Factors Affecting Age Cohorts on Life Cycle Retirement Planning

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Author’s contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

The purpose of this paper is to examine the cohort effect on different stages of the financial life cycle and the extent of planning for a financial safety net. A total of 990 questionnaires were distributed randomly in the Klang Valley of Malaysia which is the largest and most cosmopolitan region resulting in a 55.2% return rate. Analyses using hierarchical and ordinary regression were applied on four hypotheses. The results revealed that age cohort variables made significant contribution to life cycle retirement planning, particularly the younger age cohort. Strong relationship was found between current financial resources and consumption for all age cohorts. On the other hand, there were no significant effect between current financial resources and age cohorts except that the older age cohorts were relatively more significant predictors. The implication was that not only should their individual perceptions of retirement planning become an increasingly important part of people’s long-term commitment throughout their life-cycle, it must also assume the role as a self-directed life-long learning process, in view of the ever-changing and complicated financial environment. Consumption pattern would have reduced post retirement. During their retirement years, healthcare will become ever so important as the elderly cohorts will have different degrees of health, illness, and disability. This can translate to higher cost within the same age cohort.

Keywords: Retirement planning; age cohort; life cycle; financial resources; consumption.
1. INTRODUCTION

The primary responsibility for providing an adequate retirement income has shifted from governments and employers to the individuals around the world and is a growing trend. Pension plans are shifting from the defined-benefit form to defined-contribution. For defined-contribution plans, participants must make investment decisions. Replacing defined pension plans with defined contribution plans are making social security arrangements less certain as longevity increases. Saving and investing can be a very complex problem of providing a secure retirement income as the individuals who may not have either the knowledge or the training to handle the task.

As a percentage of all private pension plans in the U.S., the defined contribution plans increased from 66.8 percent to 92.3 percent in 1998 [1]. The most obvious pitfall in self-retirement planning is that it shifts all retirement-planning risks such as making poor investment choices, not saving enough and outliving savings to untrained individuals. Even if investors follow the golden rules of investing such as never tapping their savings until retirement, holding a broadly diversified investment mix and saving early and diligently, their success can still depend largely on the state of the world financial markets. A market meltdown or financial shock near the end of their working careers as witnessed in 2009 can wipe out their investments and hard-earned savings. Falling share prices, lower interest rates and reduced dividends from previously stable blue-chip companies may also reduce retiree’s monthly income, requiring them to cut consumption or consider new alternatives to get income out of their diminished assets. For all age cohorts, the amount of financial resources they possess influence how much consumption over their life cycle [2,3].

People must have sufficient income to support themselves during the post-retirement period if they retire from active employment. In Malaysia, retirement income comes from a combination of different sources: pension income from the government for the civil service workers and members of the armed forces, and in the case of employees in the private sector, savings via withdrawals from the Employees Provident Fund (EPF), support from family members, and personal savings and investments. Previous studies of people in their fifties and early sixties have found that savings levels are not sufficient and are not in congruent with their expected retirement age [4,5].

The retirement age may effectively be fixed in countries where social security provisions create strong incentives to retire. Longer life spans lead to longer periods of retirement and greater pre-retirement savings. In Taiwan, the rules set an incentive for workers not to extend their working careers past 65 as covered workers are eligible upon retirement to receive a lump sum payment based on their contributions to the social security system. Social security rules create powerful financial incentives in OECD countries to retire at a particular age and that many workers appear to response to these incentives. In many Asian countries, the commitment to familial support of the elderly has been found waning. In Japan, Taiwan, and South Korea, the percentage of elderly living with their children has declined substantially in recent years [6].

Retirement age, in a life-cycle savings context, determines the period for saving and for dissaving. Retirement age is important as it determines the length of a person’s working life and therefore how the amount of time he has to earn income and build up his future financial security. This in turn determines the length of time for post-retirement period and duration needed to finance himself after retirement. Retirement age and life expectancy are two key variables which have some causal relationship determining the retirement span. The increase in the retirement duration among Malaysians reflects improved life expectancy. The typical Malaysian retiring today at 60 years old, which is the official retirement age, can spend almost 20 years in retirement. The individual’s responsibility for retirement security includes making an accurate estimate of one’s life span, apart from other important factors such as retirement investment returns, increases in the cost of living, future expenses in later years, and cost of healthcare. Therefore, there is a high dependency on their accumulated retirement assets for a long time.

This study has examined the extent Malaysians practice financial planning and their readiness for retirement, as well as the impact of expected retirement age on their preparation for retirement planning. A financial planning model
derived from the life-cycle theories was tested, outlining personal demographics such as education, household composition, work status, and income variables as life-cycle factors affecting the expectation and planning outcomes. Outcomes included retirement age, financial literacy, expected sources of retirement income, financial planning commencement, investment strategies and the propensity to save. This study among Malaysians further examines the issue by means of a cohort analysis to examine whether belonging to a particular group engaged in retirement planning and having higher level financial literacy make a difference in attitude toward retirement and securing financial success in the post-retirement period.

1.1 Social Security in Malaysia

The burden of an adequate retirement income is being shifted from employers and governments to the individuals. Pension plans are shifting to defined-contribution which requires the employee to put in his own money from the defined-benefit form which the employer promises a set payout when one retires. Participants must make investment decisions under the defined-contribution plan. Replacing defined pension plans with defined contribution plans are making social security arrangements less certain as more expenditure is expected to be incurred with longevity increasing. The complex problem of investing and saving to provide for a secure retirement income is increasingly being transferred to the individuals who may not have the training nor the knowledge to handle the task.

Malaysia’s population, which is 28.30 million in 2010 (Department of Statistics, Malaysia (2018)) is projected to increase to around 41.5 million by year 2040. The current median age is 26.3 years. The present population is still considered relatively young in term of age structure. There has been a clear trend towards an ageing population in Malaysia. Aged population are those 65 years and older. The proportion of aged population is 3.7 percent in 1980 versus 5.1 percent in 2010. Given prevailing demographic trends, from an estimated population of 41.5 million projected by year 2040, those aged 65 and above will constitute about 14.5 percent (Table 1). The population of older persons will increase from about 1.4 million in 2010 to 6.0 million by the year 2040. This represents an average increase of 153,000 older persons per year, or a more than four-fold increase within the span of 30 years.

