

# **1. INTRODUCTION**

## **1.1 Introduction**

This chapter introduces the concept of life-cycle financial planning, life-cycle theories of savings, consumption, and investing, and the critical issues surrounding the study of retirement, particularly investment planning strategies for financing consumption during the post-retirement period. The chapter also presents an overview of population aging in Malaysia and the social security and pension systems in the country and their effect on retirement behaviour.

## **1.2 Problem Statement**

Most people hope that they are saving enough, while others think that it is too difficult to know whether they are saving enough or not. People either do not understand their pension predictions, or these are either not understood or thought not to be relevant because retirement is still a long way off (FSA 2002a). It has been estimated that 85 percent of the world's households (Holzmann *et al.*, 1999 cited in Willmore, 2007) and 90 percent of its working-age population (Gillion *et al.*, 2000 cited in Willmore, 2007) lack any formal retirement income schemes to secure their income security in old age. As a greater share of retirement resources is invested in risky assets, there is a greater probability that individuals reach their planned retirement age with substantially less certainty in their retirement assets (Sevak, 2002).

A secure retirement in the future involves sacrificing some consumption today. The need for saving is of particular importance if we look ahead to the rising future costs of providing for the consumption needs of an increasing population of elderly people. Sustainable income flow, not the stock of wealth, is the objective that counts for retirement planning. The most obvious pitfall in self retirement planning is that it shifts all retirement-planning risks – not saving enough, making poor investment choices, outliving savings – to untrained individuals, who often do not have the time, inclination or know-how to manage them. But even when good choices are made, a market meltdown near the end of their working careers can still blow their savings to smithereens. The sharp market swings in 2008/9 have led some investors to dump their investments in equities at depressed levels, locking in losses that may severely diminish their retirement savings. So, even if investors follow the golden rules of investing – saving early and diligently, holding a broadly diversified investment mix, never tapping their savings until retirement – their success would still depend largely on the performance of the stock and financial markets. Falling stock prices, lower interest rates and reduced dividends from previously stalwart companies may also reduce retirees' monthly income, requiring them to reduce spending or consider new ways to get income out of their assets.

We live in a time of great economic changes which impact greatly the way people spend, save, invest, and manage the risks to protect their standards of living in their retirement years. Economic globalisation and increased urbanisation raise concerns regarding the future abilities of traditional family systems of support to cater for the increasing elderly population. There are concerns that westernisation, through the

process of economic globalisation, will see an erosion of familial support and filial piety associated with Asian cultural values (Martin, 1989; Schulz, 1997).

People's financial needs change throughout their lives. By considering an individual's life as a chronological sequence of stages, the life cycle can be characterized by the occurrence of events and the length of the resulting life cycle stages. When analyzing the relocation of time between these two life stages, the development of longevity and the timing of retirement are important factors shaping the life cycle (Peglow, 2010). Life-cycle financial planning follows the different stages in an individual's life as he or she progresses from young adulthood to retirement – that is youth, prime earning years, and post-retirement period. By saving and investing younger, the individual gets to reap the benefit of compound interest, for example money invested at 7 percent doubles every 10 years, while failure to save risks threatening future financial security (Frank, 2005).

Life-cycle financial planning analyses how much to save and invest for retirement to address the following basic questions people face:

1. What are the perceptions towards retirement?
2. What standard of living do they desire to have in retirement?
3. When do they start saving for retirement?
4. How much should they save for retirement over the course of their working career?
5. Do retirees have enough income for retirement without depending on their children and government for support?

6. What standard of living are they willing to accept in the trade-off between consumption during their work life and consumption in retirement?
7. Do changes in the economy affect retirement behaviour?

### **1.3 Scope of Study**

This dissertation examines the extent Malaysians make financial preparations and their readiness for retirement, and the predictors of retirement plans. The study focuses on a simplified life cycle that divides the human life span into working age and old age. A financial planning model derived from the life-cycle theories was tested, identifying various personal demographics, family, education, work, and income variables as life-cycle factors affecting the expectation and planning outcomes. Outcomes included financial literacy, retirement age, expected sources of retirement income, age financial planning commences, the propensity to save, investment strategies applied and investment products. The study further examines the issue by means of a cohort analysis to examine whether belonging to a particular group who engaged in retirement planning and having higher level financial literacy and another group who does not, relates to differences in attitudes toward retirement and securing financial success in the post-retirement period among Malaysians.

## **1.4 Research Objectives**

There is a growing trend around the world where the primary responsibility for providing an adequate retirement income has shifted from governments and employers to the individuals. Pension plans are shifting from the defined-benefit (DB) form to defined-contribution (DC), in which plan participants must make investment decisions (Bodie, 2002). Whereas employers bear the financial risk in DB plans, workers bear the financial risk in DC plans (Sevak, 2002). Together with increasing longevity, this substitution of DB plans with DC plans have make social security arrangements less certain, compounded by increasing health care costs, and other social factors such as elderly parents no longer living with their children as they used to do.

Increasingly, the very complex problem of saving and investing to provide for a secure retirement income is being transferred to the individuals who may not have the knowledge nor the training to handle the task. This assume that people are capable of making the complex calculations necessary to determine how much to consume and how much to save, and that the households have the requisite willpower to delay consumption in order to provide for the future. Individuals may think they are adequately covered by any state-provided scheme and consequently are not aware of the need to take a more proactive approach to prepare for their own retirement.

Based on the discussion above and the justifications outlined in Section 1.5, the research objectives for this study are:

1. To determine how Malaysians plan and save for their retirement;

2. To identify Malaysians' financial expectations for retirement and how retirement expectations and plans are related;
3. To study how lifestyle situations and unexpected events or changes to financial and human resources affect retirement transitions; and
4. To ascertain the impact pre-retirement financial planning has on post-retirement experience for retirees.

### **1.5 Justifications of the Study**

This study is of importance not only to advance our knowledge of saving for retirement in Malaysia, but also to inform the current debate on the effectiveness of saving incentives, the effectiveness and consequences of different public pension schemes and provident fund such as the Employees Provident Fund (EPF). This study will attempt to provide information on applied solutions by focusing on problem areas as a vital stepping stone to the well-being of Malaysians in old age. The subject matter underscores the importance, complexities and timely nature of studying retirement expectations and preparations in Malaysia.

With social and medical advancements, Malaysians are living longer. The average life expectancy in Malaysia has increased – from 47 years old in the 1950s to 72 years old for men and from 48.5 years old to 76 years old for women (Department of Statistics, Malaysia 2009). This is good news. Better healthcare, availability of advanced medical technology, improved standards of living, higher education and literacy, have contributed to this change. This means that more Malaysians are spending longer times

of their lives in the post-retirement period although the retirement age for civil service had been increased from 58 years old to 60 years old effective from 2012. The Malaysian government is also raising the compulsory minimum retirement in the private sector to 60 years effective from January 2013 (from 55 years old) (Sukumaran, 2012). Because Malaysian can expect to live another 20 years or more after their previous retirement age at 55 years, most people are still quite fit to continue working. Employers in the private sector are at liberty to set new terms once an employee retires. Typically, the employee is put on an annual contract subject to his medical fitness, and has to endure uncertainty every time it is due for renewal. Now for the bad news: at this rate, people may not be able to afford to live so long. With declining fertility and longer life expectancy, Malaysia's population older than 60 years increased from 1.5 million in 2000 to 2.0 million in 2009. By 2020 it is estimated that the number of older persons will be 3.4 million and by 2035, Malaysia will be in the category of aging nations as defined by the United Nations that is with older persons constituting more than 15 percent of the population (10<sup>th</sup> Malaysia Plan, 2011-2015).

The increase in life expectancy is one of the great achievements in any modern society. But increases in life expectancy impose substantial economic consequences for the population and country. When life expectancy increases, people are more likely to outlive their working years. An increase of time spent in retirement raises the need for retirement income. This affects in particular savings rates, social transfers and the welfare of the elderly (Bloom *et al.*, 2003, 2007). These aspects have crucial implications for economic growth, consumption levels, and intergenerational transfers

(Deaton and Paxson, 1997; Auerbach *et al.* 1999; Mason *et al.*, 2006 as cited in Peglow, 2010). A longer time spent in retirement may endanger the long-term financial sustainability of a country's social security systems.

