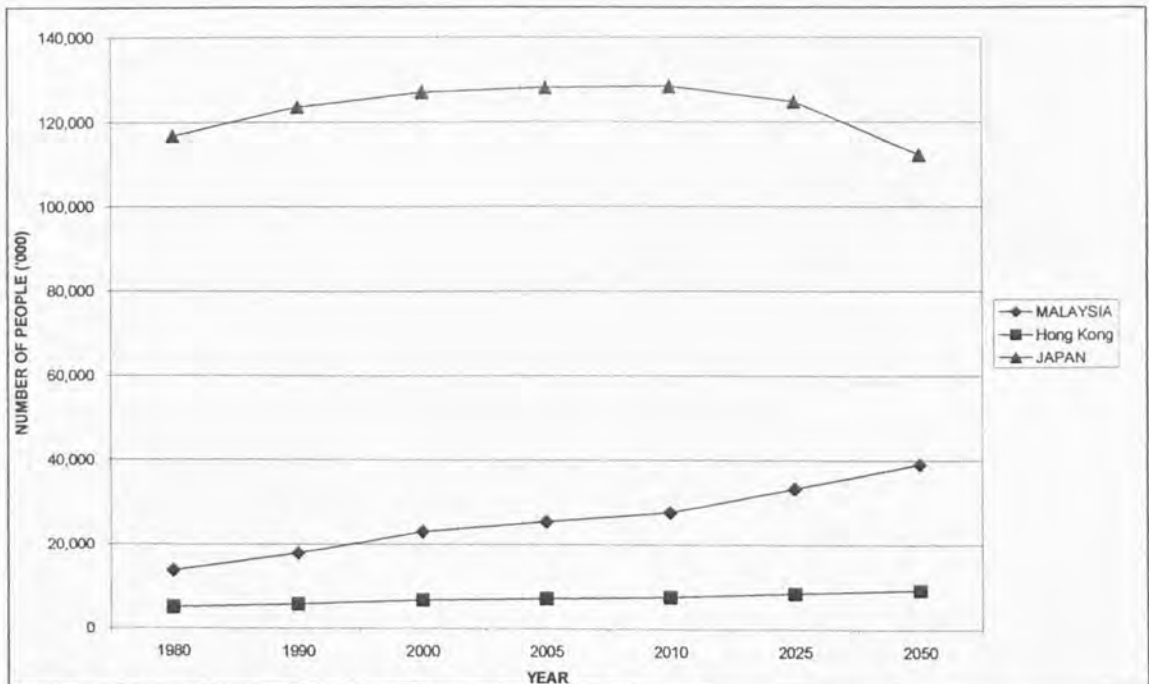
1.2 RETIREMENT FUNDS IN OTHER COUNTRIES

According to Johnson & Falkingham (1992), one important challenge faced by aging society is achieving a proper balance between the amounts of time spent in work and in retirement in the coming decades. The financial costs of an aging population can be seen as having two main dimensions. The cost involved in providing income support in terms of pensions and other benefits to the elderly population and the cost of social support and health care provision.

Basically there are two types of pension scheme. They are the pay-as-you-go scheme and the fully funded scheme (Noriszura & Darmesah, 2001). However, the structure of pension provision in most country may vary because of the offset of

demographic concerns. Some of the structure of pension provision relationship thus far can be studied for two South East Asia countries because of some similarity of the schemes with Malaysia's pension structure. Population in Japan is higher than Malaysia meanwhile population in Hong Kong is lower than Malaysia (Appendix A).

