Schroders

Retirement Thought Leadership Series

Feast or famine: where are Singaporeans headed for in retirement?

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Contents

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Singapore's Central Provident Fund (CPF) scheme has been the bedrock of retirement support for Singaporeans since its inception in 1955. However, issues have recently been raised over the scheme's efficacy for certain members, and the low number of them that are likely to meet their CPF Minimum Sum. This currently stands at S$161,000, the figure that the Government believes is needed to deliver an adequate income at retirement.

The latest statistics, as of 2013, show:

- **The median cash balance of active members aged 55 (when members can withdraw their savings) in 2013 stood at S$126,000[1] before factoring in savings withdrawn for the accumulation of housing assets**
- **50% of active CPF members met the CPF Minimum Sum including the 15% who pledged their property towards the Minimum Sum[1]**

Singaporeans who do not meet the Minimum Sum may have to accept a much lower payout when they reach 65

The Government has introduced a number of ways to bridge this gap, with the aim of helping most people achieve the Minimum Sum. So, does this mean Singaporeans can relax and enjoy a happy retirement?

Let's look at the facts. The contributions that Singaporeans make to their pensions are among the highest in the world. The Government guarantees a fixed rate of return on their Ordinary Account ("OA") and Special Account ("SA") savings, so individuals do not bear the investment risks that are typically found elsewhere in the world. Through the CPF Lifetime Income For The Elderly (LIFE) Scheme, the Government also guarantees a monthly payment for the worker throughout their retirement. So, can workers be confident of achieving an adequate income in retirement?

Not entirely. And here's why:

- For those individuals who reach the Minimum Sum, retirement income is likely to represent, at best, 32% of their final monthly wages – compare this with the global average of 68%[2]
- Upon retirement, individuals receive a monthly income from CPF LIFE that, while guaranteed for life, is subject to change. Furthermore, these payments do not provide protection against inflation
- Those that have tried to invest outside of this guaranteed system, in an attempt to improve their retirement account, generally have not been successful

In this first of a series of four papers, we dig deeper to explore the factors behind these reasons.

1 Institute of Policy Studies (IPS) Report on IPS Forum and Retirement Adequacy 22 July 2014
2 Organisation for Economic Cooperation and Development (OECD) Pensions at a Glance 2015

Adequacy of income in retirement

The OECD (Pensions at a Glance 2015) states:

"For all 34 OECD countries, including public, mandatory private and voluntary private pensions, the average replacement rate is 68%. For 15 of these OECD countries where the calculations cover only public pensions, the replacement for an average earner is higher, standing at 73%. For the other major economies there is a wide variation between country and across earnings levels."

The phrase 'adequate income' has a different meaning from one individual compared to another. Factors such as lifestyle choices, health and family support all have a part to play. Circumstances can also change over time; for example, unforeseen illness, unexpected unemployment, or the need to care for a family member, all of which can affect decisions. There is no one-size-fits-all solution.

Similarly, there are many ways of measuring the adequacy of income in retirement, and each country has its own preferred method. The replacement rate (commonly used in the UK and the US) is one measure, and this is the ratio of retirement income to pre-retirement income. Do note that there are many definitions of pre-retirement income – some countries use average wages over a person's career; others define it as the final wages at point of retirement.

In Australia, an alternative model has been created. The Association of Superannuation Funds of Australia (ASFA), an industry body, calculates a benchmark known as the Retirement Standard that calculates the amount of annual income needed in retirement based on detailed spending estimates. The calculations include estimates of how much individuals need to save in order to obtain either of two different living standards: 'modest' or 'comfortable'. The largest difference between these is the level of 'leisure' spending it allows, with a 'comfortable' lifestyle allowing almost three times more spending on this category than a 'modest' lifestyle.
An individual needs around seven to eight times their annual salary in order to fund a 'comfortable' lifestyle.

