Singapore Dealing with Longevity Risk in its Pensions

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I. Introduction

The Central Provident Fund (CPF), Singapore's public pension, is a pre-funded, defined contribution pension plan. Each participant has their own private account into which premium payments are made, then at retirement draws pension payments based on the amount of assets accumulated in their account. This system is less vulnerable to demographic aging than a pay-as-you-go pension, where contributions paid by working generations cover the pension benefits for retirees, but it does have limitations. For example, because participants are unable to withdraw benefits that exceed the funds in their accounts, if a specific generation winds up living longer than projected, they must make do with the funds they have.

This challenge of finding the best approach to systematic withdrawals from a defined contribution (DC) plan after retirement is common to all countries, including the US and Australia, where DC plans are the predominant form of pensions. Even those countries have a public pension that provides a lifetime defined benefit, however, and this limits that challenge to supplementary private pensions. It is a more critical issue for Singapore, where the public pension confronts the same problem. In this paper, we look at recent improvements to the rules affecting the withdrawal of funds from the CPF in Singapore and how the country is dealing with longevity risk.

II. The CPF, a pre-funded, defined contribution public pension

Figure 1 provides an outline of Singapore's CPF. As noted above, each plan participant establishes their own personal account. CPF funds can be used not only for pensions but also for medical costs, home purchase, and higher education. Although this paper focuses primarily on the pension aspect, it is more accurate to call the CPF a forced savings scheme that allows for usage other than pensions.

CPF premium payments are accumulated in three different types of accounts, the Ordinary Account, the Special Account, and the Medisave Account. Funds in the Ordinary Account are usable not only as a pension but also for purchasing a home or paying for education, funds in the Special Account are purely for pension purposes, and the Medisave account is for paying medical expenses.

Figure 1: Overview of CPF

Eligibility	• Employees and self-employed individuals with Singapore citizenship or a long-term residence permit. • Mandatory contribution for employees to all accounts (shown below). Self-employed individuals are only required to contribute to the Medisave account, and may voluntarily contribute to the others.
Contribution	
Types of accounts	• Contributions can be made to three types of accounts: the Ordinary Account (can be used as a pension or to purchase a home, etc.), Special Account (can only be used as a pension), and Medisave Account (for medical expenses for self or family). • A Retirement Account can be opened upon reaching 55, into which assets can be transferred from the above accounts.
Premiums	• Both employee and employer must contribute. • Premiums vary depending on the age of the participant. In 2013 they were as follows. ➢ Up to age 50: Employer 16%, employee 20%, total 36% ➢ 50 to 54: Employer 14%, employee 18.5%, total 32.5% ➢ 55 to 59: Employer 10.5%, employee 13%, total 23.5% ➢ 60 to 64: Employer 7%, employee 7.5%, total 14.5% ➢ 65 and over: Employer 6.5%, employee 5%, total 11.5%
Investment	• Invested in Special Singapore Government Securities (SSGS). ➢ Ordinary Account is tied to the 10-year SGS yield, 2.5% guaranteed. ➢ Special Account, Medisave Account, and Retirement Account are tied to the 10-year SGS yield, 4% guaranteed. ➢ An additional 1% yield is added to the first SGD60,000 (first SGD20,000 in the Ordinary Account). • Any amount over the first SGD20,000 in the Ordinary Account and the first SGD40,000 in the Special Account can be invested in the CPF Investment Scheme (CPFIS), which allows participants to give investment instructions.
Benefits	• The Minimum Sum in the Retirement Account can be withdrawn starting at the age at which benefits begin (63 in 2013). ➢ The Minimum Sum balance (2013) is SGD139,000 in the Retirement Account and SGD38,500 in the Medisave Account. • The Minimum Sum is transferred to CPF LIFE and annuitized. • Amounts over the Minimum Sum may be withdrawn starting at age 55.
Tax treatment	• Not subject to taxation at time of contribution, at time of investment, or at time of benefit payment.

Source: Nomura Institute of Capital Markets Research, based on data from the CPF website

The CPF has specific savings targets for the public pension. Known as the "Minimum Sum," this forms the core of pension benefits. In 2013, the minimum sum was SGD139,000 (approximately JPY10.56 million)[1].