Table 1 indicates that the number of young people is proportionately diminishing whilst the percentages of elderly people are increasing. As a result of this increase in elderly people, research on retirement is crucial if Malaysian society is to manage and reduce the burden of poverty among elderly population and the retirees. Some demographic changes such as steady pace of fertility decline contributing to the consequent declining family size and rapid reduction in mortality will impact the elderly persons. The decline in mortality levels and fertility in Malaysia has been consistent with the rapid economic growth that the country has been experiencing. Further decline in the family size would ultimately reduce the number of family numbers available to care for their aged dependents since care for the older persons have traditionally been within the family system. Care of the elderly within the family system is fast becoming a problem owing to the fact that the nuclear family is slowly replacing the extended family structure. Such problems are compounded with increasing mobility of young family members and as more women participate in the labour market.

With medical and social advancements, the average life expectancy in Malaysia has increased from 48.5 years old to 77 years old.

<table>
<thead>
<tr>
<th>Table 1. Population size and age structure Malaysia, 1980 – 2040</th>
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<tbody>
<tr>
<td><strong>Year</strong></td>
</tr>
<tr>
<td>Total Population (million)</td>
</tr>
<tr>
<td>Average Annual Growth Rate (%)</td>
</tr>
<tr>
<td><strong>Age Structure (%)</strong></td>
</tr>
<tr>
<td>0 – 14</td>
</tr>
<tr>
<td>15 – 64</td>
</tr>
<tr>
<td>65 &amp; above</td>
</tr>
<tr>
<td>Dependency Ratio (%)</td>
</tr>
</tbody>
</table>

*Source: Department of Statistics, Malaysia, Tenth Malaysia Plan, 2010-2015*
for women and from 47 years old in the 1950s to 73 years old for men [7]. Availability of advanced medical technology, literacy, better healthcare, higher education and improved standards of living, have contributed to this change. In the absence of an old-age social security scheme in Malaysia, it is critical that people plan for their own financial retirement needs. More Malaysians are spending longer times of their lives in the post-retirement period even though the retirement age for civil service and the private sector have been fairly recently increased from 55 years old to 60 years old.

A multi-pillar model of social security schemes which provide for retirement income to the different segments of the population was advocated by the World Bank and most social security experts. In the early stage, the Bank had suggested a three-pillar system of social security: (1) a publicly managed, unfunded Defined Benefit (DB) pillar which provides a core retirement income to nearly the entire workforce. This 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; (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. This second tier is the mandatory savings designed to ensure that individuals do save for retirement; and (3) a voluntary private saving pillar representing income from private savings. This third is a tax-advantaged voluntary savings tier which can be used only for retirement [4]. New developments later led the Bank to suggest a five pillar/tier framework [8]. The five-tier framework added Pillar Four which recognizes the role of family, community, physical assets (housing) and post-retirement employment. Also, 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.

There are basically two types of retirement benefit plans in Malaysia: (1) a state-run provident fund, the Employees Provident Fund (EPF) for employees in the private sector; and (2) a government pension system which is essentially a Defined Benefit (DB) scheme for the civil servants. Research in behavioural economics suggests a breakdown of self-control and will power and often the lump sum EPF withdrawal is utilised too quickly. Fig. 1 below depicts mandatory savings scheme such as the EPF having two phases. The accumulation phase during an individual’s working career and the decumulation phase upon his retirement. In the accumulation phase, the rate of return on the investments and savings accumulated by the individual is important. In the decumulation phase, withdrawals of accumulated balances are withdrawn on a lump sum basis. In the accumulation phase, the rate of return obtained on total balances accumulated by an individual is important. A high rate of return (nominal rate less inflation rate) implies that the final accumulated balances will be high, and vice versa. In the decumulation phase, the EPF allows lump sum withdrawals of the accumulated balances rather than converting them to an annuity or a periodic payment [9].

![Fig. 1. Accumulation and decumulation phases of provident funds cumulative balances](Source: Asher (2002))
Table 2. Average savings of EPF members at 54 years of age

<table>
<thead>
<tr>
<th>Year</th>
<th>Active members</th>
<th>Inactive members</th>
<th>Average savings (RM)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>No. of members</td>
<td>Average savings</td>
<td>No. of members</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(RM)</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>73,168</td>
<td>166,650</td>
<td>160,131</td>
</tr>
<tr>
<td>2014</td>
<td>76,424</td>
<td>180,153</td>
<td>166,131</td>
</tr>
<tr>
<td>2015</td>
<td>81,646</td>
<td>194,438</td>
<td>169,425</td>
</tr>
<tr>
<td>2016</td>
<td>82,332</td>
<td>204,288</td>
<td>170,844</td>
</tr>
<tr>
<td>2017</td>
<td>84,777</td>
<td>213,852</td>
<td>147,160</td>
</tr>
</tbody>
</table>

Source: EPF Annual Report 2017

In Malaysia, the most important source of non-familial support for the elderly is the EPF. This is a national provident fund set up in 1951. The EPF works on a DC formula and both employees and employers in the private sector contribute to the EPF at the current rate of 11% and 12% of monthly wages respectively. Upon reaching 50 years old, contributors are eligible and have the option to withdraw up to one third of their total balance in their EPF account with the balance two third 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 55, for certain reasons which include meeting the medical costs of a serious disease and buying a house. The total balance can be withdrawn in the following instances: incapacitation, emigration, death, or attaining the age of 55. The benefits for retirees are linked directly to the contributions made by their employers them and them 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. EPF lump-sum retirement benefits were found by the majority of retirees to be inadequate to sustain life after retirement as in most cases the benefits were exhausted within three years of receipt at age 55 [10].