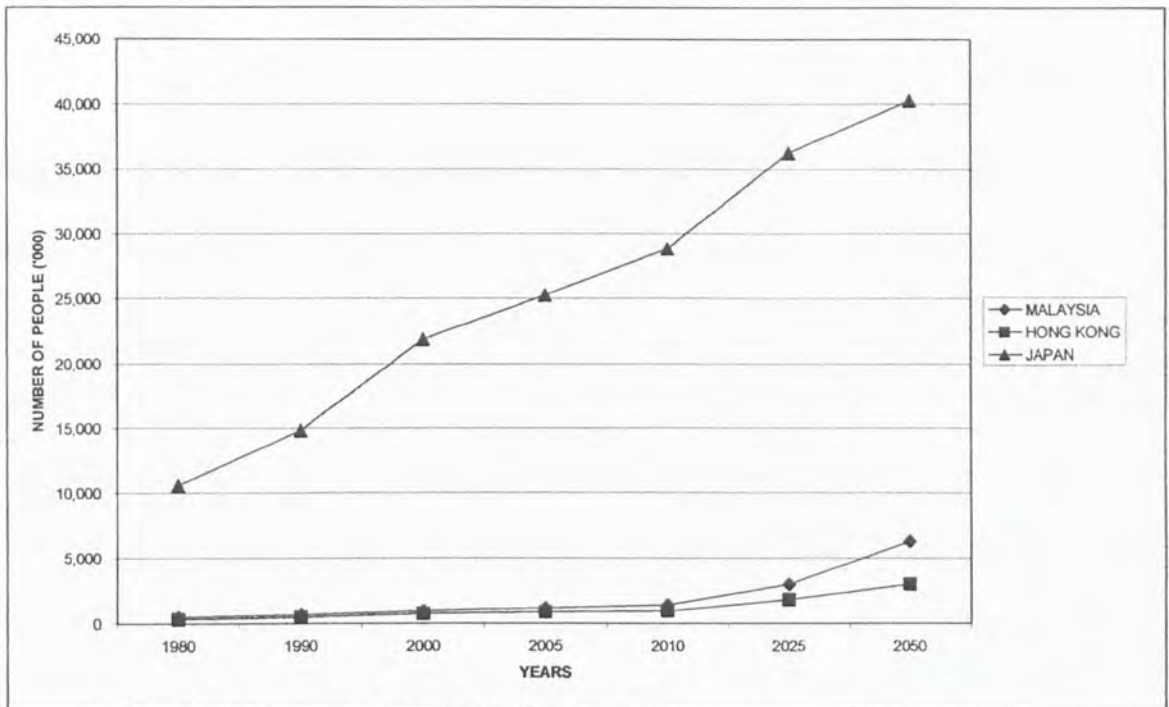
Among these three countries, Japan has the most elderly population while Hong Kong has the least elderly population (Appendix B). Figure 1.3 shows the productive age population is foreseeing to be increasing in Malaysia and Hong Kong (Appendix C). Population aging puts substantial pressures on social security programs in Japan which raised uncertainty about the financial sustainability of the current social security programs because they depend heavily on contributions by future generations. Therefore it is worth a review on these countries retirement scheme before this study focus on Malaysia retirement schemes (Appendix D).



Source: The Japan Institute for Labour Policy and Training

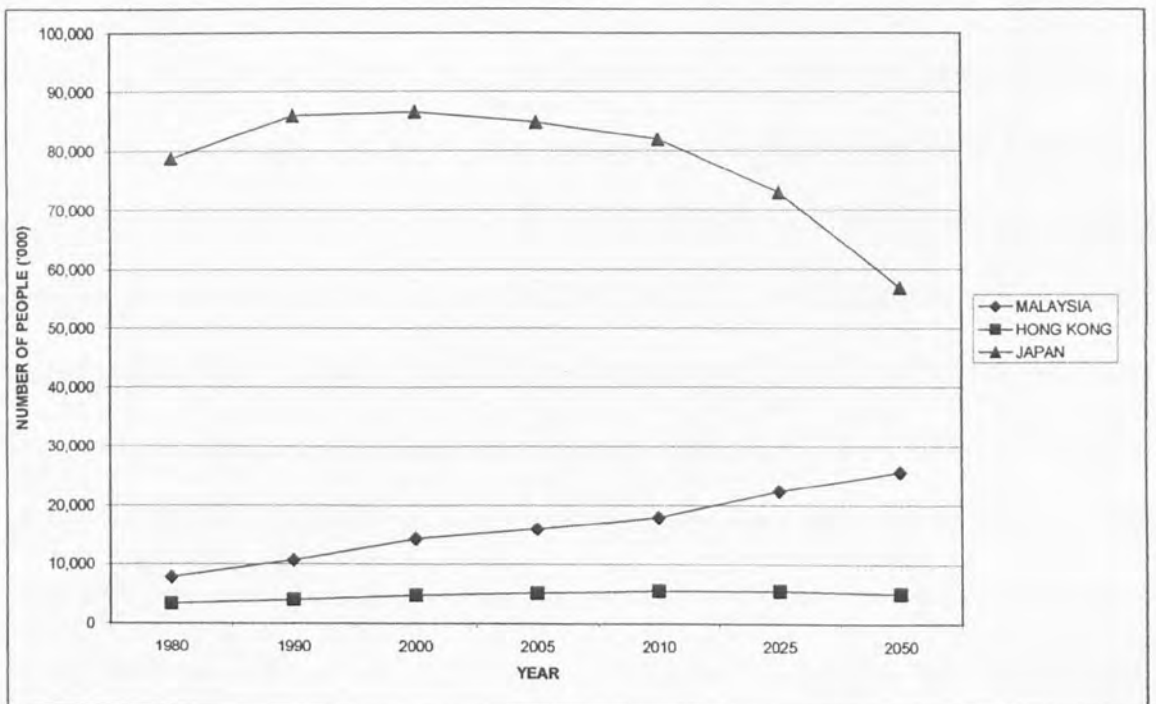
FIGURE 1.1 Total populations in Malaysia, Hong Kong and Japan.