With more than 90 percent of the country's total labour force employed in the private sector, this exclusive reliance on mandatory savings pillar in the private sector through the EPF results in the consequent lack of protection against longevity and inflation risks, lack of survivors' benefits, and inadequate replacement rates even at the time of retirement. This arrangement has also been found to be particularly discriminatory against women. Women as a group have lower exposure to labour force during their lifetime, and when they do, they as a group earn less than men and tend to live longer than men, and would require greater resources in old age. An important characteristic of retirement financing arrangements in Malaysia has been reliance on family, especially children. However, lower fertility rates, industrialisation, urbanisation, changing attitudes and values, expectations leading to more individualistic lifestyle are gradually undermining this reliance (Asher, 2002).

With increasing longevity, understanding the issues of savings behaviour and how savings are invested to secure post-retirement income become of paramount importance. It has been estimated by the Life Insurance Association of Malaysia (LIAM) that "less than 5 percent of Malaysians are financially prepared to retire" (Habib, 2007, Mok *et al.*, 2007). The president of LIAM, Ng Lian Lau sum it as: "that those in their 20s think they are too young to think about retirement, while those in their 30s and 40s tend to believe they are doing enough because they have their EPF



savings, and those who are 55 feel it is just too late for them. Only 40 percent of Malaysians have taken life insurance to cover themselves. At 55, most people cannot afford to retire”. According to the EPF annual report (2009), 90 percent of workers have less than RM100,000 in their EPF savings, which work out to be RM417 a month to see them through at least 20 years of retirement. Longer life expectancy coupled with increasing medical cost and the lack of adequate social support increases the probability of falling into poverty. Aging population is prone to distress in many developing countries and Malaysia is no exception (Mok *et al.*, 2007). In the absence of a comprehensive old-age social security scheme in Malaysia, it is critical that people plan for their own financial retirement needs to protect themselves from social and economic distress in their old age.

Improving longevity expands the life time, but the gained life years may not be healthy ones especially in older ages. This implies that if longevity is accompanied by ill health and disability in old age, a proportional life cycle change would decrease the percentage of time spent in retirement in a healthy state. In addition to adjustments of the life cycle caused by health or disability, constraints and incentives of the social security systems are of particular importance for the evolution of life cycles – for example, decisions on retirement age are strongly dependent and influenced by institutional factors. There is a strong relationship between the effective retirement age and the age at which benefits from pension plans can be drawn (Peglow, 2010). If we were to follow the life-cycle model, households should save and accumulate wealth to provide for their retirement consumption. The key puzzle then is why people still do not save. The literature on saving behaviour has provided evidence that people do not

save and accumulate enough, even among those nearing retirement. Given that earnings will decline when people retire, such behaviour can imply poor living standards for the elderly (Hubbard *et al.*, 1995). Low saving could restrain the growth of investment and output and thus the tax base and the future economic of any country.

As Malaysians live longer, it is crucial to study people's decisions and for policy makers to be aware of the significance of life-cycle changes, which encompasses the issues of planning for retirement and post-retirement financial needs and how savings are invested to generate income on a sustainable basis during retirement. Increased longevity, inadequate personal savings and the lack of social security has raised concerns over the quality of post-retirement life. As a result, financial planning for retirement and financing has become a leading human resource issue which will grow in importance. Saving and planning for retirement can be a complex task, and many individuals may perform it very imperfectly, even postponing the decision until it is too late (Lusardi, 2001). Because lifetimes are uncertain, people also want and need to insure against the uncertainty of life expectancy. While financial planning is relatively developed in developed countries like the United States, United Kingdom, and Australia, it is still considered very much to be in its nascent stage in Malaysia.

Only a small body of research has examined the abovementioned preparatory behaviours and their predictors. The reasons for this can be attributable to the fact that many published studies of financial planning for retirement are based on secondary data sets, which were not primarily designed to study planning, or are based on economics, a field that is not as interested in behavioural activities compared to

sociology. Additionally, while retirement planning sessions, employee benefit specialists, and financial experts are not new, they have become much more pervasive in society in recent years. Consequently, it is difficult to compare research on the predictors of and pervasiveness of these activities from say the 1970s and 1980s and today, since the availability of these services is vastly different now. One reason has been the growth of the financial services industry including businesses that manage people's savings and investments.

### **1.6 Life-Cycle Financial Planning – Saving and Investing**

The basic idea of the life-cycle theory is that people seek to maintain their living standards (smoothing their consumption) as they age and face life's various contingencies. Seeking a stable living standard and achieving one, however, are two very different things. The model suggests that consumption and saving decisions are made from a life cycle perspective. A key aspect of life-cycle saving and investing is establishing the divide between the period over which the saving occurs – that is, the work life – and the period during which assets are drawn down – the retirement span. The life-cycle hypothesis attempts to explain the way that people split their income between spending (consumption) and savings, and the way they borrow. The typical shape of the age-income profile over the life-cycle starts with low income during the early working life, then earning increases until it reaches a peak before retirement. The standard life-cycle model is represented by a “hump-shaped” pattern which suggests that an individual builds his asset accumulation during his working years and spends those assets during his retirement years. This hypothesis suggests that saving is high

when income is high (relative) to lifetime average income; conversely saving is low when income is low. When people are young, and again when they are old, they generally have much less income, it is natural when earnings are high that they save for retirement.

The life-cycle model suggests that people will save while young and working, and dissave when old and retired. This implies an accounting effect – when societies have many elderly people, savings will be low – and motivates the study of the interaction between demography and aggregate savings. In theory, in the absence of a bequest motive, the dissavings of the old should offset the savings of the young, so that in a stationary population (with a stable age distribution and no population growth) there is no aggregate saving. However, if the age structure of the population is unbalanced (from population growth), or if the economy is undergoing rapid economic growth and wage incomes of the young are high relative to the retirement incomes of the old, the savings of different cohorts may not cancel out, and aggregate saving, or dissaving, may occur (Ando and Modigliani, 1963 as cited in Bloom *et al.*, 2007).

While there may be a typical financial life-cycle pattern that applies to most people, each family and individual might encounter unexpected events at any time that are difficult to predict if and when they might occur, and are not planned for in their financial life-cycle. Lifestyle situations will affect the financial situation and requirements at different stages in life. The recent global economic meltdown in 2008/2009 resulting in a rout in most stock markets around the world has ignited a crisis of confidence for millions of people in the world who manage their own

retirement savings plans. An article in the Wall Street Journal (9 January 2009) reported a 35-year-old American manager as saying – “There is just no guarantee that when you are ready to retire you are going to have the money. You either put it in a money market which pays 1 percent, which isn’t enough to retire, or you expose yourself to huge market risk and you can lose half your retirement in one year”.

More life-cycle saving will probably be needed for people not to suffer a decline in their standard of living when they retire. To meet their financial needs during retirement, people would have to make periodic cash withdrawals from their retirement portfolio to finance their consumption and maintain their desired standard of living. The better the investment portfolio performs, the longer the portfolio can sustain these periodic withdrawals in retirement. However, portfolio performance is a function of asset allocation strategy and individual investment returns. For example, what percentage of a portfolio should be invested in stocks? A rule of thumb suggests an equity percentage equal to 100 minus the person’s age. Consequently, a 50-year individual should invest 50 percent in stocks in his portfolio. Therefore, a sound asset allocation strategy and good portfolio returns are the vital determinants of success for a retirement plan and individual retirement experience. A life-cycle investment model requires investing before retirement to emphasise on capital growth (the accumulation phase). Conversely, investing after retirement (the liquidation phase) should emphasise current income and give less priority to growth. These emphases should vary based on the person’s age, financial needs, and financial goals.

