# Compulsory Savings in Singapore: An Alternative to the Welfare State

by

**Mukul G. Asher**

**Associate Professor of Economics**

**and**

**Public Policy**

**National University of Singapore**

**NCPA Policy Report No. 198**

**September 1995**

**ISBN #1-6808-063-8**

**National Center for Policy Analysis**

**12655 N. Central Expwy., Ste 720**

**Dallas, Texas 75243**

**(214)386-6272**

# Executive Summary

Unlike most countries in the world today, which finance their social security systems on a pay-as-you-go basis, Singapore requires people to save for their own retirement. The institution through which the saving takes place is the Central Provident Fund (CPF).

While the accounts belong to the individual, monthly deposits are paid both by employees and their employers. Currently, the required contribution rate is 40 percent of wages, up to a salary ceiling of S$6,000 per month (average annual earnings equal S$30,038; S$1.40 = US$1.00).

All compulsory savings, both at the time of deposit and at the time of withdrawal, are tax exempt. The funds are used to finance a wide range of programs and options including allowing people to purchase homes, invest in stocks and bonds and nonresidential property, pay for health care, purchase life and disability insurance, finance a college education and save for retirement. As a result of this system, about 85 percent of the population live in homes they own — the highest home ownership rate in the world.

The high rates of contribution, along with rising wages, have meant that the CPF system has been an important contributor to Singapore's savings rate — also the highest in the world.

- Depending on how CPF saving is defined, it equals between 16.3 and 30.4 percent of gross national saving.
- Gross national saving, in turn, equals about 48 percent of GDP.

Members maintain three accounts with the Central Provident Fund — Ordinary, Medisave and Special accounts. Among them, the total contribution of 40 percent of income is credited as follows:

- 30 percentage points go to the Ordinary account, which can be used to purchase a home, make certain investments, purchase certain types of insurance and pay college education expenses.
- 6 percentage points go to the Medisave account for medical expenses.
- 4 percentage points go to the Special account for old age and contingencies.

This use of different accounts for different targeted purposes encourages members to spend money on some goods and services (e.g., housing, health care, etc.) rather than others. In effect, Singapore has targeted certain "merit goods" — goods that are often provided by government in other countries — and devised a system that enables most people to purchase these goods themselves.

Contributions to a Medisave account provide funds for hospitalization during a person's working life and during retirement. Members can also join the Medishield program, which provides catastrophic insurance coverage for major medical bills.

# Introduction

The issue of financing retirement pensions and health care expenses for the elderly has received considerable attention in recent years. In the future, it will receive even more. In 1990, almost half a billion people, slightly more than 9 percent of the world's population, were over 60 years old. By the year 2030, the number will triple to 1.4 billion, and more than half of them will live in Asia.[1]

Singapore is expected to experience a surge in the number of elderly and in the proportion of the population who are elderly:[2]

- In 1990, 8.5 percent of Singapore's population (about 250,000 people) was above 60 years of age.
- By the year 2030, 29.4 percent of the population is expected to be over 60.

The reasons for the rapid aging of the Singapore population are a low birth rate and increased life expectancy:[3]

- In 1994, Singapore's fertility rate (the number of births per woman of childbearing age) was 1.75, well below the 2.10 required to replace the population, and an increase appears unlikely.
- In 1990, life expectancy at birth was 71.9 years for males and 76.5 years for females, and this is expected to increase.

*"Singapore finances its social security system through a publicly managed, mandatory program of private saving."*

Unlike most countries in the world today, which finance their social security systems on a pay-as-you-go basis, Singapore finances its social security system through a publicly managed, mandatory program of private saving.[4] The vehicle for the saving is the Central Provident Fund (CPF). This study analyzes the impact of the CPF on economic growth and on the provision of so-called merit goods, including retirement pensions, housing and health care.[5]

# How the Central Provident Fund Works

Singapore's provident fund system, established by the colonial government in 1955, has become the primary vehicle for saving for most Singaporeans. Since its inception, the CPF has expanded to incorporate a wide range of programs and options, including home ownership, investments, health care, insurance and college loans. [See Table I.] With about 2.4 million participants, CPF held member accounts totaling $57 billion,[6] or 72 percent of GDP, at the end of 1994. [See Table II.] Because of its size and the inclination of the government to use it for a variety of purposes, the CPF plays a very important role in the economic and social life of Singapore. Its design, structure and management are of crucial importance, since the well-being of most Singaporeans is tied to its performance.