Source: The Japan Institute for Labour Policy and Training

FIGURE 1.2 Population of 65 years and older in Malaysia, Hong Kong and Japan.



Source: The Japan Institute for Labour Policy and Training

FIGURE 1.3 Productive age population (15-64 years old) in Malaysia, Hong Kong and Japan.

1.2.1 Japan

Japan has the oldest public pension system in East Asian countries (Phang, 2004). In Japan, the source of social security may be found in charity-oriented communal activities for the poor in a pre-modern era. The modern social security system which is based on the state's responsibility in sharing the social risk of the population started after World War II. However, it started with the urgent need to relieve the war-stricken people. Later, the system of social security has gradually extended its reach. In the year of 1959, the pension law was enacted and then was enforced in 1961 (Chia *et al.*, 2005). The pension system in Japan consists of three-tiers.

a. The First Tier

According to Chia *et al* (2005), the first tier is known as the National Pension (Kokumin Nenkin) or Basic Pension (Kiso Nenkin), which provides the flat rate basic pension to all sector of the population. It is operated by the government and aims to provide a basic income guarantee for the old age because it is a non-income-related pension. Participation of the first tier is mandatory to all residents aged 20 to 59. This National Pension is a partial pay-as-you-go defined benefit scheme (Pinheiro, 2004). Two-thirds of the benefits are paid out from the collected premiums from the young and the remaining one-third is financed from the general government budget. In principle, benefit payment begin at age 65. However, at the age of 60 there is a special legal provision for earlier benefits payment (Makoto, 2003).



b. The Second Tier

The second tier is the Employees Pension Insurance (Kose Nenkin Hoken) which covers the most employees in private and public sector (Makoto, 2003). The second tier pensions are operated by the government which provides an income-related payment. Employees in private sector are insured by the Employees Pension Insurance and those in public sector are insured by the Mutual Aid Pensions (Kyosai Nenkin). It is mandatory to all firms with more than 5 employees. The premium is shared by employers and employees which is 8.675 percent of employee's monthly salary. This second tier also operates largely like a pay-as you-go defined benefit scheme.

c. The Third Tier

The third tier is an optional scheme. It is provided either by private firms for their employees, or by collective national pension funds for the self-employed with the government as the insurer.

In 1 October 2001, Japan introduced a defined contribution scheme. A private defined contribution retirement savings account could possibly address the issues of financial sustainability and lead to higher saving rate because it is a fully funded system (Chia *et al.*). This defined contribution pension schemes consist of two categories.

First category is the individual-based defined-contribution scheme which is for self-employed persons. So, it is designed to give another option of pension coverage to the self-employed. It is operated by the National Pension Fund Association, and its



premium is paid by the subscribers themselves. The second category of the defined-contribution pension scheme is the corporation-based defined contribution pension. It is a type of corporate pensions and premium is entirely borne by the employer (Makoto, 2003).

d. The Case of Japan

According to Pinheiro (2004), Japan has had a compulsory pension scheme for civil servants which are also an integrated in the basic partially funded pay-as-you-go scheme. The pension plans are run by public bodies linked to and regulated by the Ministry of Finance, for the central government workers, and the Ministry of Interior, for the local government workers. Both institutions are separated with respect to the government administrative structure. However, both central and local pension institutions provide health insurance, recreational service, and other benefits to employees. There are separate laws for central and local government employees. However, the design of the system is very similar. Employees' benefits are in annuities and generally paid directly by the fund, but lump sums are offered by different institutions.