## **1.7 Life-Cycle Saving and Investing - Investment Planning and Strategies for the Post-Retirement Period**

People planning and saving for retirement face the challenge of deciding not only how much to save, but also how to allocate their retirement savings across different kinds of investments, such as stocks, bonds, bank and insurance accounts, and real estate. Determining how much to save requires making several key decisions: the amount the individual intends to withdraw and spend each year during retirement, the portfolio balance needed upon retirement to meet and sustain the annual spending requirement, and how much is required to save annually from now until the expected retirement age to achieve this portfolio target. Investing for retirement is important as dramatic improvements in living standards and medical and health care have led to a significant increase in life expectancy. This has increased the number of people who live for much longer periods after their retirement. There are several reasons why one may be interested to study the saving for retirement and related consumption behaviour of households. Saving is related to growth and economic development of a country. There is a close link between household and national saving rates over time (Deaton, 1997).

Millions of people around the world today are relying on self-directed investment accounts to provide future retirement income. Since many of these people lack knowledge about how to invest the money accumulating in these accounts, they are seeking the help of experts. This advice is currently provided by the investment industry, financial planners, and by government according to Markowitz (1952). The

Markowitz portfolio-selection model is based on a set of risky assets characterized by their means, standard deviations, and correlations, from which are derived outputs in the form of a menu of risk-return choices arrayed along an “efficient portfolio frontier” (Bodie, 2001). Merton (1969, 1971, 1975, 1992, as cited in Bodie, 2001) showed that hedging can be as important as diversifying in the demand for assets. Bodie (2001) suggests ways to take full advantage of these theoretical advances and market innovations to improve the risk/reward opportunities available to individuals in self-directed investment accounts. First, he suggests hedging with inflation-protected bonds and annuities as the way to guarantee a minimum standard of living in retirement. Second, he suggests assessing investors’ willingness to postpone retirement in determining their optimal asset allocation. Third, he suggests a way to use call options to leverage potential income gains while protecting one’s minimum standard of living.

Markowitz mean-variance model of portfolio choice assumes that individuals make decisions in a static single-period framework (Jaconetti, 2009). Merton’s continuous-time model framework contains several distinct time horizons. The planning horizon is the total length of time for which one plans. For a 25-year-old who expects to live to age 85, the retirement planning horizon would be 60 years. As one ages, the planning horizon typically gets shorter and shorter. When considering life’s priorities, the individual is likely to have several competing financial goals – buying a first or second home, saving for a child tertiary education, taking a vacation, etc. The individuals are required to envisage the lifestyle they want when they are no longer working full time or fully retired. To achieve a comfortable, financially secure retirement, the key is to plan early – and to monitor the chosen strategy on a regular basis. The time horizon

over which a retiree expects to spend his or her investment portfolio is critical. For most retirees, the time horizon equals the life expectancy of his or her spouse. Given the many uncertainties, a common practice suggested by financial planners is to plan up to age 95-100 (Jaconetti, 2009).

Life-cycle investing identifies that a person's welfare depends not only on her end-of-period wealth but also on the consumption of goods and leisure over her entire lifetime (Bodie, 2003). In recent years, financial planners recommended an optimal or required replacement ratio, which is the percentage of current income an individual will need to replace during retirement. The estimates of replacement income required range anywhere from 50 to 90 percent of the pre-retirement income. Another method is to focus on consumption – the amount of money actually spent each year (not the amount earned) to determine retirement needs (Jaconetti, 2009). However, saving more now require a trade-off between current consumption and future consumption. Saving more requires the individual to live more frugally than he or she would like in order to adequately fund retirement. Therefore, the individual needs to determine the right balance between current and future consumption for his or her situation.

### **1.7.1 Household Portfolio Choice**

The composition of private household savings has changed in a way that increases risk. There has been a significant increase in stock ownership among households since the 1990s (Poterba, 2001 as cited in Kezdi and Sevak, 2004). Investing for retirement include how to allocate their investment portfolios across asset classes and across



many different financial products. Asset allocation decisions have important consequences for retirement wealth accumulation. Individuals may not fully understand the risks associated with various investment options, and are consequently exposed to investment risks (Poterba *et al.*, 2006). Conventional portfolio advice suggests that working households invest in life-cycle funds, whose asset allocation changes gradually through time from mostly stocks to mostly bonds. In 1969, two Economic Nobel Laureates, Paul Samuelson and Robert Merton, independently showed that stocks do not, on balance, offer a better risk-return deal the longer you hold them. Consequently, economics prescribes the same split between risky and safe assets for long-term (young) and short-term (old) investors (Kotlikoff, 2008).

Merton (1969) subsequently modified this prescription to account for the fact that most young and middle-aged households hold most of their economic resources in the form of non-tradable current and future labour earnings. Younger households should invest a small to moderate share of their financial assets in stocks. This share should be increased dramatically in their middle ages; then they should reduce this share dramatically in late retirement. However, at any age, they should set their equity shares based on their risk aversion. No one retirement savings strategy will work for every individual. Each individual needs to determine the right balance for his or her situation. Portfolio choice can reveal a great deal about household behaviour. A retiree need to optimally choose how much to consume (spending decision) in tandem with an investment strategy (investment decision) to support that consumption. This involves the issue of a reasonable asset allocation of retirement assets i.e. how much should the retiree invest in equities, bonds, and other investments.

While it is generally accepted that returns on stocks have outperformed bonds, only a relatively small fraction of households hold stocks (Haliassos and Bertaut, 1995 as cited in Lusardi, 2001). Bernatzi and Thaler (2001) find evidence of very naïve diversification strategies. They find many participants in defined contribution saving plans simply divide their contributions evenly across the funds offered by the plan. Lusardi (2001) reports that households who have high education and permanent income are more likely to invest in stocks. Respondents reporting excellent or good health are also more likely to invest in stocks. The lack of planning has been identified as a strong determinant of portfolio choice (Lusardi, 2001).

### **1.7.2 Asset Allocation**

How should an individual allocate his investments between the different categories of asset classes i.e. the different investments with distinguishing characteristics: high risk, high return assets and low risk, low return assets? Asset allocation is the strategy of allocating different investment which determines total return and return variability. Asset allocation decision itself is based on the individual's goals, time horizon, and risk tolerance, ranging from conservative to aggressive. The results are reflected in the composition of the investment portfolio allocation to different asset classes. The three major asset classes are – equities (stocks), fixed income (bonds), and cash and cash equivalents (money market instruments). Traditionally, equities provide the best growth potential; equities also involve the greatest risk of all three asset classes. Bond investments can provide stable income stream with generally moderate levels of risk.

Cash and cash equivalents are highly liquid and safe in the short-term, but due to the low expected return, cash and equivalents cannot keep up with inflation.

The retiree faces two risks: if he invests in low return assets, he risks outliving the income stream such an investment generates. If he invests in high return assets, there is a chance that losses will diminish the asset base and erode his livelihood. The literature on portfolio investment management posits that investors should pick equities or other high return investment earlier in their life-cycle, and gradually switch to bonds and other fixed-income instruments later in the life-cycle. And by retirement age, they should be holding more than half their investments in bonds and near-cash securities. In contrast, Malkiel (1990 as cited in Milevsky *et. al.*, 1997) recommended that investors in their late sixties and older should hold 60 percent in bonds, 30 percent in equities, and 10 percent in a money market fund. Investors in their mid-fifties are recommended to have 50 percent in stocks, 45 percent in bonds, and 5 percent in the money market. Malkiel (1990) based all his recommendations on the variability of returns, without explicitly considering either the expected lifespan of investors or the risk that they might outlive their money. Ho *et al.* (1994) find that retiring individuals should hold more of their portfolios in high risk assets.

Milevsky *et al.* (1997) find that:

1. Retirees should consider their desired consumption, existing wealth, age and gender, before deciding how to allocate their investment assets;
2. Retirees in most cases should invest a higher proportion in high risk, high return assets than most planners have traditionally recommended; and

3. Women need to invest even higher proportion of their wealth in riskier assets than men, because they live longer, on average, and need to earn more from their investment funds than men do.