For the purposes of this report, we have equated adequate income to a replacement rate between 50-66%, and the calculation for the replacement rate used is:

$$\text{Replacement rate} = \frac{\text{Post-retirement monthly income}}{\text{Final pre-retirement monthly wage}}$$

Setting an appropriate end target

What is an adequate income in retirement? Is it 50%, 66%, or something else? To help decide it is useful to analyse current retirement income spending and how this compares to salary at the point of retirement. Property expenditure (whether mortgage payments or rental payments) is often one of the biggest expenditure items, if not the biggest. Property ownership in Singapore remains one of the highest in the world, at 90%. This compares with 50% in Hong Kong, 65% in both the UK and US, and 67% in Australia. Does property impact what income is needed in retirement? Based on published data[3] available for 2016, we compared retirement expenditure with and without housing costs (i.e. mortgage or rental payments) to final salary. As can be seen, property ownership makes a considerable difference on current replacement rates in both Singapore and Hong Kong; but very little difference in the UK, US and Australia (Singapore and Hong Kong data are based on households, whereas the UK, US and Australia data are based on individuals):

- Singapore replacement rate = 45% (with housing) and 29% (without housing)
- Hong Kong replacement rate = 79% (with housing) and 44% (without housing)
- US replacement rate = 83% (with housing) and 79% (without housing)
- Australia replacement rate = 64% (with housing) and 62% (without housing)
- UK replacement rate = 50% (with housing) and 49% (without housing)

It may be that in the future, property has less impact in retirement within Singapore as more individuals own their property outright. As a result we believe that a 50% replacement rate is a suitable reference point for Singaporeans.

[3] Report on the Household Expenditure Survey 2012/13, Singapore Department of Statistics; 2014/2015 Household Expenditure Survey, Census and Statistics Department Hong Kong; Australian Bureau of Statistics 2014; Pensions at a Glance OECD 2015; 2011 Census Data ASFA 2006/2016; UK Office of National Statistics 2015; Office of National Statistics 2010-2011; Pensions at a Glance 2015, OECD; Eurostat 2014; US Census Data 2012-2013, Consumer Expenditure Survey 2013-2014, Bureau of Labour Statistics 2013-2014

The Mercer Melbourne Global Pension Index 2015 has an alternative measure for adequacy of retirement income based on a median earner rather than average. Of the 25 countries measured, Australia, Austria, Denmark, Italy, Switzerland and the Netherlands all generated net replacement rates greater than 70%. The next highest was Canada at 64% and the lowest was India at 27%. Singapore was the second lowest at an estimated 35-40%.

The OECD Pensions at a Glance Asia/Pacific 2013 study stated:

> "Net replacement rates range from 14.4% in Indonesia to 84.7% in China. Cross-economy variation by earnings level is much lower within the OECD than for the Asian economies. For women, the net replacement rates are generally lower."

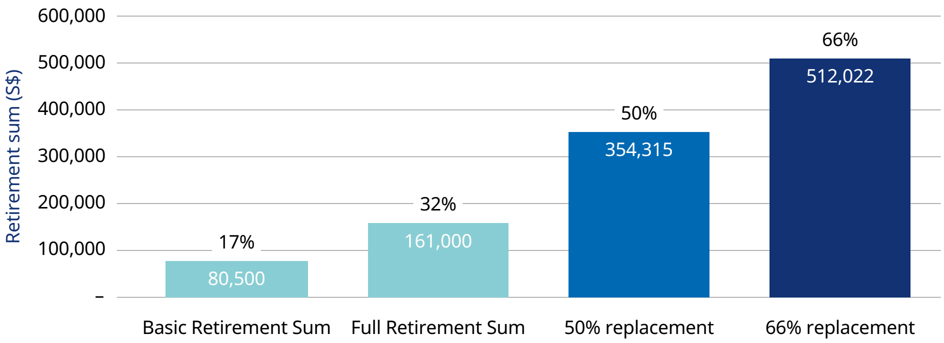
What Singaporeans can expect

Once individuals reach the age of 55, savings from their OA and SA are amalgamated to form a Retirement Account ("RA") and placed into the Government's CPF LIFE Scheme. CPF LIFE is an annuity scheme that provides retirees with a monthly payout throughout their lifetime. The level of this monthly payout is dependent on the sum in the RA.