Table 2 depicts the average savings of EPF members at 54 years of age, one year before entitlement to full withdrawal, at about RM106,000 (US$25,238). 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 inflation risks and longevity, inadequate replacement rates, and lack of survivors benefits even at the time of retirement. This arrangement has also been found to be particularly discriminatory against women as they 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. In Malaysia, an important characteristic of retirement financing arrangements has been reliance on family, especially children. However, urbanisation, industrialisation, changing attitudes and values, lower fertility rates, expectations leading to more individualistic lifestyle are gradually undermining this reliance.

2. LITERATURE REVIEW

Studies of retirement preparedness typically assume that people adopt fixed aged retirement. Earlier-than-expected retirement has been associated with labour market shocks and adverse health [11,12,13]. Barring injury or illness, you can choose the timing of retirement, just as they choose how much to save.

The principal theories of saving are the permanent income hypothesis [14], and the life-cycle hypothesis [15]. Both of these theories assume that households and individuals try to smooth consumption over their lifetimes. The main difference between the two theories is the duration of the planning period. For the Modigliani-Brumberg version, the planning period is finite meaning people save only for themselves unlike for Friedman, this period is infinite, meaning that people also save for their descendants.

These theories imply that saving rates will be uneven over the course of life in the face of labour income fluctuations. Basically, the life-cycle saving model assume that individuals live for three periods: (1) when young, individuals used borrowed money to finance current consumption, (2) when they reach middle aged, they repay the loans taken out in the initial period of their life and save more for retirement; (3) when they get old and retire, they draw down on...
their assets accumulated in the later period of their life. The life-cycle hypothesis posits that consumption in each of the above period depends on expectations about lifetime income.

The available literature on household savings groups saving motives into five areas:

a) Saving to provide resources for retirement - people save during their working years to finance their consumption after retirement. Life-cycle theory predicts that people save more in middle age and dissave in old age after retirement [16].

b) Precautionary saving to finance unexpected losses of income – a hedge against uncertainty about unemployment, the future, or sickness [17,18]; liquidity constraints also make households increase precautionary saving [17].

c) Saving to smooth the availability of financial resources over time to maintain a more stable consumption profile [19,20,21].

d) Saving to finance expected large lifetime expenditure, such as target savings (wedding, vacation, education), big-ticket items (durable purchases); and

e) Saving for bequests – assets to bequeath to dependents and children. Bequests can be accidental because of the uncertainty regarding the date of death [17,22], reduced consumption, or strategic.

Lusardi [23] and Ooijen [5] find that planning has effects on both portfolio choice and saving behaviour. Households who have not planned for retirement accumulate much less than those who have done some planning. Previous studies have found that many households have limited resources until late in their life-cycle or start saving very late when it is not possible to accumulate much [1]. The literature examining the financial well being of the baby-boomers generation [4] has consistently shown that they are not saving enough to maintain their current levels of consumption into their retirement years. The majority of older households will not be able to maintain their current lifestyle when they retire unless they start saving more now.

Carroll [17] mentioned that uncertainty helps to explain why consumption is highly correlated with income in the case of young consumers who expect their incomes to increase in the future but do not know by how much. Uncertainty also explains why the older population saves a positive amount as they face a lot of uncertainty regarding health costs and their duration of life. A study by Carol et al. [24] suggested that precautionary saving may account for a large portion of household wealth.

Palenzuela and Dees [20] noticed that the life cycle profiles of income and consumption tracked each other. Households headed by an individual with low education had a relatively flat profile for both income and consumption. Whereas households headed by better educated individuals presented more of a hump shape. Carroll [17] showed that if consumers are sufficiently impatient and their labour income is subject to both permanent and temporary shocks, they will set consumption close to income. This model with impatient consumers under labour income uncertainty has been labeled the buffer-stock model of savings, because saving is kept to the lowest level compatible with the need to buffer negative income shocks. Carroll’s buffer stock model can provide a rationale for the income tracking of consumption that was highlighted by Palenzuela and Dees [20].

Chawla et al. [29] and Deaton and Paxson [30] suggest that saving rates vary reasonably continuously with age, so that people of similar ages will act in similar ways. A number of studies have examined the predictive power of individual date of retirement expectations and have found that these measures are strong predictors of future retirement dates [12,13]. Deviations between actual and expected retirement ages are found to be correlated with health and wealth changes as well as marital transitions [12]. Maestas [31] finds that many older workers who returned to work after retiring had earlier planned
on doing so. Michel et al. [32] posits the fight against risk factors for dependency and disability, to target identify and identify modifiable risk factors. It is always possible to positively modify intermediate risk factors, such as health behaviours (smoking, alcohol consumption or other addictions), health habits (diet and sedentary lifestyle), as well as working and living conditions, and access to healthcare.

3. CONCEPTUAL FRAMEWORK

The conceptual framework model is outlined in Fig. 2. The conceptual model posits that several life-cycle factors affect expectations, retirement orientations, and plans: family and work status, household composition, social location, current financial resources, and consumption. The life-course perspective links both distal forces and proximal to individual’s lived experiences. In this study, each model component is defined, previous relevant research for each component is summarised, and the hypothesised relationships between model components are outlined below. The life-cycle factors affecting retirement planning are summarised as they relate to these retirement outcomes.

The age cohort is important for two reasons: (1) the older the retirement age, the more years an individual will have been in the work force, thus increasing the probability of having adequate financial resources for retirement. (2) longer employment may increase the types and amounts of retirement benefits. Retiring at an older age increases the number of years for accumulating retirement savings; at the same time it reduces the duration spent in retirement. Therefore, the higher the age cohort, the higher is the probability of having adequate financial resources for retirement. Early life disadvantages or advantages are recognized as cumulating over the life course, leading to different later-life experiences.