For example, in November 2008, the Malaysian central bank, Bank Negara cut the overnight policy rate, by 150 basis points to 2.0 percent. Following the cut, the average rate on a conventional one-year fixed deposit account for most banks have fallen to 2.5 percent payable at maturity from 3.70 percent to 3.75 percent a year ago (Law, 2009). Even though the inflation rate (as measured by the Consumer Price index or CPI) is expected to moderate from the peak of 8.5 percent in August 2008 to 3.9 percent in January 2009, the current 12-month fixed deposit rate of 2.5 percent is still lower than the prevailing inflation rate of 3.9 percent. This means savers are getting a negative rate of return if we take into account the inflation rate. For the elderly population who are dependent on the interest of their fixed deposits for their living expenses, the low returns from the bank deposits are not able to cover the high inflation rates.

### **1.7.3 Managing Risks in Retirement**

Adverse events and risks have an important influence on the financial decisions and well-being of individuals before and after retirement. Risk management in relation to lifetime income, post-retirement risks and risk management issues, are crucial in life-cycle saving and investing in the context of retirement planning. Maurer and Somova (2009) identify three important risk factors that need to be managed in the post-retirement period:

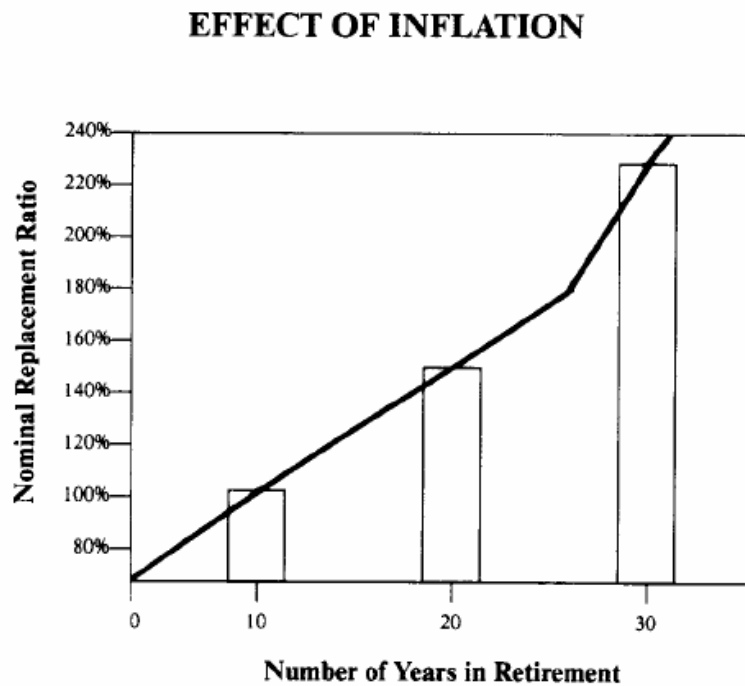
1. Inflation risk that prices may increase too quickly resulting in an erosion of the real value of pension payments and/or other post-retirement income, and thus reducing the purchasing power of pension benefits or post-retirement income.
2. Investment risk that stochastic investment returns will mean that retirement assets fluctuate over time, and decline in value. Efficient market theory implies that higher return prospects come with higher risks.
3. Mortality risk concerning an uncertain lifetime. Mortality risk can have two different adverse outcomes from lifetime consumption and saving perspective.

If the retiree lives longer than expected, he may run out of money. In which case, the retiree will have to reduce consumption later in life, and face the risk of falling into poverty in his post-retirement period. The literature refers to this as longevity risk i.e. the threat of reaching an age where all savings are already exhausted during the lifetime of the retiree (the risk of capital exhaustion). However, if the retiree dies too early without consuming enough of his savings, he may leave behind an unintended bequest (brevity risk). Other risks are the risk of unexpected medical expenses, the need and the cost for long-term care services.

Inflation is a major factor in the adequacy of retirement income and benefits, especially 15 or 20 years after retirement (England, 1988). Inflation-triggered depreciation of retirement assets and income in real terms is of great importance for old age savings and the long time horizons, associated with them. As an illustration, Figure 1.1 below shows, even a relatively mild 4 percent annual inflation rate severely erode the replacement ratio over 20 years of retirement. For example, a ratio of 70

percent at age 65 years must rise 104 percent at age 75 years and to 153 percent at age 85 years to maintain the same standard of living.

**Figure 1.1: Effect of Inflation**



If 70% of preretirement income is needed at retirement to maintain standard of living, this figure shows how much the replacement ratio must increase with 4% inflation to preserve that standard of living.

Assumptions:

- 4% rate of inflation
- Taxes fully indexed—that is, deductions, interest and tax brackets change with inflation.

Source: England (1988)

Fluctuating returns of the different investment assets (for the retirees) contain both the attraction of an upside potential, and also the disadvantage of shortfall-risks to lose money due to adverse developments in the capital and financial markets. While the literature shows that stocks have a higher return than bonds, it may come at the cost of higher volatility. Even in the decumulation phase, the average investment horizon with respect to life-expectancy is about 20 years for a retiree at age 55 years. Retirees making prudent decisions would need to seek diversification possibilities not only between individual securities within a specific asset class, but also across different asset categories – stocks, bonds, real estate as well as with recurring income streams from labour income and statutory pension claims (Maurer and Somova, 2009). Given the uncertainty of an individual's lifetime, the expected remaining lifetime of a retiree can give rise to a considerable deviation around the statistical mean. The volatility of the individual lifetime is a factor of the economic consequences of mortality risk. Besides this volatility risk, uncertainty about the future development of the average lifetime itself caused by improvements to the mortality rates of the population is an additional risk factor, the estimation risk.

## **1.8 Household Consumption and Financial Planning**

Most people desire a high standard of living and look forward to a comfortable retirement. And yet most people think retirement planning is important only when they are about to retire. Current lifestyles entail financial commitments and encourage consumption. People opt for current satisfaction, leaving not enough for investment or

concern over future security. For those in the lower-income bracket and those just starting their careers, the priority, logically, would be survival for the present time.

### **1.8.1 Importance of Private Consumption to the Economy**

Since the Asian financial crises in the late 1990s, several countries including Malaysia have tried to stimulate domestic consumption to boost national growth rates. Two key ways to do that were to lower interest rates and ease the regulation of credit. Intensive marketing by banks and financial institutions have lowered the minimum-income bar for credit cards and mortgage and other consumer loans. Private consumption has played a significant role in stimulating domestic demand in the Malaysian economy. The country's Economic Report 2009/2010 reported that the Malaysian economy is expected to grow by 2.0 to 3.0 percent in 2010 supported by private investment and consumption. Private consumption is projected to contribute 53.6 percent to Malaysia's GDP in 2010 and expected to rise further to 58 percent by 2015 (10<sup>th</sup> Malaysia Plan 2011-2015). In the first quarter of 2010 itself, private consumption expanded by 5.1 percent i.e. higher consumer spending was reflected in the major consumption indicators: credit card spending, sales of passenger cars, loans disbursed to households and imports of consumption goods (Bank Negara Quarterly Bulletin).