Once participants reach 55 years of age, they start to shift from the accumulation phase to the withdrawal phase. A Retirement Account is first set up when the participant turns 55, and assets are transferred into it from the Ordinary and Special Accounts. Ideally, the Minimum Sum has already been reached by this point, and there is a way for those participants who are still short of this amount to make additional contributions. Amounts up to the Minimum Sum cannot be withdrawn until

1 Using an exchange rate of JPY76/SGD1.

reaching the age at which public pension benefits commence, but any assets over that amount can be withdrawn starting at age 55. As explained later, the retirement age is still being raised incrementally, and for 2013 is 63 years.

The CPF is a DC pension, but the assets in personal accounts are basically invested collectively by the CPF Board. The entire amount is invested in Special Singapore Government Securities (SSGS), and individual account assets earn an interest rate indexed to the yield on Singapore's 10-year government bond, which are called Singapore Government Securities (SGS). For any amounts above the minimums defined for both the Ordinary Account and Special Account, there is a system, known as the CPF Investment Scheme (CPFIS), that allows participants who so desire to give investment instructions. The CPFIS allows investment in a wide range of financial products, including stocks, bonds, investment trusts (unit trusts), and insurance.

As of end-2012, the CPF had 3.42 million plan participants, 1.79 million of them still working[2], and total assets of SGD230.2 billion (approximately JPY17.5 trillion). According to the US-based journal Pensions & Investments, the CPF ranks eighth globally among pensions, and fourth in Asia, behind only Japan's Government Pension Investment Fund (GPIF), Korea's National Pension Fund, and Japan's Mutual Aid Pension programs for local government employees[3].

III. Handling longevity risk with CPF LIFE

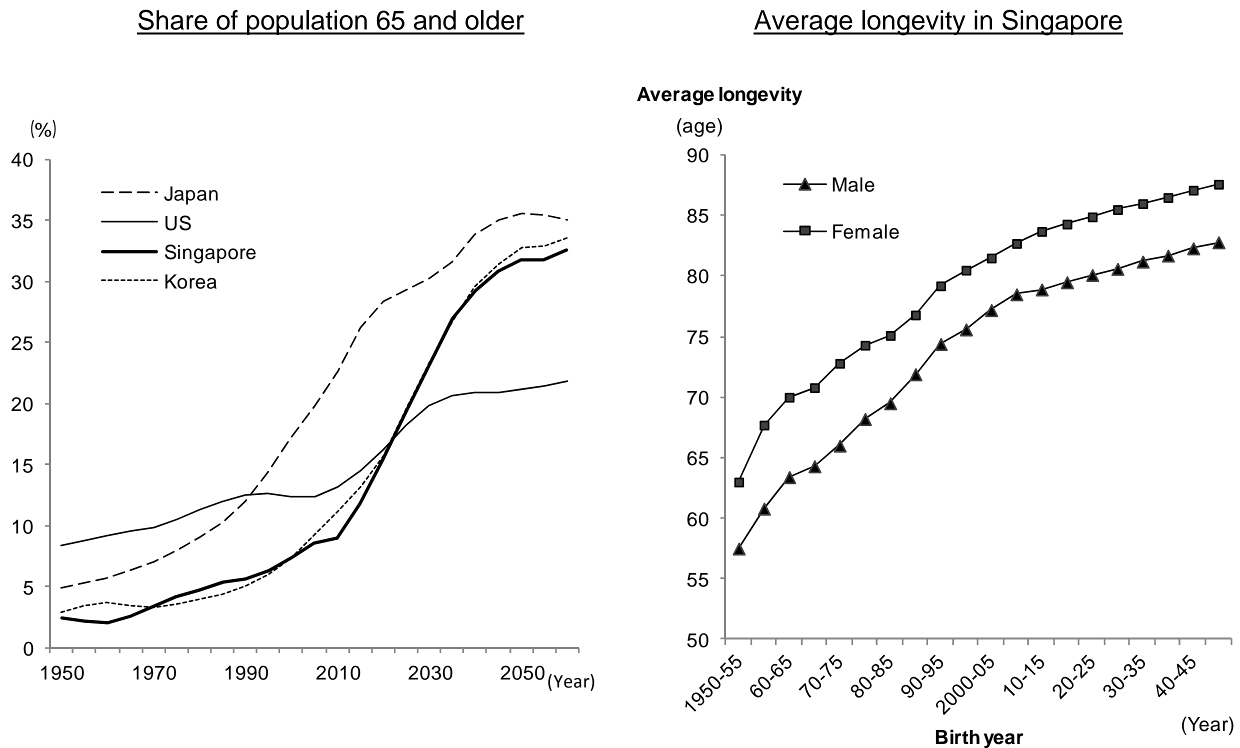
1. Reforming CPF to deal with longevity risk

Singapore ranks along with Japan and Korea in the rapid speed at which its population is aging (left side of Figure 2). Although population aging has a major impact on society and the economy, Singapore does not have the worry, as do countries with pay-as-you-go public pensions, that the balance between those paying-in and those drawing benefits will break down and substantially increase the burden on working generations. There is reason for individuals to be concerned, however, over whether they can bear the longevity risk from living longer than expected. In fact, Singapore's average longevity has increased dramatically over the past several decades (right side of Figure 2).