The relation between expected and preferred retirement age will be studied with reference to retirement plans. Are individuals who plan financially for retirement more likely to have congruence in their planned and preferred retirement age? What types of financial plans relate to greater congruence? Confidence in one’s savings and financial preparedness encourages retirement at younger ages. Differences between actual and expected retirement ages may arise due to unforeseen circumstances, such as poor health, job redundancy, mental state of health, and realization that one is not financially prepared to retire. The life-course framework expands beyond consideration of time in an individual’s life course to historical and social time as well.

![Fig. 2. Conceptual framework of age cohort effect on life cycle retirement planning](image)
3.1 Age Cohort

A cohort refers to a group of people with unique characteristics or shared experiences. The concept of cohort [33] has been recognised as an important way of assessing the influence of historical circumstances and social change on individuals [34]. This study examined whether belonging to a particular age cohort relates to differences in attitudes and financial preparation toward retirement. The six age cohorts are: 26-35, 36-45, 46-55, 56-64, and 65+. By having respondents at different stages of their life-cycle, this study examined the general level of preparedness and the attitude of Malaysians towards preparing for their retirement – focusing on how Malaysians save and plan for their retirement vis-à-vis the life-cycle theories. Therefore, it is hypothesised that age cohorts have a positive orientation towards retirement financial planning.

3.2 Demographics

3.2.1 Work and family

The relationship between the work and family life are critical factors to retirement planning. Most people spend a significant part of their adult lives in some form of employment and work. Through their job, people derive and build their value system, financial security, self-esteem, and personal relationships. Employed persons are earning income and some are accumulating retirement benefits and savings. Unemployed persons, on the other hand, have to resort to living off their savings from past earnings, to seek assistance from welfare assistance and state social or support from family members. The accumulative effect of prolonged unemployment is no or lower retirement savings and income. Time spent out of the labour market that is devoted to marriage, childbearing, as a homemaker, family life, and caring for sick family members, will impact financial planning for retirement due to discontinuity in work and income. Family responsibilities and commitments may involve work decisions such as choosing to work part-time to be able to spend more time with family. This is particularly critical in the case of female members of the family who typically assume more responsibility for caring for the family – giving up their own career opportunities to devote to their spouse as homemaker after marriage, devoting their time to look after their children and often as caregivers to the elderly members of their family. These sacrifices can therefore undermine their own career advancements and in turn reduce their lifetime earnings, retirement savings, and financial independence.

3.2.2 Household composition

The composition of the household is another demographic factor which is important for saving behaviour. Compared to unmarried individuals, married couples report greater average wealth, more than singles and remarried couples. The presence of children in the household and the timing of births may affect the length of the credit constrained period since children increase household consumption requirements. Consequently, families without children would be expected to have higher retirement wealth than families with children. Households with many children may have larger positive late-career earnings shocks which may lead to higher optimal target replacement rates of pre-retirement income. Saving rates are lower for households with children and higher for married couples with no children, while lone parents have the lowest saving rate [17]. An important source of support in retirement years is family ties. Children providing financial support help to reduce the need to continue working in old age.

3.2.3 Social location

Social location of cohorts constitutes socioeconomic background which recognises existing social hierarchies and divisions that impact life experiences. Hierarchies and differences based on race/ethnicity, gender, and education create systems of privilege and disadvantage in society; which leads to considerable diversity in old age, consistent with the cumulative advantages and disadvantages hypothesis [35]. Social location of individuals influences financial planning and impacts retirement expectations. The relationships between socioeconomic status with occupation and educational is an important indicator of the success of government policies aimed at reducing social inequality and of the degree of social equity.

Increasingly important in financial and retirement planning are gender issues. Women make up about 36 percent of the labour force and about 50 percent of the population in Malaysia. While the economic position of women has improved over the years, women in the labour force are in the lower paid work, and women own only 15 per cent of business enterprises in Malaysia. Much of
the economic policy had been directed towards distributional issues along socio-economic groups, ethnic lines, rather than gender-specific terms. There are gender differences in financial literacy, with men displaying a higher level of financial knowledge than women, particularly with regard to risk diversification [23]. Marriage and children exert important influences on women's retirement [36]. Childbearing and the need to work around family responsibilities can impact eventual retirement incomes [37]. As women are expected to live longer than men, having adequate financial resources to prepare for late life is critical.

The demographics of Malaysia are represented by multiple ethnic groups, namely Malays and other Bumiputra groups making up 65% of the population, Chinese (26%), Indians (8%), and others (1%). Racial categorisation is biological but its significance is mainly social. Ethnicity, while related to race, refers primarily to social and cultural forms of identification and self-identification. Race/ethnicity forms a significant part in the discourse concerning virtually any Malaysian social condition or issue including personal interaction in retirement planning.

Financial literacy and education is an important predictor of retirement and financial planning. The shift from defined benefit to defined contribution retirement plans means that individuals have to decide how to invest their savings, how much they need to save for retirement, and during the post-retirement period, how to allocate their portfolios and draw down their savings and income. Given the correlation between education and income, prior studies find evidence of a distinct pattern of higher saving for higher education groups (Bernheim and Scholz [4], Hubbard et al. [18], Attanasio and Weber [28], and Folk et al. [38] have documented wide disparities in wealth holdings across different education groups.

3.3 Current Financial Resources

If the accumulated financial resources are insufficient, retirement may have to be deferred to a later date to allow time to accumulate additional financial resources otherwise the retiree will have to accept a lower level of living standard in retirement. Several US studies on savings emphasised there are huge heterogeneity in household savings and wealth holdings, even among households close to retirement [5,40]. Up to one quarter of the pre-retired population seem to under-save for retirement.

Income has been shown to be the main factor to determine both savings and asset holdings [17]. Inheritances are important because they transfer residual savings or wealth across generations but are sometimes overlooked as a source of retirement income. The study postulates that 80 percent of Americans household wealth originates from intergenerational transfers. Therefore, it is hypothesised that current financial resources influence retirement planning.