Employees in Public Sector are insured by Mutual Aid Pension of their own. Employees employed by the National Government, municipalities or corporations and covered by the Mutual Aid Associations which are the Mutual Aid Association for National Public Officials, Mutual Aid Association for Local Public Officials and Personnel of Similar Status, and Mutual Aid Association for Private School Personnel. The normal retirement age by the National Pension Act is now at the age of 65 years.



Qualifications for the old age benefit, civil servants need to be insured for at least 25 years by any of the public pension systems. The old-age pension amount is the result of the multiplication of working life average monthly salary valorized by 0.9 percent and by the member's years of service. This pension formula is more generous than the one applied to private sector workers that have the coefficient equal to 0.75 percent. In the civil servants' scheme, the valorization of past salaries is based on the general wage index.

1.2.2 Hong Kong

Hong Kong has low fertility rate and long life expectancy (Appendix E and F) but there was no mandatory scheme of old age protection before the Mandatory Provident Fund (MPF) ordinance was enacted in the year of 1995. Back in the year of 1965, Hong Kong Government had already included retirement income protection in its first social welfare white paper (Department of Social Welfare, 2003). However, the Government did not intervene in this issue because retirement was an unfamiliar concept to older adults due to the cultural and societal factors. Older societies in Hong Kong have been relying on their families as the main source of financial support. So older societies with family that are not able to provide adequate support, they may have to continue to work beyond the normal retirement age (Chi, 2004). Currently there are two major old age income protection programs in Hong Kong.



a. Public Assistance Program

The public assistance program includes Comprehensive Social Security Assistance Scheme (CSSA), Old Age Allowance (OAA), and Disability Allowance (DA) schemes (Department of Social Welfare, 2003).

i. Comprehensive Social Security Assistance Scheme (CSSA)

The present CSSA Scheme which is developed in the early 90's. It is an extension of Public Assistance Scheme (PA) which was introduced in Hong Kong in 1965. This scheme offers assistance to the old aged, disabled, sick, unemployed, low income earners and single parents to meet their basic needs (Chi, 2004).

ii. Old Age Allowance (OAA)

According to Chi (2004), OAA is a publicly funded scheme that was introduced in the year 1973. It was designed to provide some form of financial assistance to older persons of 75 or above because they were considered in need of care and support. However, over the years there have been gradual but important changes in the social values and attitude towards social security benefits in the society. Previously, OAA was assumed that the prevailing attitudes towards charity would deter people without genuine financial need from applying the allowance. However, many people now view OAA as a form of pocket money paid to the elders in recognition of their past contribution to society.



b. Compulsory Job-Related Program

Compulsory job-related retirement program is a private managed pension for income maintenance which includes Mandatory Provident Fund (MPF), ORSO, and Civil Pension Scheme (Chi, 2004).

i. Mandatory Provident Fund (MPF)

The major job related retirement program is a mandatory retirement protection scheme called MPF which was launched at the end of 2000. MPF is an employment-based retirement protection system. Employees and self-employed aged between 18 and 65 are required to join MPF Schemes. Mandatory contributions by the employee and employer are calculated on the basis of 5 percent of an employee's relevant income. Self employed also needs contribute 5 percent of their relevant income. They may opt to make contributions on a monthly basis or a yearly basis. There consist of three main types of MPF Schemes. They are the Master Trust Scheme, Employer-Sponsored Scheme and Industry Scheme (Chi, 2004).

ii. ORSO and Civil Servant Pension Scheme

The ORSO is a voluntary scheme that governed by trust was commenced on 15 October 1993. The contribution of ORSO varies depending on different individual plans. The Civil Servant Pension Scheme is a non-contributory and life time program. The payment is based on their highest pension emoluments which is determined with reference to their highest substantive salary before retirement (Chi, 2004).

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