Figure 1 estimates the size of the retirement sum required to meet various replacement rates for a 'Median Earner' with a final monthly wage of S$3,949. Calculations are based on whether the worker reaches the Basic Retirement Sum ("BRS") of S$80,500 or the Minimum Sum of S$161,000, also known as Full Retirement Sum ("FRS"). The percentages shown on the chart illustrate the replacement rate achieved for the sum available at retirement.

The first two bars (in grey) show that a Median Earner will not meet the target income replacement rate regardless of whether the worker reaches the BRS or FRS at retirement. For someone at age 65, with an average remaining life expectancy of a further 20.8 years, we estimate additional cash savings of S$193,315 are needed to achieve the desired 50% replacement rate, or S$1,975 monthly income from the age of 65 to 85.8. This worker would need to have in total a retirement sum of S$354,315 (sky blue bar) – including the S$193,315 in personal cash savings – which is more than twice the FRS.

Figure 1: Comparing replacement rates for a Median Earner for different retirement sums



Median Earner wage of S$3,949 per month taken from Ministry of Manpower, as at end of 2015. Additional capital amount required for 50% and 66% replacement rates calculated as the monthly annuity needed in excess of the amount provided by the Full Retirement Sum over 20.8 years, the average life expectancy in 2014 from age 65 (according to Complete Life Tables 2013-2014 for Singapore Resident Population, Singapore Department of Statistics) from the Ministry of Health website.

Source: Schroders. For illustration only.

The challenge for the majority of those earning the median wage (or more) is how to accumulate additional savings by the desired retirement age in order to generate a sufficient replacement rate. The three key factors that affect replacement rates are set out below and in the next section we will consider these in turn:

1 Size of retirement savings at point of retirement
2 Cost of purchasing an annuity (or equivalent) during retirement
3 Alternative investments for individuals to increase the returns of their CPF assets

Size of retirement savings

The size of retirement savings is a function of the level of contributions paid into the CPF, the extent of pre-retirement withdrawals, and the level of real net return achieved on savings.

Contributions – too high or too low?

In line with a number of retirement systems around the world, Singaporean workers and their employers are compelled to contribute to the CPF. The level of contribution is set by the Government, and is age-dependent and subject to an annual cap. However, unlike most retirement systems, Singaporean workers have some flexibility to use CPF for other financial needs. Healthcare, housing and education are some examples. To the extent that CPF is used for non-retirement purposes, it constitutes 'leakage' that reduces the available pool of savings for the Retirement Sum.

Singaporeans' CPF savings can be eroded by using it for other purposes

An **accident** or **regular treatment** for a chronic illness will **erode your savings**

AWith the **cost of housing** in Singapore, much of your **savings** will be **tied up in property**

As the **cost of education increases**, so will the amount you need to **draw from your savings**

The current level of contribution that is made into CPF is 37% for workers under the age of 55 – making it one of the highest in the world – compared with an average of 19.6%[4] for the OECD's 34 countries. But as a result of the aforementioned flexibility, only 6% of this 37%[5] is ring-fenced into the SA for retirement purposes – one of the lowest in the world!

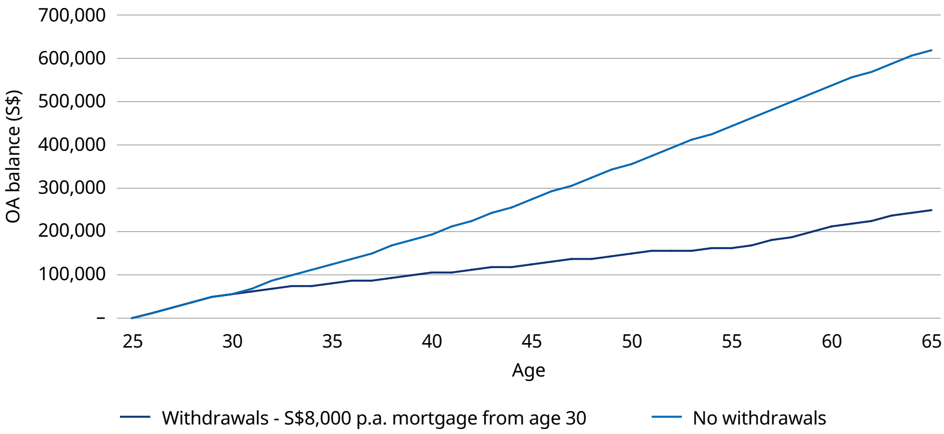
4 OECD Pensions at a Glance 2013
5 Central Provident Fund, as of 1 May 2016