3.4 Retirement Planning Outcomes

How much to save for retirement is a complex decision for an individual. It would require some understanding of several variables such as retirement benefits, pensions, basic fundamental economic and financial concepts including inflation, compound interest, financial markets, mortality tables, amongst others [23]. In this study, financing planning for retirement is categorized into: (1) preparatory activities, (2) plan initiation, and (3) asset accumulation. Preparatory activities involve making assessments about or gathering information of their retirement needs, setting financial objectives and goals. Plan initiation refers to the age at which individuals begin making financial preparations for retirement. Asset accumulation encompasses the types of assets people anticipate they will have from the employers, government, and what they personally are accumulating for retirement.

3.4.1 Financial preparatory activities

The literature has shown that retirement planning is a powerful predictor of wealth accumulation. Those who have not thought about retirement have much lower wealth holdings than those who thought about retirement [5,41]. Lack of planning has important consequences for portfolio choice and savings. There is less likelihood to invest in stocks and tax-favoured assets for those who do not plan. Those who do not plan have less than half the wealth of those who have done some retirement planning. There are positive causal effects between retirement wealth and attending firm sponsored retirement planning seminars. These studies report evidence that planning can foster higher savings.
3.4.2 Plan initiation

This study will examine when and at what age members of the various cohorts initiate financial planning for retirement, and whether people today are beginning to make financial plans for retirement earlier in life than did previous cohorts.

3.4.3 Asset accumulation

Asset accumulation encompasses the accumulating of financial resources comprising of a combination of housing wealth, post-retirement income, and financial assets. An individual’s savings/assets at retirement are influenced by his choice of capital markets expenditures, when to retire, and labour until retirement, and expectations about expenditures and income following retirement.

The life-cycle theory suggests that savings is impacted by age. Individuals save while working in order to finance their income shortfalls and consumption during retirement. Younger people who save early can take advantage of the compounding over time that investment affords. Financial advisors use replacement rates to show how well post-retirement income will allow retirees to maintain their standard of living which is the ratio of post-retirement income to pre-retirement earnings. Financial planners generally advise that retirees need 70-80 percent of their pre-retirement earnings to maintain a comparable standard of living in retirement because some expenses are reduced or eliminated in retirement (saving for retirement and work-related expenses). Most financial advisors proposed that households should ensure that retirement income exceeds 70 percent of pre-retirement income. This is to adopt a pre-specified target replacement rate to finance consumption in retirement and therefore avoid a saving shortfall. Household’s target replacement rate can be a function of current wealth and household earnings, and demographics.

Optimal replacement rate targets can be substantially affected by earnings shocks. A household that gets a negative late-in-career earnings shock would be expected to have replacement rates that are lower than the average of pre-retirement earnings. Conversely, a positive late-in-career shock could cause living standards to be revised upward in retirement. Medical expenses can also push up optimal target replacement rates and cause a substantial variation in the replacement rates prescribed. Malaysian retiree’s potential sources of post-retirement income are EPF withdrawals, pensions, and income from assets (dividends, rental income from real estate, interest). It has become increasingly common for some retirees to take up new employment, in which case the employment income become a major source of income in retirement.

Inheritances are important because they transfer residual savings or wealth across generations but are sometimes overlooked as a source of retirement income. Individuals may save significant sums for the possibility of substantial end-of-life medical and nursing home expenses but if such medical problems do not arise, a bequest will arise.

The house is the largest single asset in most retired households [42]. Housing can serve a dual purpose. Firstly, there is a consumption value from living in a home. Secondly, housing is a store of wealth, from which the retiree can leave as a bequest. Most individuals value the option of remaining in their houses until declining health forces a move or a sale [23]. Some financial planners pointed out that how much retirees could save by unlocking their housing equity – either by downsizing through buying a smaller housing units or simply moving to a cheaper location. The literature suggests that housing boom caused people to increase their borrowing, to extract equity from their homes, and to raise their level of consumption. This suggests a strong positive relationship between fluctuations in house values and consumption, that increases in housing wealth increases consumption [21,22,24,43,44]. Similarly Muellbauer and Murphy [45] find that house price increases and financial innovation stimulated a consumption boom in the UK. Homeowners and those who hold bonds and stocks have been found to have higher saving [46].

Deriving from the above discussions, a summary of the hypotheses, are examined as follow:

**Hypothesis 1.** Age cohort has a positive impact on retirement planning.

**Hypothesis 2.** Current financial resources have a positive orientation towards expected retirement age.

**Hypothesis 3.** Expected Retirement Age does affect retirement planning preparation.
Hypothesis 4. Controlling for current financial resources, age cohort has a positive impact towards retirement planning preparation.

4. METHODOLOGY

In this study, primary data was collected using a questionnaire survey. Under a simple random sampling method, the questionnaires were individually distributed to 990 Malaysians in the Klang valley whereby it is the most populated and most cosmopolitan region. Of the questionnaires, 546 were returned. It comprised of Likert-type questions and is mainly closed-ended. Statistical Package for Social Sciences (SPSS) for Windows was used to carry out the tests. The significance level was set at 0.05 throughout the study. Cronbach’s alpha coefficient is used for Reliability Analysis for internal consistency of a set of scales. Alpha coefficient of above 0.6 is used.

Significant levels and correlation coefficient test significant levels were conducted to check the strength of the linear relationships between variables. The determinant of correlation matrix was generated to provide the information on the multicollinearity. Barlett’s Test of Sphericity and Kaiser’s criterion (KMO) (refer Table 4) was performed as a check to substantiate the appropriateness of conducting factor analysis and also to examine the sampling adequacy. Cronbach’s alpha coefficient was conducted to determine the items internal consistency and reliability (refer Table 4). Constructs was tested using indexes which are multi-item instruments designed to measure a single concept with several attributes. Construct items were carefully designed and pilot tested for face validity. To establish construct validity, these measures were first examined using exploratory factor analysis (EFA) and then with confirmatory factor analysis (CFA). The Factor Analysis tests were used to identify significant components which were included in the final equation, meaning for finding factors within a large distribution of scores. It was considered sufficient if items with primary factor loadings was greater than 0.4.