[2] Singapore had a population of 5.26 million as of end-2011, and 3.81 million were Singaporean citizens or long-term residents eligible for the CPF.

[3] "The P&I/Towers Watson World 300," Pensions & Investments, 3 Sep. 2012.

Figure 2: Singapore's aging population and increasing average longevity



Source: Nomura Institute of Capital Markets Research, based on the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, "World Population Prospects: The 2010 Revision"

The CPF was originally designed so that individual account assets would be used up after about 20 years of drawing benefits. On news of projections in 2006 that about 47% of Singaporeans aged 65 were expected to live past their 85th birthday (more than 20 years), however, the Singaporean government took seriously the possibility that nearly one out of two individuals would run short of CPF assets in their later years, and initiated CPF reforms. A speech by Prime Minister Lee Hsien Loong in August 2007 unveiled a three-pronged approach to reforms: (1) a lengthening of the period of employment, (2) an expansion of CPF pension assets, and (3) a lifetime annuitization of CPF benefits.

The first of these, lengthening the period that people work, included legislative revisions to promote the reemployment of the elderly and a strengthening of support for low-wage workers aged 55 and older.

For the second, expansion of CPF pension assets, first the yield on CPF account assets was raised. Starting in 2008, 1 percentage point was added to the yield on the first SGD60,000 of assets in both the Ordinary and Special Accounts. As shown in Figure 1, the minimum guaranteed investment yield on CPF accounts had been set at 2.5% for the Ordinary Account and 4% for other accounts. The change raised these minimum guarantees to 3.5% and 5% on up to the first SGD60,000, and this level was

maintained even during the period of declining yields following the failure of Lehman Brothers.

As part of the above-noted measures, the CPF premium rate for older people was also increased. With wages normally based on the seniority system in Singapore, the employer's CPF premium was set lower for individuals aged 50 to make it easier for the elderly to keep their jobs. These premiums were raised in 2010 and again in 2012 to reflect the increased flexibility of wages and improvements in the labor market for the elderly.

The third set of measures, which guarantee benefits will last a lifetime, began with raising the retirement age in conjunction with introducing measures aimed at promoting the reemployment of the elderly. The reforms in 2008 gradually raise the age at which benefits can be drawn from the CPF, from 62 in 2012 until 65 in 2018. To ease the shock from the change, people born between 1951 and 1958 will also receive a lump-sum payment from the government.

In September 2007, Singapore established the National Longevity Insurance Committee, putting together 18 representatives from academia, the private sector, the public sector, labor unions, and the general population to come up with ideas for a longevity insurance component to the CPF. The Committee published a report in February 2008, and based on that report the CPF LIFE (CPF Lifelong Income Scheme for the Elderly; described in the next section) was launched in September 2009.

2. CPF LIFE

CPF LIFE is a mechanism to create a lifetime annuity from (i.e. annuitize) the Minimum Sum in the Retirement Account, offering a monthly pension benefit for the rest of the participant's life upon reaching the age that benefits commence. As noted above, the CPF was originally designed for the income stream from the Minimum Sum to last for about 20 years, but there was no provision for people who lived longer than 20 years. The introduction of CPF LIFE made it possible for participants to avoid the risk of outliving their CPF assets.

Based on the understanding that there is a trade-off between the amount of lifetime benefits received and the amount of assets left over upon death, CPF LIFE offers two options: the Standard Plan and the Basic Plan. Compared with the Basic Plan, the Standard Plan is designed for a higher monthly benefit but a lower amount of assets left over. CPF participants choose between the two plans when they reach their 55th birthday. The default option is the Standard Plan, which is automatically assigned to those participants who do not make a selection within six months of turning 55.