Comparing the extent of withdrawals on savings

Unlike the SA, workers have the flexibility to withdraw money from their OA account, the account where the majority of the workers' contributions are directed. Typically, workers utilise the funds to make property downpayments, mortgage payments and payments for education fees. What impact does this have on replacement rates? More than individuals may realise.

In Figure 2, we assess this impact on the Median Earner who pays regular contributions into his OA account. Assume that this individual has purchased a house, which has a value of S$400,000. After taking out a HDB grant and together with cash savings, this individual needs a 25-year term mortgage of S$300,000 (taken out with the spouse). As the mortgage is shared, the annual withdrawal from the worker's own CPF account is halved at S$8,000, which we assume is withdrawn between the ages of 30 to 55.

Figure 2: Impact of withdrawals on the OA balance at retirements



Median Earner income of S$3,949 per month taken from Ministry of Manpower, as at end of 2015. Contributions are based on amounts placed into Ordinary Account (OA) after statutory minimums are paid into Special Account (SA) as stated on CPF website, as of May 2016. Investment return is assumed as 2.5% p.a. Withdrawals are made out at S$8,000 p.a. in mortgage payments between ages 30 and 55.
Source: Schroders. For illustration only.

In this example, we can see that the withdrawal reduces the Median Earner's potential retirement account by more than half at age 65. The CPF withdrawal for mortgage payments represents the single largest 'leakage' that reduces the pool of available funds at retirement. Another significant form of leakage stems from the fact that individuals do not stay in the workforce till the official retirement age.

Based on data from the Department of Statistics, the labour participation rate drops sharply for older workers aged 60 and above. For those in the age group 60-64, the labour participation rate was as low as 37% in 2005, although this increased to 62% in 2015. Unsurprisingly, the 748,000 CPF members in the 50-60 age group had an average CPF balance of S$110,000[6], which is much lower than the projections shown.

[6] Central Provident Fund website, as of May 2016

Size of retirement savings (continued.)

Guarantees offered from other retirement systems around the world:

- Germany, Denmark, Japan: minimum return guarantee on members' contributions
- Chile: returns must fall within a percentage of a peer group average
- Switzerland: minimum return threshold per year

Returns – guarantees are good, right?

CPF savings deliver a fixed nominal return. The rate is set by the Government and has historically reduced over time. The current rate ranges between 2.5% and 5%, depending on balances, which does not provide a sufficient level of protection against inflation. Guarantees are fairly unusual in pension systems and are becoming less popular particularly where no inflation protection is offered. This is because offering a guarantee restricts the kinds of investments CPF funds can be placed in, as guarantees only come with government bonds which in turn can lower the returns achieved.