The amount of variance explained in the dependent variable by the predictors was measured using Regression Analysis. All the hypotheses were measured using multiple regression tests as there are several independent variables involved. Hierarchical regression tests were carried out for mediating effect on some variables. Hierarchical regression and ordinary regression were used to test the significance of each independent variable as reflected in the conceptual framework. Descriptive Analysis was carried out first, followed by multiple regression analysis.

Table 3. Survey results – descriptive analysis

<table>
<thead>
<tr>
<th>Age</th>
<th>26-35</th>
<th>36-45</th>
<th>46-55</th>
<th>56-65</th>
<th>&gt;66</th>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>42.7</td>
<td>16.8</td>
<td>26.2</td>
<td>12.6</td>
<td>1.7</td>
<td>%</td>
<td>42.0</td>
<td>58.0</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Malay</td>
<td>Chinese</td>
<td>Indian</td>
<td>Others</td>
<td></td>
<td>Marital status</td>
<td>Married</td>
<td>Single</td>
</tr>
<tr>
<td>%</td>
<td>51.8</td>
<td>35.5</td>
<td>10.4</td>
<td>2.3</td>
<td>%</td>
<td>67.8</td>
<td>27.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Education level</td>
<td>No School</td>
<td>Primary</td>
<td>Secondary</td>
<td>Tertiary</td>
<td></td>
<td>Health</td>
<td>Excellent Good</td>
<td>Fair</td>
</tr>
<tr>
<td>%</td>
<td>0.6</td>
<td>11.2</td>
<td>30.0</td>
<td>58.2</td>
<td>%</td>
<td>15.6</td>
<td>51.6</td>
<td>29.3</td>
</tr>
<tr>
<td>Spouse health</td>
<td>Excellent Good</td>
<td>Fair</td>
<td>Poor</td>
<td>Life expectancy</td>
<td>65-70</td>
<td>71-75</td>
<td>76-80</td>
<td>&gt;80</td>
</tr>
<tr>
<td>%</td>
<td>8.2</td>
<td>41.9</td>
<td>46.6</td>
<td>3.3</td>
<td>%</td>
<td>28.9</td>
<td>25.1</td>
<td>25.8</td>
</tr>
<tr>
<td>Home ownership</td>
<td>Own</td>
<td>Rent</td>
<td>No. of children</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>&gt; 3</td>
</tr>
<tr>
<td>%</td>
<td>57.9</td>
<td>42.1</td>
<td>%</td>
<td>22.0</td>
<td>10.8</td>
<td>19.8</td>
<td>13.7</td>
<td>33.7</td>
</tr>
</tbody>
</table>

Table 4. Results of preliminary test for reliability and validity

<table>
<thead>
<tr>
<th></th>
<th>KMO test</th>
<th>Bartlett’s test of sphericity</th>
<th>Degrees of freedom</th>
<th>Cronbach’s alpha</th>
<th>No. of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin Plan</td>
<td>.854</td>
<td>1306.4</td>
<td>28</td>
<td>.848</td>
<td>8</td>
</tr>
<tr>
<td>Fin Resource</td>
<td>.809</td>
<td>681.7</td>
<td>55</td>
<td>.879</td>
<td>11</td>
</tr>
</tbody>
</table>
Table 5. Hypothesis results table