### **1.8.2 Increasing Household Debts**

Banks started to target household consumers more aggressively due to perceived lower credit risks after major corporate defaults during the Asian financial crisis in the late

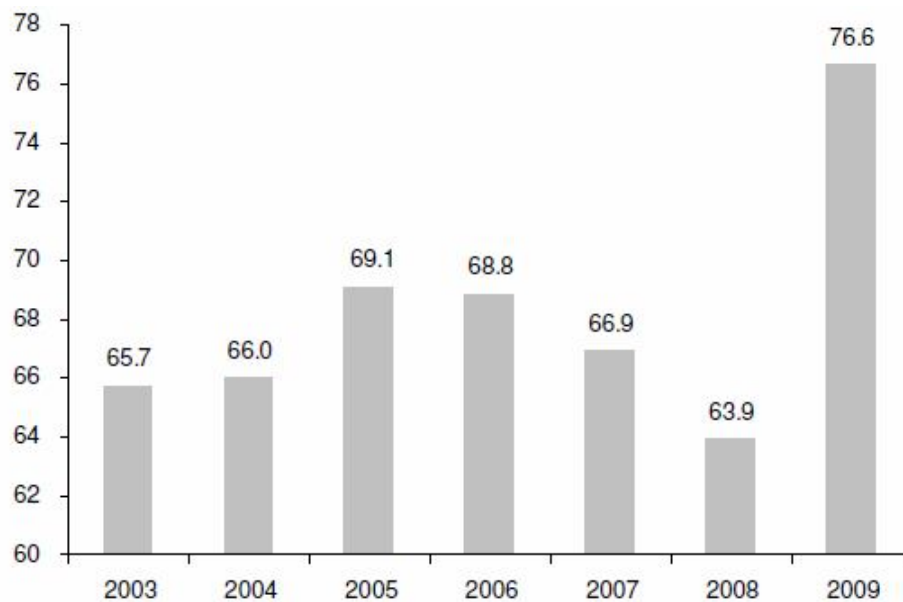


1990s. At the same time, good quality corporations started to tap more into the lower-cost bond markets for their funding needs. Because of this increasing dependence on private consumption in recent years as a key driver of economic growth in the country, the levels of household debts in Malaysia have reached relatively high levels. This fact which has not been highlighted often enough has serious policy implications which make understanding the relationship between private consumption and income crucial to the study of savings for the individuals and investing for the post-retirement period. As lending to households forms an increasing segment of the country's financial system, it is crucial for policymakers to be aware of the implications for monetary policy and financial stability both to the country and family. As with most forms of credit, the rapid development of household debt can create vulnerabilities if the debt reaches an unsustainable level. Increasing indebtedness means that the family and household sector has more exposure to interest rate risks and shocks to household income and debt servicing capability (Norhana and Toh, 2009).

Prior to the 1997 Asian Financial crisis, the share of household debt in the total outstanding bank loans was relatively small compared to the share of loans extended to the business and corporate sector. At end-1997, bank lending to the household sector accounted for only 33 percent of total loans outstanding (Norhana and Toh, 2009). By 2009, total household debt has snowballed to RM516.6 billion or 76.6 percent of GDP compared to RM472.1 billion. Figure 1.2 shows Malaysia's total household debt rose 11.1 percent per annum from 2004 to 2009, causing the household-to-debt ratio to rise from 66.7 percent to 76.6 percent. This ratio is the highest in Asia, second to Japan's 130 percent. It is also much higher than ratios of 10 to 33 percent for other developing

countries such as India, Indonesia and Thailand. Malaysia's household debt-to-GDP ratios is ironically also higher than most developed countries, with the exception of the US (102%) and UK (109%), both of which are now facing housing related problems.

**Figure 1.2: Household Debt-to-GDP Ratio (%)**

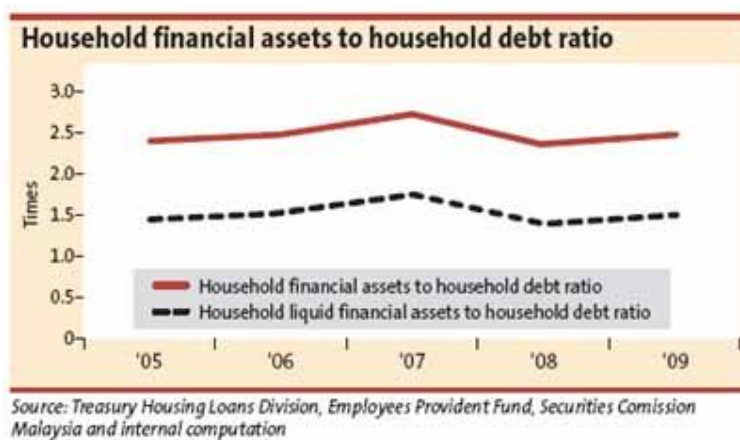


Source: MARC Economic Research/Bank Negara Annual Reports

According to a CIMB Investment Bank report, the composition of household debt at end-2009 comprises of property loans (50%), automobiles (27%), personal loans (9%), and credit card (6.3%). The volume of personal financing expanded at 22.9 percent in 2009 to account for 15 percent (2008: 12.4%) of household debt (Source: The Star, 26 October, 2010). Higher repayments for debt taken to buy houses, cars, and for other consumption needs would eventually bite into private consumption and saving for retirement. There is a great need to balance between consumption and savings. Figure 1.3 below shows the correlation between household financial assets to household debt.

As at end-2009, household financial assets cover (comprising savings, investments and insurance) stand at 2.5 times of household debt (2008: 2.3 times). However continued rising household debt may constrain consumption in the event of any rise in interest rates and debt service costs.

**Figure 1.3: Household Financial Assets to Household Debt Ratio**



Source: The Star Online (March, 2010)

The competition is so great amongst the credit card companies and banks that people are constantly sent pamphlets, brochures and teasers trying to encourage them to transfer their accounts and spend. However, this unrestrained use of credit cards comes at a heavy price, not only to the cardholders but also to society at large. The reckless lending to household consumers not only contributes to a rising tide of personal bankruptcies but bears a social cost of broken families, domestic violence, and even suicides. Such event had occurred in South Korea where several large banks had suffered heavy losses in 2002 arising from what analysts said was a pattern of

“reckless lending to consumers without properly assessing the creditworthiness of consumers”. A similar pattern has been observed in other countries in Asia, Latin America, and Russia.

It can eventually cut into the banks or financial institutions’ ability to finance business loans. Even HSBC Bank (HSBC) had to drastically increase its provisions for potential defaults, in part because of personal bankruptcies in Hong Kong, which thereby reduced the amount of capital HSBC had to lend. Drawing funds away from business investment can be a serious drag on economic growth. Banks reduce their capital bases, interest rates are forced up, capital becomes harder for businesses to raise, and companies slip into bankruptcy. Indeed, corporate bankruptcies in South Korea, Hong Kong, Thailand, and elsewhere in Asia have risen over the past two years, as many businesses have been unable to find new sources of financing from banks weighed down by portfolios heavy with non-performing loans. The decline in investment is often compounded by the binge-and-purge effects of high consumer debt, in which consumers run up huge credit card bills and then spend virtually nothing for months. This cycle can make it hard for retailers to make long-term business plans (Kurlantzick, 2003). Prominent economists have begun to realize the potential dangers excessive consumer lending poses to the developing world. As the 1997’s Asian financial crisis demonstrated, crises in one developing nation’s economy can rapidly spread to others, sparking a wave of destabilization throughout the world economy. The mid-1990s show that many of the countries that experienced rapid run-ups of consumer credit are those which went through snaps of boom and bust arising from the sharp growth in easy personal credit.

In recognising the concerns over rising consumer debt, the central bank, Bank Negara set up a debt negotiation agency known as the Credit Counselling and Debt Management Agency (AKPK) in 2006 to provide financial counselling and help borrowers deal with late payments and financial difficulties; while banks could easily check borrowers' borrowing status before granting them any new loans through a data system set up by the central bank to capture all outstanding loans. According to the AKPK, 15 percent of the more than 39,600 people enrolled in its debt management programme are below 30 years old; young adults who risk being declared bankrupt because of credit card overspending and failing to observe sound financial planning and management. A study conducted by AKPK reported that nearly 50 percent of credit card holders declared bankrupt were less than 30 years of age. Most respondents cited they lost control on usage of their credit cards.

The easy availability of credit cards to young adult Malaysian has given rise to a credit card debt of RM24.4 billion owed by Malaysians as at end of March 2009 (Bank Negara Malaysia). The increasing trend of commercial banks and financial institutions providing free credit cards, free transfer of credit balances, and upping credit limits are pushing Malaysians further into debts. There are calls to restrict credit card holding by increasing the minimum monthly salary requirement from the present RM1,500 to RM5,000. A study by Fatimah Daud (cited in Ngui, 2005) found that 10.5 percent of personal bankruptcies in Malaysia are due to credit card abuse, other causes are defaulting on car loans (23%), failing to repay personal or business loans (20%), bankruptcies due to standing as a guarantor (21%).