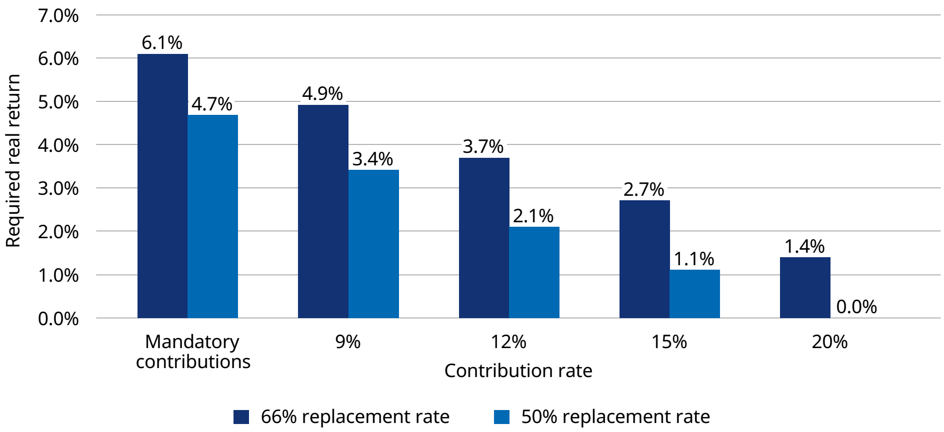
Comparing real return and contribution

How does the Singapore model compare with other retirement systems around the world? Let's consider an example. Again we take the Median Earner with a wage of S$3,949 per month contributing regularly from age 25 to age 65 with no break and no withdrawals. For Singaporeans retiring today, a replacement rate of 50% is an appropriate reference point (as stated earlier, final pre-retirement monthly wages rather than career averages are used in calculating the replacement rate).

Figure 3 shows the level of real returns (returns above inflation) that are required for various contribution rates – assuming regular monthly contributions are paid in from age 25 to 65 with no withdrawals by a Median Earner. The real returns vary depending on whether a 66% (navy blue bars) or 50% (sky blue bars) replacement rate is being targeted at retirement.

The first set of bars is based on the mandatory rate of contributions (varying by age) that are allocated to a worker's SA. The higher the amount of contributions paid in, the lower the real returns needed. To put the chart into context, Singaporeans are currently earning a nominal rate of between 3.5-5% p.a. Based on the long-term rate of inflation, this equates to a real return of approximately 1.5-3% p.a.

Figure 3:
Net real returns for a Median Earner compared with the contribution rate



Contributions start at age 25 and end at age 65. Salary based on median wages of S$45,238 p.a. from Ministry of Manpower. Mandatory contributions based on the statutory amounts specified by the CPF for allocation into the Special Account, CPF website as at 1 January 2016. Other contribution rates are static throughout the contribution period. Replacement rate calculation includes monthly sums provided by the Full Retirement Sum.

Source: Schroders. For illustration only.

What we can conclude from this is that to achieve a 50% replacement rate, the Median Earner would need:

- A real (inflation-adjusted) return of 4.7%, which is much higher than what CPF has been paying; or
- To be contributing between 9-12% of their monthly salary regularly into their SA and without drawing from it, which is higher than the ring-fenced 6%; this effectively means digging into personal cash savings

To receive 50% of your last drawn salary when you retire, you must:

Have an **investment vehicle** that gives you a **return of 4.7% per annum** after taking **inflation** into account

OR

Make **voluntary contributions** into your **Special Account** from your **savings**