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Type</th>
<th>Δ R²</th>
<th>Δ F</th>
<th>Signi.</th>
<th>Significant variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1.1: Age cohort DAge1 does not have a positive impact on retirement planning FinPlSelfIndex.</td>
<td>Ord.</td>
<td>.201</td>
<td>3.919</td>
<td>.01**</td>
<td>DAge1</td>
</tr>
<tr>
<td>H1.2: Age cohort DAge1 does not have a positive impact on retirement planning FinPlProfIndex.</td>
<td>Ord.</td>
<td>.159</td>
<td>2.230</td>
<td>.01**</td>
<td>DAge1</td>
</tr>
<tr>
<td>H1.3: Age cohort DAge2 does not have a positive impact on retirement planning FinPlSelfIndex.</td>
<td>Ord.</td>
<td>.166</td>
<td>3.031</td>
<td>.01**</td>
<td>DAge2</td>
</tr>
<tr>
<td>H1.4: Age cohort DAge2 does not have a positive impact on retirement planning FinPlProfIndex.</td>
<td>Ord.</td>
<td>.130</td>
<td>1.773</td>
<td>.05*</td>
<td>DAge2</td>
</tr>
<tr>
<td>H1.5: Age cohort DAge3 does not have a positive impact on retirement planning FinPlSelfIndex.</td>
<td>Ord.</td>
<td>.170</td>
<td>3.096</td>
<td>.01**</td>
<td>DAge3</td>
</tr>
<tr>
<td>H1.6: Age cohort DAge3 does not have a positive impact on retirement planning FinPlProfIndex.</td>
<td>Ord.</td>
<td>.129</td>
<td>1.746</td>
<td>.05*</td>
<td>DAge3</td>
</tr>
<tr>
<td>H1.7: Age cohort DAge4 does not have a positive impact on retirement planning FinPlSelfIndex.</td>
<td>Ord.</td>
<td>.163</td>
<td>2.990</td>
<td>.01**</td>
<td>DAge4</td>
</tr>
<tr>
<td>H1.8: Age cohort DAge4 does not have a positive impact on retirement planning FinPlProfIndex.</td>
<td>Ord.</td>
<td>.130</td>
<td>1.767</td>
<td>.05*</td>
<td>DAge4</td>
</tr>
<tr>
<td>H1.9: Age cohort DAge5 does not have a positive impact on retirement planning FinPlSelfIndex.</td>
<td>Ord.</td>
<td>.163</td>
<td>2.996</td>
<td>.01**</td>
<td>DAge5</td>
</tr>
<tr>
<td>H1.10: Age cohort DAge5 does not have a positive impact on retirement planning FinPlProfIndex.</td>
<td>Ord.</td>
<td>.127</td>
<td>1.729</td>
<td>.05*</td>
<td>DAge5</td>
</tr>
<tr>
<td>H2.1: Current financial resources SavPortIndex have a positive orientation towards expected retirement age DRAge1</td>
<td>Ord.</td>
<td>0.032</td>
<td>3.920</td>
<td>.05*</td>
<td></td>
</tr>
<tr>
<td>H2.2: Current financial resources SavValIndex have a positive orientation towards expected retirement age DRAge1</td>
<td>Ord.</td>
<td>0.001</td>
<td>0.265</td>
<td>P=.607</td>
<td>Ethnicity, Spouse &lt;36 yrs, Employment type.</td>
</tr>
<tr>
<td>H2.3: Current financial resources SavPortIndex have a positive orientation towards expected retirement age DRAge2</td>
<td>Ord.</td>
<td>0.000</td>
<td>0.054</td>
<td>P=.816</td>
<td></td>
</tr>
<tr>
<td>H2.4: Current financial resources SavValIndex have a positive orientation towards expected retirement age DRAge2</td>
<td>Ord.</td>
<td>0.005</td>
<td>1.780</td>
<td>P=.183</td>
<td>Ethnicity, Spouse employment.</td>
</tr>
<tr>
<td>H2.5: Current financial resources SavPortIndex have a positive orientation towards expected retirement age DRAge3</td>
<td>Ord.</td>
<td>0.025</td>
<td>3.244</td>
<td>P=.075</td>
<td></td>
</tr>
<tr>
<td>H2.6: Current financial resources SavValIndex have a positive orientation towards expected retirement age DRAge3</td>
<td>Ord.</td>
<td>0.003</td>
<td>1.050</td>
<td>P=.306</td>
<td>Gender, Ethnicity, Age cohort 36-65 yrs, Spouse &lt;36 yrs.</td>
</tr>
<tr>
<td>H2.7: Current financial resources SavPortIndex have a positive orientation towards expected retirement age DRAge4</td>
<td>Ord.</td>
<td>0.000</td>
<td>0.025</td>
<td>P=.876</td>
<td></td>
</tr>
<tr>
<td>H2.8: Current financial resources SavValIndex have a positive orientation towards expected retirement age DRAge4</td>
<td>Ord.</td>
<td>0.001</td>
<td>0.400</td>
<td>P=.528</td>
<td></td>
</tr>
<tr>
<td>Hypothesis</td>
<td>Type</td>
<td>$\Delta R^2$</td>
<td>$\Delta F$</td>
<td>Signi.</td>
<td>Significant variables</td>
</tr>
<tr>
<td>------------</td>
<td>------</td>
<td>--------------</td>
<td>------------</td>
<td>--------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>H2.9: Current financial resources SavPortIndex have a positive orientation towards expected retirement age DAge5</td>
<td>Ord.</td>
<td>0.007</td>
<td>0.763</td>
<td>P = .384</td>
<td></td>
</tr>
<tr>
<td>H2.10: Current financial resources SavValIndex have a positive orientation towards expected retirement age DAge5</td>
<td>Ord.</td>
<td>0.006</td>
<td>1.900</td>
<td>P = .169</td>
<td>Spouse &gt; 65 yrs.</td>
</tr>
<tr>
<td>H3.1: Expected Retirement Age does affect retirement planning preparation FinPlSelfIndex</td>
<td>Ord.</td>
<td>0.192</td>
<td>2.571</td>
<td>.01**</td>
<td>Age cohort 56-65 yrs.</td>
</tr>
<tr>
<td>H3.2: Expected Retirement Age does affect retirement planning preparation FinPlProfIndex</td>
<td>Ord.</td>
<td>0.141</td>
<td>1.389</td>
<td>P = .093</td>
<td>Education, Home ownership.</td>
</tr>
<tr>
<td>H4.1: Controlling for current financial resources, age cohort DAge1 has a positive impact towards retirement planning preparation FinPlSelfIndex</td>
<td>Hier.</td>
<td>0.143</td>
<td>1.389</td>
<td>P = .093</td>
<td>Age cohort 26-35 yrs, Marriage, Education, Spouse &lt; 36 yrs.</td>
</tr>
<tr>
<td>H4.2: Controlling for current financial resources, age cohort DAge1 has a positive impact towards retirement planning preparation FinPlProfIndex</td>
<td>Hier.</td>
<td>0.107</td>
<td>.01**</td>
<td></td>
<td>Ethnicity, Marriage, Spouse health, Spouse &lt; 36 yrs.</td>
</tr>
<tr>
<td>H4.3: Controlling for current financial resources, age cohort DAge2 has a positive impact towards retirement planning preparation FinPlSelfIndex</td>
<td>Hier.</td>
<td>0.075</td>
<td>.05*</td>
<td>Education.</td>
<td></td>
</tr>
<tr>
<td>H4.4: Controlling for current financial resources, age cohort DAge2 has a positive impact towards retirement planning preparation FinPlProfIndex</td>
<td>Hier.</td>
<td>0.070</td>
<td>.05*</td>
<td>Ethnicity.</td>
<td></td>
</tr>
<tr>
<td>H4.5: Controlling for current financial resources, age cohort DAge3 has a positive impact towards retirement planning preparation FinPlSelfIndex</td>
<td>Hier.</td>
<td>0.074</td>
<td>.05*</td>
<td>Spouse 56-65 yrs.</td>
<td></td>
</tr>
<tr>
<td>H4.6: Controlling for current financial resources, age cohort DAge3 has a positive impact towards retirement planning preparation FinPlProfIndex</td>
<td>Hier.</td>
<td>0.069</td>
<td>.05*</td>
<td>Ethnicity.</td>
<td></td>
</tr>
<tr>
<td>H4.7: Controlling for current financial resources, age cohort DAge4 has a positive impact towards retirement planning preparation FinPlSelfIndex</td>
<td>Hier.</td>
<td>0.078</td>
<td>.05*</td>
<td>Education.</td>
<td></td>
</tr>
<tr>
<td>H4.8: Controlling for current financial resources, age cohort DAge4 has a positive impact towards retirement planning preparation FinPlProfIndex</td>
<td>Hier.</td>
<td>0.070</td>
<td>.05*</td>
<td>Ethnicity.</td>
<td></td>
</tr>
<tr>
<td>H4.9: Controlling for current financial resources, age cohort DAge5 has a positive impact towards retirement planning preparation FinPlSelfIndex</td>
<td>Hier.</td>
<td>0.074</td>
<td>.05*</td>
<td>Education.</td>
<td></td>
</tr>
<tr>
<td>H4.10: Controlling for current financial resources, age cohort DAge5 has a positive impact towards retirement planning preparation FinPlProfIndex</td>
<td>Hier.</td>
<td>0.068</td>
<td>.05*</td>
<td>Ethnicity.</td>
<td></td>
</tr>
</tbody>
</table>