Figure 3 shows the pattern for each of the plans, Standard and Basic. In a case study the CPF Board shows to its participants, a 55-year-old male with SGD100,000 in his Retirement Account in January 2013 would receive under the Standard plan a monthly pension benefit of SGD816–901 starting at age 65, and would leave zero assets for a bequest if he dies at age 85, whereas under the Basic plan he would

Figure 3: Overview of CPF LIFE

Features	LIFE Standard plan Monthly benefits are high, bequest is low	LIFE Basic plan Monthly benefits are low, bequest is high
When turning 55	• Half of the Minimum Sum (SGD69,500 in 2013) is withdrawn as the first premium payment for the lifetime annuity. • Amounts over that are left in the Retirement Account.	• Part of Retirement Account (Decided by CPF Board. For a male turning 55 years old in 2013, around 10%) is withdrawn as the first premium payment for the lifetime annuity. • Amounts over that are left in the Retirement Account.
The age that benefits begin	• About one to two months prior, the balance in the Retirement Account is withdrawn as the second premium payment for the lifetime annuity. • Lifetime annuity payouts begin.	• About one to two months prior, a portion (same as above) of the balance in the Retirement Account is withdrawn as the second premium payment for the lifetime annuity. • Amounts over that are left in the Retirement Account. • Payouts from the Retirement Account assets begin.
When turning 90	–	• Lifetime annuity payouts begin.
When dying	• Pension benefits stop. Assets in the Retirement Account and the balance of unused premiums are repaid to the family of the deceased.	

Source: Nomura Institute of Capital Markets Research, based on CPF, "CPF LIFE: Retire with Peace of Mind"

receive a monthly pension benefit of SGD735–813 and leave a bequest of SGD48,000–51,000[4].

The CPF Board is responsible for investing the lifetime annuity. Although the CPF bears the investment risk and longevity risk, those risks are managed carefully through periodic revisions to both insurance premiums and benefits. Because the entire amount is invested in SSGS, the investment risk is minimal, but if average longevity increases, it is possible that the pension benefit will be lowered.

3. Full launch in March 2013

When CPF LIFE was launched in September 2009, enrollment was initially voluntary[5]. After a trial period of over three years, in 2013 CPF LIFE moved to automatic enrollment for participants who turn 55 in January 2013 or later (i.e., who were born in 1958 or later) if they have in their retirement account at least SGD40,000 at age 55 or at least SGD60,000 at age 65. Even participants who do not satisfy these conditions have the option of moving their Retirement Account assets into CPF LIFE

4 CPF, “CPF LIFE: Retire with Peace of Mind,” January 2013.
5 According to CPF's 2011 annual report, 730,000 individuals had enrolled in CPF LIFE by end-2011.

while they are between 55 and 80 years old. With this, CPF LIFE is finally fully underway.

Ahead of this, the rules for CPF LIFE were also revised. When it was launched in 2009, CPF LIFE had the following four types of plans.

- Income plan: The highest monthly benefit, with no bequest
- Plus plan: A larger monthly benefit and smaller bequest
- Balanced plan: A suitable monthly benefit and suitable bequest
- Basic plan: A smaller monthly benefit and larger bequest

The data on enrollment in the different plans during the voluntary enrollment period showed that 90% of participants were in either the Balanced plan or the Plus plan, and only 3% were in the Income plan. After listening to the opinions of participants, the system was simplified in 2012: the Balanced plan and Plus plan were combined into the Standard plan, the Basic plan was continued as is, and the Income plan was eliminated.

IV. Incentives for accumulating assets in private pensions

Providing for a lifetime benefit through CPF LIFE was an important reform, but with people living longer arguments arose over whether CPF had accumulated sufficient assets to pay for the living expenses of the elderly. Singapore's Ministry of Manpower issued an opinion on this, stating that for mid- to lower-income individuals, the CPF provided an income replacement rate on par with the retirement systems of other OECD countries[6]. Yee Ping Yi, CPF's Chief Executive, said in an interview that CPF benefits were sufficient for mid- to low-income individuals, and that is the purpose of the system. He added that trying to meet the needs of higher-income individuals would cause problems, including by pushing premiums higher than necessary for most people." [7]

In other words, with the CPF providing Singaporeans with basic living expenses, housing, and medical costs, the key to a more comfortable retirement is to accumulate assets within private pensions. To provide assistance with this, in 2001 Singapore's government introduced its Supplementary Retirement Scheme (SRS), a voluntary,

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6 "CPF Members Entering the Workforce Today Will Have Adequate Savings in Retirement," Ministry of Manpower press release, 14 November 2012. According to research commissioned by the Ministry of Manpower, estimated income replacement rates are 70% for a male with the median income and 64% for a female with same (Chia Ngee Choon and Albert Tsui, "Adequacy of Singapore's Central Provident Fund Payouts: Income Replacement Rates of Entrant Workers," Nov. 2012). In contrast, an OECD report on pensions in the Asia-Pacific region estimated CPF income replacement rates of only 16.2% for males and 14.3% for females (OECD, Pensions at a Glance Asia/Pacific 2011, OECD Publishing, 2012). This was apparently due to differences in the way that real estate and other assets not purely for pension purposes were valued.