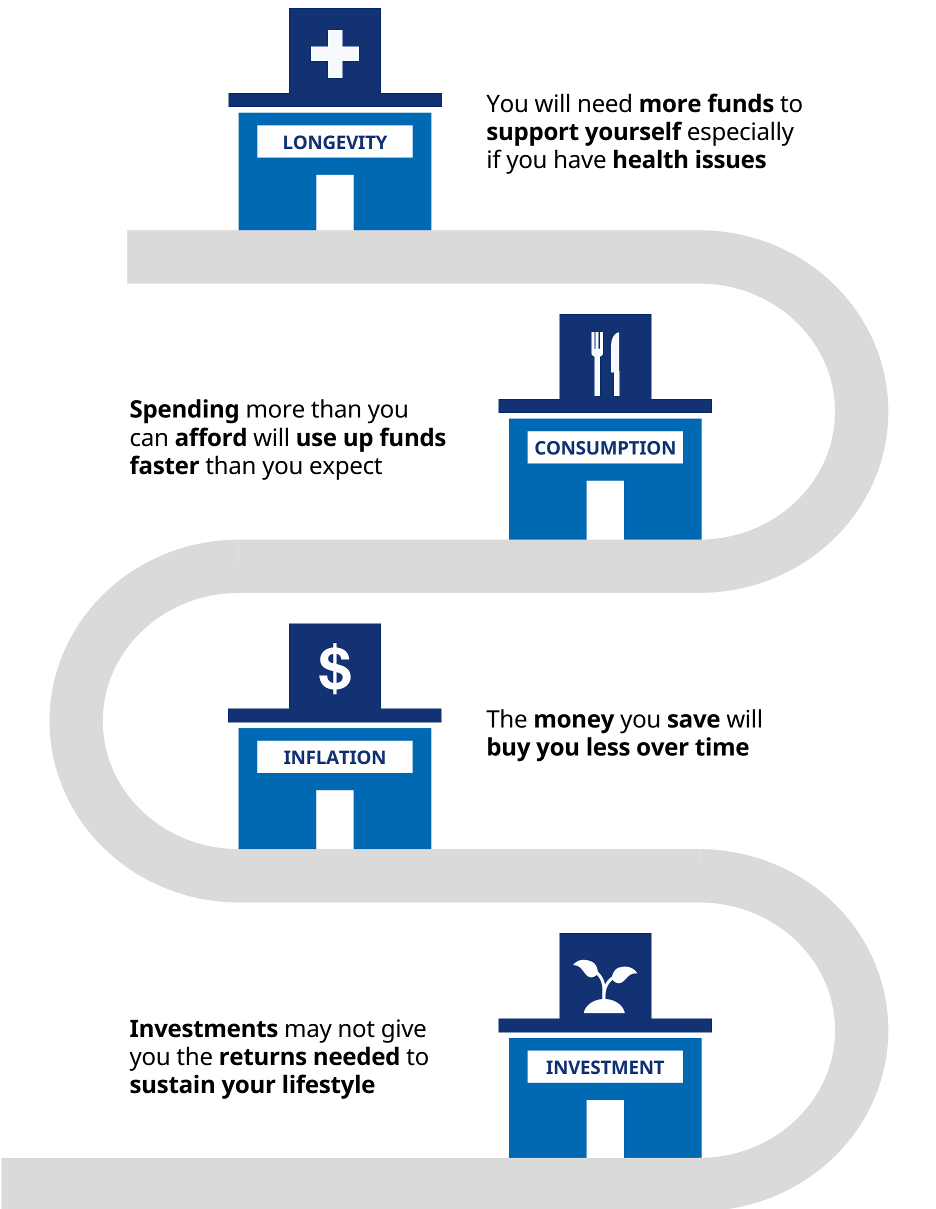
Creating an income in retirement

Maximising the sum at retirement is one part of the retirement income equation. The second is what that sum will deliver throughout the retirement period.

The key risks that individuals face are:

- **Longevity:** the risk of living longer than expected and outliving one's savings
- **Consumption:** the risk of underestimating the cost of goods and services needed in retirement
- **Inflation:** the risk of unforeseen price increases of those goods and services
- **Investment:** the risk of earning less than expected from the investment account

Key risks



Income drawdown and cash are the two alternative choices often offered to workers at the point of retirement. Income drawdown is common in the US and Australia, while cash is common in Hong Kong.

Longevity

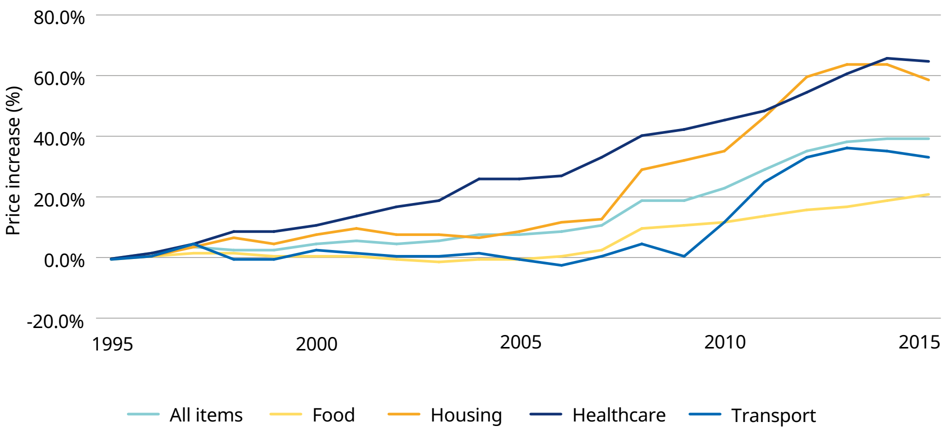
Life expectancy is steadily rising. In Singapore, the Government has removed the longevity risk by guaranteeing to provide fixed income payments to retirees through CPF LIFE, which is similar to an annuity from an insurance company. We believe that this mandatory post-retirement system is unique, compared to the rest of the world.