TABLE I

## Components of the CPF System

| Purpose | Program* | Year Introduced |
|---|---|---|
| Home ownership | Approved Housing Scheme | 1968 |
| | Approved Residential Property Scheme | 1981 |
| Investment | Singapore Bus Services (1978) Ltd Share Scheme | 1978 |
| | Approved Investment Scheme | 1986[a] |
| | Approved Nonresidential Properties Scheme (ANRPS) | 1986 |
| | Share-Ownership Top-Up Scheme (SOTUS) | 1993 |
| Insurance | Home Protection Insurance Scheme | 1982 |
| | Dependents' Protection Insurance Scheme | 1989 |
| | Medishield Scheme | 1990 |
| Others | Company Welfarism through Employers' Contribution (COWEC) Scheme[b] | 1984 |
| | Medisave Scheme | 1984[c] |
| | Minimum Sum Scheme | 1987 |
| | Topping-up of the Minimum Sum Scheme | 1987 |
| | Financing of Tertiary Education in Singapore | 1989 |
| | Edusave Scheme | 1992 |
| | CPF Top-Up Scheme | 1995 |

[a] From October 1, 1993, divided into the Basic and Enhanced investment schemes.

[b] Present status of the scheme is unclear.

[c] From 1993, self-employed persons must contribute to the Medisave scheme.

* Programs are explained in the text.

*"CPF accounts belong to the individual, affording options not available under pay-as-you-go social security systems."*

**General features of the fund.** Most citizens of Singapore are required to be members of the Central Provident Fund. The accounts belong to individuals; deposits are made by both employee and employer and, currently, deposits are 40 percent of wages up to S$6,000 per month (the average annual wage, including the employer's contribution, is S$30,038). All savings, both at time of deposit and time of withdrawal, are tax exempt.[7]

Members of the CPF get annual account statements. A telephone hotline allows members to check on their accounts' status at any time. Members also can write to the fund at any time for information.

Because a CPF account belongs to the individual, it affords its holder a number of options that are not available under pay-as-you-go social security systems. Unlike many private pensions in the United States, the accounts are portable, remaining with the employee through job transitions; the entire

TABLE II

## The CPF System: Financial Statistics

(Money amounts in S$ millions)

| | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Excess of Contributions Over Withdrawals (During Period) | 2659.8 | 2772.6 | 1874.5 | 2633.5 | 935.5 | 149.3 | 974.6 | 2444.0 | 3170.7 | 3436.5 | 3609.9 | (522.2) | 3987.0 |
| Members' Contributions | 3901.1 | 449.0 | 5385.2 | 5993.4 | 4777.8 | 4446.8 | 4985.1 | 6107.5 | 7174.2 | 8101.4 | 9208.2 | 10427.0 | 11279.0 |
| Withdrawals: | 1241.3 | 1718.4 | 3510.7 | 3359.9 | 3824.3 | 4297.5 | 4010.5 | 3663.5 | 4003.5 | 4664.9 | 5418.3 | 10949.2 | 7292.0 |
| (Percent of total) | | | | | | | | | | | | | |
| Approved Housing Schemes[a] | 64.2 | 65.3 | 76.7 | 76.4 | 69.2 | 61.6 | 69.2 | 65.9 | 56.4 | 64.3 | 66.7 | 32.1 | 48.0 |
| Under Section 15[b] | 33.1 | 33.8 | 21.2 | 20.9 | 22.9 | 17.4 | 19.6 | 22.9 | 25.5 | 20.5 | 18.7 | 10.8 | 18.7 |
| Medical Schemes[c] | n.a | n.a | 0.5 | 1.3 | 2.7 | 3.3 | 4.2 | 4.9 | 5.9 | 5.7 | 5.1 | 2.7 | 3.8 |
| Others[d] | 2.7 | 0.9 | 1.6 | 1.5 | 5.1 | 17.7 | 7.0 | 6.3 | 12.1 | 9.4 | 9.5 | 54.4[e] | 30.0 |
| Implicit interest rate paid to members[f] | 5.4 | 5.5 | 5.7 | 5.7 | 5.3 | 3.8 | 2.9 | 3.0 | 3.5 | 4.3 | 3.6 | 2.5 | 2.5 |
| Inflation Rate: | | | | | | | | | | | | | |
| Consumer Price Index | 3.9 | 1.2 | 2.6 | 0.5 | (1.4) | 0.5 | 1.5 | 2.4 | 3.4 | 3.4 | 2.3 | 2.4 | 3.1 |
| GDP Deflator | 4.2 | 3.9 | 0.7 | (1.2) | (2.5) | 0.8 | 5.5 | 5.2 | 5.9 | 3.5 | 2.1 | 2.4 | 3.6 |
| Real Interest Rate[g] | 1.2 | 1.6 | 5.0 | 6.9 | 7.8 | 3.0 | (2.6) | (2.2) | (2.4) | 0.8 | 1.5 | 0.1 | (1.6) |
| Members' Balances (End of Period) | 15655.5 | 19504.7 | 22670.4 | 26834.1 | 29341.4 | 30607.8 | 32529.3 | 36051.6 | 40646.4 | 46049.0 | 51526.9 | 52334.3 | 57649.0 |
| Members Balances (As % of GDP) | 46.4 | 53.4 | 57.3 | 68.9 | 74.0 | 70.6 | 67.5 | 68.5 | 70.9 | 75.4 | 79.6 | 73.5 | 72.0 |
| Members (thousands) | 1725.3 | 1778.9 | 1852.5 | 1891.7 | 1933.8 | 1988.5 | 2063.4 | 2126.9 | 2195.2 | 2255.7 | 2322.8 | 2456.4 | 2521.8 |
| Contributors (thousands) | 927.5 | 917.9 | 943.0 | 889.6 | 912.0 | 935.3 | 963.8 | 988.6 | 1021.7 | 1052.4 | 1074.0 | 1107.1 | 1138.9 |
| Contributors/Labor Force (15 years & over) | 74.0 | 70.9 | 72.3 | 69.1 | 70.2 | 70.4 | 69.9 | 69.4 | 65.4 | 67.7 | 66.3 | 67.7 | 67.3 |
| Contributors/Members | 53.4 | 51.6 | 50.9 | 47.0 | 47.2 | 47.0 | 46.7 | 46.5 | 46.5 | 46.7 | 46.2 | 45.1 | 45.2 |