7 "CPF 'meets retirement needs of majority,'" Straits Times, 29 March 2012.

Figure 4: Overview of SRS

Eligibility	• Singaporean citizens, permanent residents, or foreigners, age 18 or older
Opening account	• One account per person. Can change provider.
Contribution Contributor	• Participant and employer. Those without wage income can contribute from other income (such as rental income). • Contributions can be made up until the first withdrawal (no maximum age for contributions)
Maximum contribution	• Singaporean citizens or permanent residents: SGD12,750 • Foreigners: SGD29,750
Investment	• Participant can give investment instructions. • Investment possible in a wide range of investment products, including: ➢ Stocks, bonds, investment trusts (unit trusts), insurance products, and bank deposits. Direct investment in real estate is not allowed.
Withdrawal	• Basically starting at retirement age. • Both lump-sum payments and periodic withdrawals (for a maximum of 10 years) are possible.
Tax treatment	• Participants can deduct contributions from taxable income. Employer contributions count as a business expense. • Not subject to tax at time of investment. • At time of withdrawal, 50% of withdrawn amount is subject to income tax. • Withdrawals prior to retirement age are subject to a penalty. A 5% penalty is assessed on the entire amount withdrawn early. Exceptions to the penalty include death, sickness, bankruptcy, and withdrawals of the entire amount by foreigners who have been enrolled in SRS for at least 10 years.

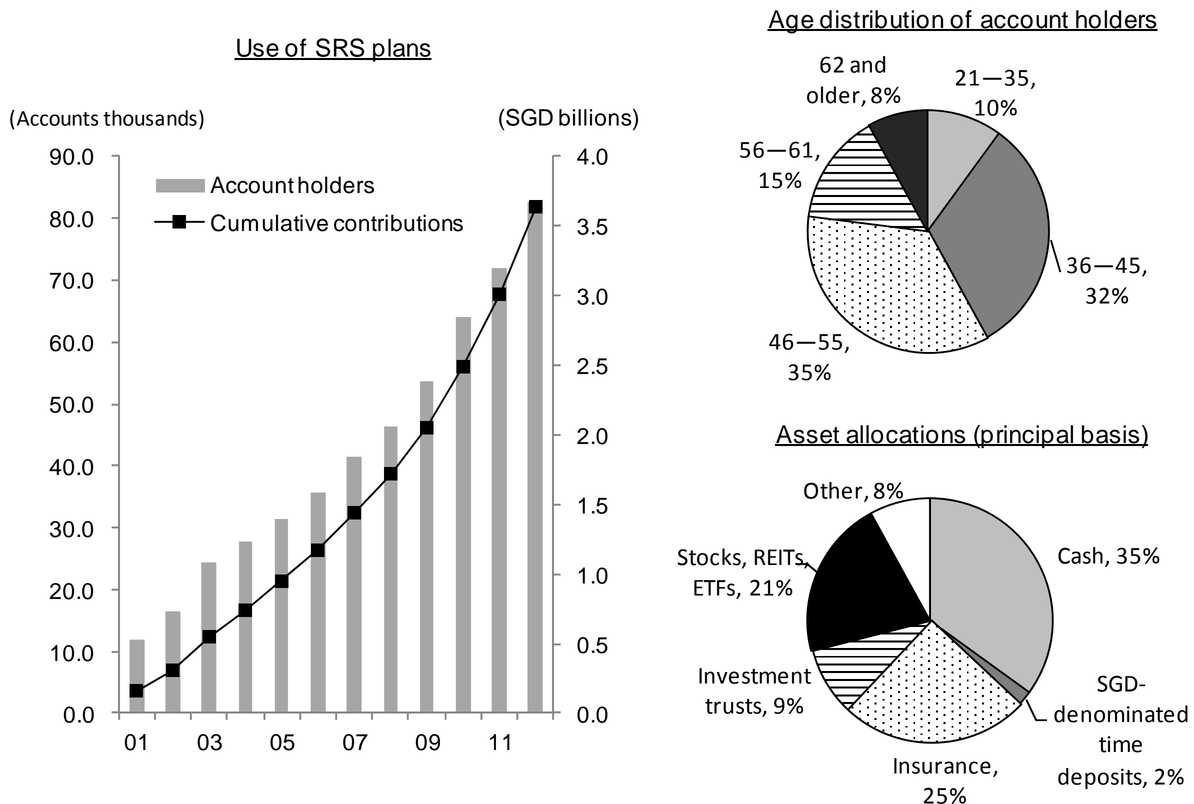
Source: Nomura Institute of Capital Markets Research, based on data from Singapore's Ministry of Finance.

privately operated pension plan to supplement the CPF that is a defined contribution pension for individuals.