Consumption and inflation

A limitation of CPF LIFE is that there is no protection against inflation. Therefore, with the price increases shown in Figure 4, the actual value of the income received may be less in the future. Using data gathered over the last 20 years on inflation, specifically on the items retirees in Singapore typically buy, we can see that the two biggest increases over this time period have been property and healthcare, considerably higher than transport and food.

If, for example, an individual's Medisave account is not sufficient to meet the costs of healthcare, he/she will have to dip into their CPF LIFE income payments.

Figure 4: Impact of inflation on typical key expenditure items in retirement



Investment

In planning for retirement, investment risk introduces an element of uncertainty not just for individuals when they are saving for retirement, but also for the elderly once in retirement. CPF LIFE income payments are paid for life, but these payments are not guaranteed in terms of the amount, nor are they linked to investment growth or prospective inflation.

In today's context of slow economic growth and negative inflation, returns from growth assets such as equities cannot be taken for granted and fixed income assets such as government bonds no longer provide sufficient yields to support a comfortable annuity plan. This economic environment, coupled with an ageing population (Singaporeans can expect to live another 20.8 years from age 65), calls into question the feasibility of the current level of CPF LIFE payments.

Creating opportunities for further growth

OECD statement (OECD Improving Pension Information and Communication 2013):

"There are various challenges for any communication initiative in the area of pensions: the lack of interest in the topic for a large part of the population (especially the young), the perceived or actual complexity of the topic, the low level of financial awareness and literacy of the consumers, especially the more vulnerable groups. Good communication and effective information disclosure are therefore essential to the success of pension reforms in general, and of DC systems in particular."

For the Median Earner, we have shown how relying on the Government's minimum payouts through CPF LIFE will not generate an adequate income in retirement. However, given that individuals are already contributing a high proportion of their salary into CPF, it may not be feasible to achieve an adequate retirement income simply by saving more. Other creative solutions must be sought.

The Government has already started considering this and we expect further opportunities to grow your CPF funds to become available. In 2010 the Government opened up the CPF Investment Scheme (CPFIS) to savings in excess of S$20,000 in the OA and S$40,000 in the SA. Under this investment scheme, individuals can take more control of their investment returns with access to a vast array of choices. This is in stark contrast to the absence of choice offered to members for the dominant part of their savings in CPF.

Based on the evidence today of the poor performance of investments made through CPFIS, we can conclude that the average CPF investor will not be able to enhance their CPF returns by investing on their own. In FY2015, 909,500[7] individuals (representing almost half of the number of active members of CPF) invested part of their OA savings into CPFIS. Of these:

- Only 16% made a net realised profit in excess of the OA interest rate of 2.5%
- 46% made net realised profits comparable with the OA rate
- 38% made a loss

This questions the decision-making process that individuals go through when making their choices. Were the investment options appropriate? Did these individuals have the right level of information and support to make decisions? Did they have tools to track the appropriateness of their investment?

This is not a problem that only Singaporeans face. In Sweden, their experience with the national Defined Contribution (DC) plan also shows how investors, when overloaded with choice, can end up making sub-optimal decisions. Members there must pay a compulsory 16% of their salary into a main fund plus a further 2.5% into a secondary fund which allows them to choose up to five funds in which to invest from a selection of approximately 800 mutual funds (initially). Each member is provided with a publication the size of a telephone directory covering details on all 800 funds. Members were confused by the sheer volume of information and could not make proper decisions on which funds to invest in – many either did not make a decision or made a poor decision (often based on historical performance).