The low interest rate environment during the 2002-07 that has reduced the cost of borrowing has increased the incentive for households to borrow in order to smooth their desired path of consumption over the life cycle. In line with the government's efforts to promote home ownership, banks and financial institutions are required to offer housing loans, especially to low-income borrowers. Besides housing, the streamlining and reduction of duties on lower capacity cars have also boosted the demand for household credit. Government policies have therefore facilitated greater allocation of credit to households.

This increase in household debt has thus far supported the growth in private consumption and made positive contributions to the other sectors in the economy. Nevertheless, as lending to households increasingly becomes a larger segment of the financial system, it is crucial for policymakers to be aware of the implications for monetary policy and financial stability. The rapid increase in household debt can create financial vulnerabilities and impact the financial saving and security of future Malaysian retirees. Increased indebtedness means that the household sector has more exposure to interest rate risks and shocks to household income. Households whose debts carry mostly floating interest rates are vulnerable to rising interest rates. Higher interest rates and the corresponding increases in debt servicing costs result in a reduction in disposable income and, hence, consumption and savings. The risks are more significant if households have taken advantage of low borrowing rates to increase the size of their mortgage excessively.

## **1.9 Population Aging**

Population aging is a growing phenomenon in most industrialized countries (Gruber and Wise, 1998). Malaysia's population, which stand at 28.31 million in 2009 (Dept. of Statistics, Malaysia) is expected to grow to about 33.4 million by year 2020. The current median age is less than 24 years. In term of age structure, the present population is still considered "youthful". However, with regard to the aged population (65 years and older), there has been a clear trend towards aging population in Malaysia. The proportion of aged population is currently at 4.6 percent in 2009 compared to 3.7 percent in 1980 (Table 1.1). Given prevailing demographic trends, it is projected that by year 2020, those aged 65 and above will constitute about 6.1 percent (Table 1.2) of an estimated population of 33.4 million. In terms of absolute numbers, the population of older persons will increase from about 1 million in 2000 to 2.3 million by the year 2020. This represents a more than two-fold increase within the span of 20 years, or an increase of 65,000 older persons per year. However, even this estimate of older persons has since been revised to 3.4 million by 2020 (Source: 10<sup>th</sup> Malaysia Plan, 2011-2015).

The overall dependency ratio has decreased from 69.2 per cent in 1991 to 59.1 per cent in 2000 and expected to further decline to 57.8 per cent in 2020 (Source: Malaysia Country Report, UNCC 2002). The drop in the dependency ratio was due to the increase in the proportion of the working age population of 15-64 years as well as slower growth of the population below 15 years. As the percentages of elderly people in the population rises, the number of young people is proportionately diminishing.

Because of this increasing population of elderly people, research on retirement is crucial if Malaysian society is to manage and reduce the burden of poverty among retirees and the elderly population. McMorow and Roger (2003) outlined several reasons why an aging population is important which include inter alia: (1) the increasing “aged dependency ratio”; (2) increased longevity; (3) increased costs to government of age-related spending; and (4) the impact upon the aging workforce.

An aging trend will lead to a drop in the “aged dependency ratio”, which is the ratio of people over the age of 65 years old to those aged between 15 and 64 years old. A high dependency ratio means that there are fewer people working and paying tax to older people who are no longer working. Increased life expectancy means an increase in the number of elderly people which contribute to a consequential increase in higher health care costs for individuals, health care organisations, and government. The costs to the government for other age-related spending such as pension and welfare support will also increase. An aging population is important because of the consequent impact upon the demographic profile of the country’s workforce. The age structure of a country’s population affects its aggregate saving, which affects growth through investment. Growth in turn is influenced by other age structure effects and feeds back into aggregate saving by the life cycle mechanism (Lindh, 1999). The future age structure of the population will have considerable implications for social and economic development.

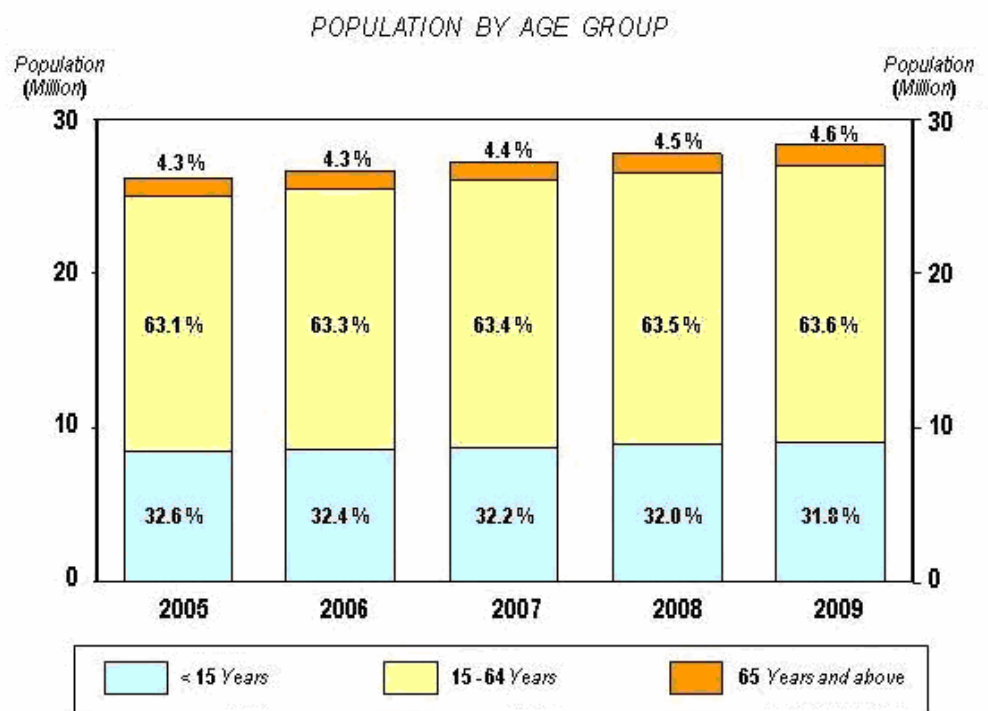
In the next two decades, Malaysia will still have a moderately “young” population, with those within the age group 0-14 constituting 30.5 percent of the total population.



Much of the development resources will still need to be devoted to cater for the needs of the younger age groups i.e. child care, education and other social services. While attending to the needs of the younger segment of the population, there is also concern for the steady increase of older persons, both numerically and in proportionate terms.

**Table 1.1: Malaysia's Population by Age Group**

Population	2007	2008	2009
Population (In Million)	27.17	27.73	28.31



Source: Department of Statistics, Malaysia 2010

Some of the demographic changes – rapid reduction in mortality, steady pace of fertility decline contributing to the consequent declining family size will impact the

elderly persons. The decline in fertility and mortality levels in Malaysia has been consistent with the rapid economic growth that the country has been experiencing. As care for the older persons has traditionally been within the family system, further decline in the family size would ultimately reduce the number of family members available to care for their aged dependents. Care of the elderly within the family system is fast becoming a problem owing to the fact that the extended family structure is slowly being undertaken by nuclear family. Such problems are compounded as more women participate in the labour market and with increasing mobility of young family members.