Note: * $p < 0.05$; ** $p < 0.01$
[Note: DAGE = Age Cohorts: 1 = 26-35; 2 = 36-45; 3 = 46-55; 4 = 56-65; 5 = > 66]
5. EMPIRICAL RESULTS AND DISCUSSION

5.1 Descriptive Analysis

Table 3 depicts the respondents’ demographic characteristics such as gender, ethnicity, age, and marital status, health, level of education, average life expectancy, children, house ownership and type of employment. Out of 546 respondents that responded, majority of them were Malays followed by Chinese and then Indians. Majority of them were from the age ranges between 26 and 45 years old. More than 58% of the respondents have tertiary education. More than 67% of the respondents were married while the remaining 33% were single, widow, separated or divorced. Overall respondents and their spouses have good or fair health. It shows that most people take care of their health. Usually, a big sum of our retirement savings is spent on medical expenditure. Therefore, health plays an important role in retirement planning. Most respondents have an average of one to three children. A reasonable percentage (20%) of the respondents have four and above. More children will imply extra expenses in a household in term of education, medical and daily necessities. Over 57% of the respondents are homeowners and the balance are renting or staying with family or friends. Perception of life expectancy is between 65 to 75 years of age. Homeownership accounts for a large part of an individual’s expenditure and has a significant impact on retirement planning.

5.2 Hypothesis Testing

The results of the multilevel regression analyses are summarised in Table 5.

6. CONCLUSION AND RECOMMENDATION

Results of the study indicate that current financial resources do have some impact on positive orientation towards retirement planning particularly for those in the middle age group. This study has provided insights about the preparations and retirement expectations of different people and structural, family, work, race and personal factors affecting their retirement outcomes. The younger age cohorts usually have very little savings so they may be planning to increase their disposable income or save for a better standard of living in later years. The psychological mechanisms that underlie financial planning for retirement is little known. Most studies of investing and financial planning have used demographic indicators (e.g., age, income, gender) to predict individual differences in saving. In the present study, a model of planning is tested in which psychological indicators are posited to mediate the relationship between saving behaviors and demographic indicators. However, it is not very clear if their intention to save more is purely saving for their retirement or to improve their standard of living during mid-life. Further research can be carried out for this life cycle path looking at the sort of investment strategies applied and their propensity to save.

The respondents may have felt that if there is a shortfall in financial resources at the present time; they can make up for any shortfall in later years, hence the apathetic attitude. People’s expectations for the future can be strengthened by confidence level. Confidence level can be brought about by many external factors such as the performance of the company the respondent is working for, current economic situation, and their savings and income level.

Retirement planning preparation is affected by the expected retirement age for all age cohorts. For each age cohort, how they prepare for their retirement is influenced by when one expects to retire. This would include adjusting their consumption pattern of their life cycle. SuyamPraba [47] and many others have classified the respondent in various objectives and risk categories and pattern of investment in different age groups unlike this study which focus on expected retirement age. Consumption do have a strong positive impact from current financial resources for all age cohorts. For all age cohorts, how much spending over their life cycle is influenced by how much financial resources they have. Marketers adopt the marketing strategy of targeting consumers by having employed this strategy of life cycle consumption. Yang [48] studied factors associated with the extent of search for saving and investment information using the 2001 Survey of Consumer Finances. Chang [49] asserted that race and age characteristics were influential in determining the sources of information to which households turn in certain financial decision-making processes. The type of financial advice sought was generally associated with characteristics such as net worth, education, financial assets and an overall perception of the value of such advice. Those who used paid professionals were those that used the highest
number of sources for information [50]. My study involved self-rated expertise as one of the major hurdles before the development of financial planning profession.

Thus far, this paper has examined the extent Malaysians are ready for retirement and are making financial preparations, and looked at age cohort’s life cycle on their retirement planning preparation. The retirement planning model derived from the life-cycle theories showed positive influences from the personal demographics such as education, work status, household composition, and income variables as life-cycle factors affecting the planning and expectation outcomes. Using cohort analysis, this study has also examined the issues on whether belonging to a particular group who engaged in retirement planning and having higher level financial literacy make any difference in attitudes toward retirement. One variable that made a significant impact was education. Literature also proposes that when people think ahead they are more inclined to have savings plans. The relationship between self-efficacy and goals, and attitudes and goals suggests that these variables are also important for people to choose whether to use a professional financial services planner to assist with saving for retirement.

Age cohorts definitely have a strong influence on financial planning. The study indicates that Malaysians achieve their peak savings in the accumulation phase of 46 to 55 years. In general, there is significance evidence that Malaysians tend to smooth consumption across their lifetimes and manage any big downward swings in their standard of living. From this perception, their financial planning strategies consist of transferring consumption across time and across contingencies, throughout the entire life-cycle of the individual.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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