Offering individuals choice can be good provided it is supported by clear, concise information and regular guidance.

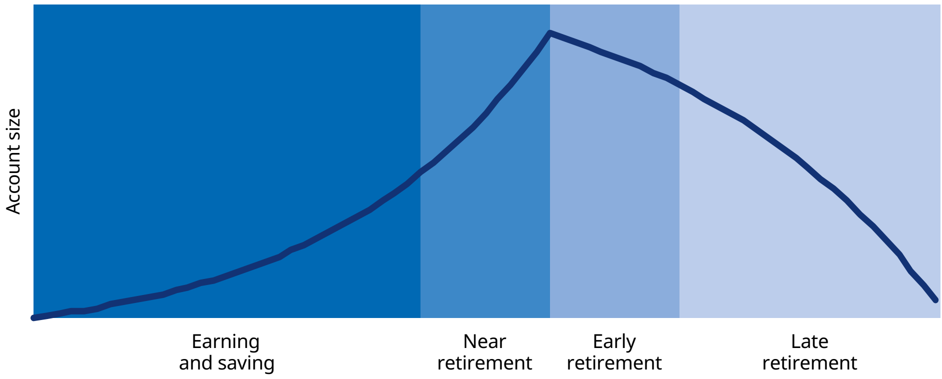
Taking appropriate investment risk

When considering investing in CPFIS or other investment schemes, individuals should think where they are in their working life and invest appropriately. We typically divide a working lifetime into four stages (see Figure 5) categorised as:

1. The earning and saving stage (the first 30 years)
2. Near retirement stage (the 10 years before retirement)
3. Early retirement stage (the first 10 years of retirement)
4. Late retirement stage (the remaining period of retirement)

[7] Central Provident Fund, as of 1 May 2016

Figure 5: The four stages of working life



Source: Schroders. For illustration only

When building up a retirement account, an individual will face different challenges and risks. These risks include return shortfall, capital market volatility, inflation and longevity. These all vary over the individual's working life.

Your CPF may prove inadequate upon retirement
because of several factors

Usage of **CPF funds**
for **other purposes**

Inflation will erode your
spending power

The **CPFIS** has not given
investors the **desired results**

Chances are you will
live longer

Feast or famine: where are Singaporeans headed for in retirement?

Conclusion

We have established that:

- Only 50% of active CPF members meet the CPF Minimum Sum that will qualify them for the CPF LIFE Scheme
- Those earning median wages or more cannot rely on the CPF LIFE Scheme to provide them with an adequate replacement rate of 50%. To compensate, individuals will need to generate additional savings in order to compensate for the shortfall. Regular contributions makes a difference. Limiting withdrawals makes a difference. Real returns makes a difference
- Individuals cannot rely on the fixed payments from CPF LIFE which are not protected against changes in inflation
- Individuals might not make appropriate investment decisions without carefully constructed investment menus, comprehensive guidance and professional management

In the next three papers, we will look more closely at a worker's lifetime in both the pre- and post-retirement stages. In paper two, we cover the Earning and Saving stage. Using case studies to illustrate the specific risks facing workers in the earlier stages of their working life, we showcase some 'good practice principles' – including Dollar Cost Averaging, Stable Real Growth and Diversification.

The Global Defined Contribution team

- Schroders' Global Defined Contribution (DC) team consists of highly experienced investment professionals with an average of 14 years' experience advising organisations on all matters in relation to DC strategy.
- This includes regulators, policymakers, corporates, fiduciaries, consultants and our own distribution and investment teams. Schroders has over 200 years' experience investing money on behalf of our clients and offers a wide range of products and solutions to our clients around the world.
- Our DC team utilises the highly-regarded industry-leading investment expertise within Schroders, and applies it to a DC context to help our clients achieve their objectives.

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