**Table 1.2: Population Size and Age Structure**  
**Malaysia, 1980 – 2020**

	1980	1991	2000	2020
<b>Total Population (million)</b>	13.7	18.5	23.3	33.4
<b>Average Annual Growth Rate (%)</b>	2.3	2.64	2.6	1.8
<b>Age Structure (%)</b>				
0 – 14	39.6	37.2	33.1	30.5
15 – 64	56.7	59.1	62.9	63.3
65 & above	3.7	3.7	4.0	6.1
<b>Dependency Ratio (%)</b>	76.4	69.2	59.1	57.8

Source: Department of Statistics, Malaysia; Eighth Malaysia Plan, 2001-2005

Several factors have affected the demographic changes in Malaysia – declining fertility, increased urbanisation, and the increasing proportion of females joining the work force, which in turn would greatly impact the Malaysian society from the following perspectives – social, economic, cultural and personal. The dramatic increase in the number of older persons would require Malaysia to address the numerous problems faced by the group, including inter alia financial support, physical and healthcare.

Bloom *et al.* (2003) put forward the theory that a possible explanation in savings increase has been a rise in life expectancy. This increased life span, if coupled with a fixed or inelastic retirement age will give rise to a greater need for savings for retirement. Although longer life spans encourage saving, this effect is eventually offset by the larger elderly population; the savings boom due to a rise in life expectancy is therefore temporary. This leads to the hypothesis that the effect of life expectancy on national savings rates depends on the social system in place (Bloom *et al.*, 2007). Bloom *et al.* (2007) find that (a) increased longevity has little effect on savings without mandatory retirement, but increases savings in countries with mandatory retirement, and (b) high replacement rates lower national savings in pay-as-you-go systems but increase savings rates in fully funded systems.

### **1.10 Social Security in Malaysia**

There are three potential sources of post-retirement income for Malaysians: a government pension for retired civil servants, the Employees Provident Fund (EPF) for

employees in the private sector, and personal savings. Malaysia has several social security schemes, which cover contingencies such as old age, employment injury, occupational diseases and invalidity. Formal social protection includes the EPF set up in 1951, the Social Security Organisation (SOCSO) established in 1969, and Government Pension Scheme for the public sector employees, the Old Age Benefit Scheme for the Armed Forces. These different schemes provide protection for different contingencies such as old age (pension and the EPF), and disability (SOCSO).

While these schemes provide coverage for the formal sector, the provision is not mandatory for those in the informal sector, which is substantial in Malaysia. Although the EPF is extended to the self-employed on a voluntary contribution basis, the participation rate is low. Hence, those in the informal sector have to rely on savings, drawing down on past wealth and financial support from children and family members to provide them with income security in their old age. The government is considering introducing new private pension fund targeted at an estimated “five million of self-employed comprising, among others, taxi drivers, farmers, fishermen, those in small and medium industries” (Ling, 2010).

The World Bank and most social security experts advocate a multi-tier framework of social security to provide for retirement income to the different segments of the population. The Bank had earlier suggested a three-pillar system of social security: (1) a publicly managed, unfunded Defined Benefit (DB) first pillar which provides a core retirement income to nearly the entire workforce; (2) a mandatory savings tier and

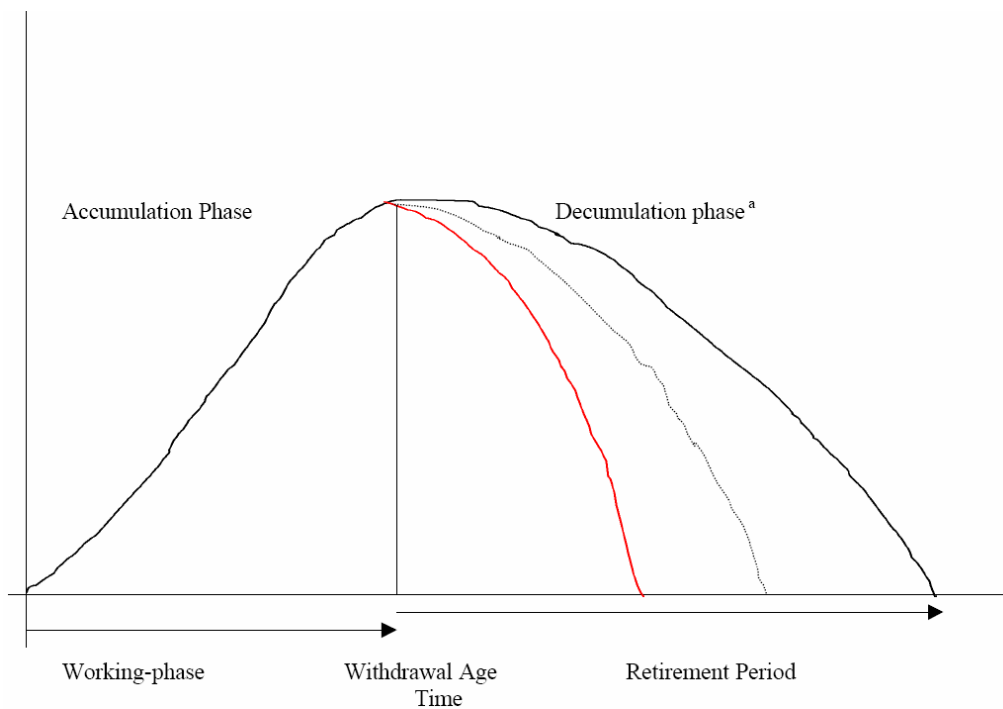
funded Defined Contribution (DC) pillar, designed to ensure that individuals do save for retirement, which would provide a supplement to social security; and (3) a voluntary private saving pillar representing income from private savings. The first tier is tax or contribution-financed redistributive tier with social insurance principles, designed to alleviate poverty and to provide protection to life-time poor. The second tier is the mandatory savings designed to ensure that individuals do save for retirement. The third is a tax-advantaged voluntary savings tier which can be used only for retirement (Asher, 2002). New developments and evidence have led the Bank to suggest a five-tier framework (Holzmann and Hinz, 2005; Asher, 2008). The five-tier framework added Pillar Zero to provide basic pension or social assistance financed from the general budgetary revenues to cater to the lifetime poor in the community. Pillar Four recognizes the role of family, community, physical assets (housing) and post-retirement employment (Asher, 2008).

Malaysia has basically two types of retirement benefit plans: (1) a government pension system which is essentially a Defined Benefit (DB) scheme for the civil servants; and (2) a state-run provident fund, the EPF for employees in the private sector. The corporatization and privatisation of many government entities such as the utility sector has led to a migration of employees from the DB plan to the DC plan. Research in behavioural economics suggests a breakdown of will power and self-control and often the lump sum EPF withdrawal is spent too quickly. Figure 1.4 below shows mandatory savings scheme such as EPF has two phases, accumulation phase during an individual working career and the decumulation phase upon retirement. In the accumulation phase, the rate of return obtained on total balances accumulated by an individual has a

crucial role to play. A low rate of return (nominal rate less inflation rate) implies that the final accumulated balances will be low, and vice versa. In the decumulation phase, the EPF provides for lump sum withdrawals of the accumulated balances rather than converting them to a periodic payment or an annuity (Asher, 2002).

**Figure 1.4: Employees Provident Fund (EPF)**

**Accumulation and Decumulation Phases of Provident Funds**



Source: Asher (2002)

### 1.10.1 Employees Provident Fund (EPF)

The EPF is the most important source of non-familial support for the elderly in Malaysia. The EPF is a national provident fund set up in 1951. The EPF is a defined contribution plan. Both employers and employees in the private sector contribute to the

EPF at the current rate of 11 percent and 12 percent of monthly wages respectively. The EPF is mandatory for employees in the formal sector. This coverage does not extend to domestic servants, and public sector employees, armed forces and police personnel, who are eligible for the public sector pension scheme. However self-employed persons or pensionable employees are entitled to become members, and can determine their own size of contribution, with a minimum of RM20 per month. An EPF member's contribution is divided into three accounts, viz.: (i) Account I - 60 percent is credited for retirement purposes in accordance with the primary objective of the scheme, and can only be withdrawn upon reaching age 55 years; (ii) Account II - 30 percent credited that may be used for pre-retirement purposes such as withdrawals for buying or building a house, education and health needs as well as when a member reaches 50 years old; and (iii) Account III – 10 percent intended to help members to pay for critical illness expenses. Effective 2008, the liability period for mandatory contribution to the EPF for both employers and employees has been extended from age 55 to age 75. This change is to encourage members to continue working after 55 years to enhance their retirement savings.