The SRS offers substantial tax savings, including no taxation of either contributions or investment returns, and taxes levied on only 50% of the benefit payments. As a rule, withdrawals cannot be made until age 62, but withdrawals can be made by paying a 5% penalty. Individuals decide how much to contribute, up to the maximum contribution, and also provide investment instructions. The rules allow a wide range of investments, including stocks, bonds, investment trusts, insurance products, and bank deposits (see Figure 4).

The SRS program has also been expanded in recent years. A revision of the rules in 2008 made it possible for employers to contribute to their employee's SRS accounts. Employer contributions are viewed as employee income under the tax code, but as long as the total SRS contribution, including from both employee and employer, does not exceed the contribution limit, they are not subject to income tax (i.e., tax is deferred). In addition, the maximum age for making contributions was eliminated. That maximum was previously set at the retirement age of 62, but now it is possible to continue making contributions until withdrawals begin. In addition, individuals

Figure 5: Participation in SRS plans



Source: Nomura Institute of Capital Markets Research, based on data from Singapore's Ministry of Finance.

without wage income but with rental or other income are also now allowed to contribute to an SRS. The maximum contribution amount was raised in 2011.

The left side of Figure 5 shows the level of participation in SRS. As of end-2012, 82,512 people had an account, with cumulative contributions totaling SGD3.64 billion. The number of accounts has grown steadily every year, and the number of accounts opened tends to increase in December, the last month of the tax year. This is only a bit more than 10% of the number of potential account holders[8], however, leaving substantial room for growth in the number of accounts. As shown in the right side of Figure 5, about 35% of cumulative SRS contributions have been left in cash, and improving investment allocations appears to be an issue moving forward.

Corporate pension plans do exist in Singapore, but they are not very common outside of large multinationals, and there does not appear to be much awareness of their existence. For example, the government's financial education website, MoneySense, mentions the CPF and SRS on its page with retirement information, but does not mention corporate pensions[9]. Corporate pensions are defined as plans established pursuant to Section 5 of the Income Tax Act, but the Act is lacking in

[8] "More Supplementary Retirement Scheme accounts opened at year-end," Channel News Asia, 13 Dec. 2012.

[9] http://www.moneysense.gov.sg/Life-Events/Retirement.aspx

detail and supposedly difficult for companies to use. In July 2011, the Inland Revenue Authority of Singapore published guidelines clarifying the conditions to qualify for corporate pension tax treatment, including that pensions must be established under a trust agreement with a third party, must be offered to all employees without discrimination, must not allow employee contributions, and must conform to a benefit limit formula. Although tax treatment is less favorable and compliance costs are higher compared with the rules for employer contributions to SRS[10], there have been reports that progress is being made in developing low-cost corporate pension plans for smaller businesses[11], and these developments bear watching.

V. Conclusion

We have shown how Singapore has responded in a number of ways, primarily by revising the CPF program, to deal with the longevity risk of Singapore's pension system. The compulsory annuitization of benefits brought by the introduction of CPF LIFE is the most direct measure taken, but it has also raised the age at which benefits begin and taken steps to increase pension funding, including by boosting retirement account yields and raising premiums. Singapore is also making it easier for participants to use real estate holdings to fund their pensions, a feature of the CPF, through measures to facilitate their liquidation.

In Singapore, where the CPF, the core of its pension system, is a pre-funded defined contribution plan, as the population lives longer it is becoming essential for individuals to do enough on their own to prepare for old age. Measures to promote participation in private pensions, including expanding the use of, and improving the investment options in, the SRS and improving the rules for corporate pensions, may become even more important than before.

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[10] SRS benefits are 50% nontaxable, but corporate pensions offer no tax break. "Approved Pension/Provident Fund under Section 5 of the Singapore Income Tax Act (SITA)," KPMG Tax Alert, November 2011.

[11] “A pension scheme for smaller firms,” Business Times, 3 November 2012.