At first, the EPF was meant to ensure the financial security of its members, particularly after retirement. Since 1968, contributors are eligible and have the option to withdraw up to one third of their total balance in their EPF account upon reaching 50 years old. The balance of two third in their EPF account may be withdrawn in one lump sum upon reaching the age 55 years old. Individual contributors are permitted to withdraw a portion of his or her EPF contribution, prior to reaching the age of 55, for certain reasons. These include buying a house and meeting the medical costs of a serious

disease. The total balance can be withdrawn in the following instances: death, incapacitation and emigration or attaining the age of 55. Benefits for retirees are linked directly to the contributions made by them and their employers during the period of employment, and the compounded annual dividend declared by the EPF. As a result, relatively highly-paid workers who pay more into their EPF accounts would have higher retirement accumulations than those who earn less and consequently pay less into their EPF accounts.

As at 31 December 2009, the EPF had 12.35 million members, inclusive of 5.79 million active contributors (EPF Annual Report, 2009). Based on a total labour force in the country of 12.06 million in 2009 (Source: Economic Report 2009/2010), the EPF coverage as measured by the ratio of active contributors to the labour force as at the end of 2009 is about 50 percent, which mean that about 48 percent of the labour force does not contribute to the EPF. However, employees in the public sector (1.22 million) which comprise about 10 percent of the total labour force are covered by government pension scheme for civil servants (Source: Nanyang Siang Pau, 17 January 2010). This would increase the overall coverage of the labour force to about 58 percent. It is therefore estimated that about 42 percent of the country's labour force is not covered by any formal retirement scheme.

The majority of Malaysians relies on the little nest egg built up through mandatory contribution to the EPF which may not necessarily be enough for their retirement income. Table 1.3 below shows the average savings of EPF members at 54 years of age, one year before entitlement to full withdrawal, is about RM50,000 (US\$14,285).



A survey conducted by Professor Mokhtar Abdullah in 1995 showed that the EPF lump-sum retirement benefits were found by the majority of retirees to be inadequate to sustain life after retirement. In most cases the benefits were exhausted within three years of receipt at age 55 (Beattie, 1998). A second survey in 2004 shows an improvement, that retirees managed to stretch their EPF withdrawals up to 10 years (Habib, 2007). According to EPF annual report (2008), 90 percent of workers have less than RM100,000 contributed to the EPF savings, which is insufficient to see them through twenty years of post-retirement. It is estimated that less than 5 percent of people are financially prepared to retire (Mok *et al.*, 2007). It has also been estimated that only 40 percent of Malaysians have life insurance to secure themselves (Habib, 2007). Folk, Beh and Baranovich (2012) revealed that savings and retirement resources adequacy problems in the low-income and mid-income groups were serious, as 38.2 percent of the total employed Malaysians in the “informal sector” in 1998 were not covered by the EPF and any pension scheme.

**Table 1.3: Average Savings of EPF members at 54 years of age**

Year	Active Members		Inactive Members		Average Savings (RM)
	No. of Members	Average Savings (RM)	No. of Members	Average Savings (RM)	
2004	39,535	99,047	98,677	17,814	41,051
2005	42,881	106,933	107,534	18,876	43,980
2006	47,438	114,402	108,097	21,478	49,820
2007	48,501	121,163	124,094	20,574	48,840
2008	53,022	132,539	130,653	21,894	53,834

Source: EPF Annual Report 2008

### **1.10.2 Public Sector Pension Schemes**

In Malaysia, only public sector employees are eligible for the government pension scheme. This provides for the welfare of retired civil servants and their dependents and survivors and is administered by the Public Services Department. Willmore (2000) posits that the purpose of pension is “to allow the elderly and disabled to retire from work in dignity”. The pension scheme is non-contributory social security scheme for government employees, and offer two types of benefits: a service pension and a gratuity payment. Pension expenditure is borne by the federal government. A government employee who has served at least 10 years is entitled to receive a life-long monthly pension upon retirement. An employee who has completed at least 25 years of service is entitled to received a pension based on 50 percent of the last drawn salary; the scheme also provides survivor and disability pensions. Upon retirement, the service pension is paid and continued until death; upon death of the retiree, pension payment is transferred to the widow or widower and children. This derivative pension is reduced by approximately a third, 12.5 percent after the first payment. Payment ceases in the event the widow or widower remarries, the child attains the age of 21, marries or ceases studying in an institution of higher learning. A one-time service gratuity payment is available to the public servant upon retirement.

In 1991, the Malaysian government established the Pension Trust Fund (PTF) with the purpose to replace Government pension assistance. Federal government statutory bodies and local authorities contribute 5 and 17.5 percent respectively, of the basic salaries of pensionable employees to the Fund. Thus the pension scheme is now being

funded, on a gradual basis. The Armed Forces Fund (AFF) was established through the Armed Forces Act 1973 to provide superannuation benefits for members of the armed forces who are not eligible for pensions. This fund is to protect the welfare of contributors and their dependents upon retirement, discharge from service, attainment of age 50 and death. The lower ranks of the armed forces are obliged to contribute to the scheme. Officers are permitted to participate voluntarily. Benefits take two forms: in the case of non-pensionable lower ranks, the benefit is in the form of a refund of the accumulated balance of each contributor's account minus the amount contributed by the Government. In addition, supplementary disability or death benefits and a facility that allows compulsory contributors to withdraw a portion of the accumulated balance to purchase a house or a piece of land subject to conditions are available.

### **1.10.3 Employees Social Security and Workmen's Compensation Schemes**

The employee social security scheme (Socso) which forms the basis of the social insurance system in Malaysia was established under the Employees Social Security Act 1969. Socso covers employees receiving an initial monthly salary of less than RM2,000. Employees whose salaries subsequently exceed RM2,000 continue to be entitled to assistance. Certain categories of workers, namely domestic servants, tributers, spouse(s) of the employer, members of the armed forces, police personnel, and all public sector employees, are not covered by Socso. Since its establishment, the number of members has increased to almost 10 million today.

Socso insures employees against injury in the workplace and any invalidity that results from such an injury. This insurance coverage against injury in the workplace requires a contribution of 1.25 percent of wages, which is borne by the employer; the contribution for invalidity is 1 percent of the wages, which is shared equally by the insured employee and the employer. Injury benefits cover industrial injuries, occupational diseases and commuting accidents. These benefits cover medical care, temporary disablement, permanent disablement, rehabilitation and in the event of the death of an employee, dependents' and funeral expenses. Invalidity benefits are in the form of pensions for the invalid employee, invalidity grants, rehabilitation expenses, funeral expenses and survivors' pensions.

The workers' compensation scheme established under the Workmen's Compensation Act 1952 covers manual and non-manual workers earning less than RM500 per month. This coverage does not extend to casual workers, domestic workers, outworkers, tributers and family workers, and those already covered by Socso, the armed forces, police personnel and other public servants who are entitled to service benefits in the event of employment injury. The employer is liable for payment of benefits under this scheme and must therefore take out insurance with an approved insurance firm. The scheme provides for four types of benefits: medical, temporary disablement, permanent disablement, and death resulting from an injury in the workplace.

### **1.11 Summary**

This dissertation is undertaken as an exploratory study to examine financial preparations and expectations for retirement in Malaysia based on the life-cycle model. There are four major study objectives, which make theoretical and methodological contributions to our understanding of life-cycle financial planning in Malaysia.

There are six chapters. This chapter introduces the concept of life-cycle financial planning, life-cycle theories, the research objectives, and an overview of population aging and social security in Malaysia. Chapter 2 reviews the literature on life-cycle theories of consumption, savings, and investing, and related personal finance topics. Chapter 3 details the formulation of the conceptual framework and research studies relating to the study, while Chapter 4 explains the research methodology adopted. Chapter 5 summarises the data analyses and research findings. Chapter 6 discusses the research results and implications from this study.