Notes: na = not available

p = preliminary

a = Housing schemes include public housing and residential properties schemes.

b = Section 15 of the CPF allows withdrawals on any of the following grounds: (i) member having reached the age of 55 years; (ii) leaving Singapore and West Malaysia; (iii) physical incapacity; (iv) unsound mind; (v) death; (vi) Malaysian citizen (leaving Singapore).

c = Medical schemes include Medisave and Medishield.

d = Includes various investment schemes, financing of tertiary education in Singapore, minimum sum scheme and others.

e = Sharp increase in the share of this category in 1993 was due to withdrawals for purchases of divested share of Singapore Telecom.

f = Calculated as interest credited to members' balances (during period)/members' balances (end period)

g = Calculated as the difference between the implicit rate of interest and the GDP deflator.

Sources: Calculated from Republic of Singapore *Yearbook of Statistics*, various years.

deposit belongs to the member's estate at death; and account funds may, to a limited degree, be shared with members of the account holder's immediate family.

**Participation is compulsory for most people.** As Table II shows, about two-thirds of the total labor force actively participates in the CPF. This represents a decline from about three-fourths of the labor force in the early 1980s. Although details about the one-third not covered are unavailable, foreign workers, who constitute about 18 percent of the labor force, generally are not covered.[8] Also not covered are casual and part-time workers and certain categories of contract workers. The self-employed are covered by the Medisave program (to be discussed later) and can make tax-advantaged, voluntary contributions to the other programs. Pension benefits are provided for certain categories of government personnel (e.g., the president, political office holders, Members of Parliament, certain civilian and military public officers). Beginning April 1, 1995, instead of pension payments being met from current revenue, a separate pension fund has been established.[9]

*"Singapore has the highest savings rate in the world."*

While most Singapore citizens and permanent residents not covered by the CPF (e.g., most of the self-employed and those with government pensions) will be able to cope financially with retirement, a significant minority of workers will face financial difficulty because their ability to save for retirement has been extremely limited.[10]

**The rates of mandatory contributions are high.** Singapore has the highest savings rate in the world, and one reason is that the rate of mandatory savings through the CPF is high.

- At the time of its inception in 1955, employees and their employers each contributed 10 percent of the employee's net wages, with a maximum of S$50 per month.
- The rate increased steadily, reaching a high of 50 percent of the net wage (25 percent each from employee and employer) in July 1984.
- In April 1986, in response to a recession, the rate was reduced to 35 percent.
- Since July 1994, it has been 40 percent (20 percent each by the employer and the employee), with a maximum contribution of S$2,400 per month.[11]

The government has announced that 40 percent, which is the highest rate in the world — followed by rates in Malaysia (22 percent) and Sri Lanka (20 percent) — will be the long-term rate. It applies to those earning more than S$363 per month, with lower rates applicable to those earning less. Since July 1988, lower rates of contribution have also applied to those ages 55 to 60

(20 percent since July 1994), ages 60 to 65 (15 percent) and above age 65 (10 percent). The rates were lowered to reduce the cost of hiring the elderly, thus increasing demand for their services. But even at the lower rates, the mandatory contributions — particularly for those ages 55 to 60 — create disincentives for labor force participation.[12]

The high rates of contribution, along with rising wages, have caused the CPF system to become an important contributor to Singapore's high savings rate:

- Depending on how CPF saving is defined,[13] in 1991 its contribution to Singapore's savings ranged from 16.3 to 30.4 percent of gross national saving (GNS) and equaled 7.8 to 14.6 percent of GDP.
- In 1991, Gross National Saving was 47.9 percent of GDP.

More than two-thirds of GNS is public sector savings.[14] The share of private, voluntary saving is rather low. Thus, it is public sector policies and demographic factors rather than cultural differences that account for Singapore's uniquely high saving rate.

*"Contributions by both employers and employees are excluded from taxable income, as is any buildup."*

**Deposits and withdrawals are tax free.** Contributions by both employers and employees are excluded from taxable income, as is any buildup in the account.[15] Withdrawals at age 55 and beyond are also tax free. Balanced against these tax advantages is the fact that the interest rate paid on CPF balances is much lower than the return paid in the private capital market.

As discussed below, members can invest some of their funds in private securities, and the return on funds contributed and quickly withdrawn for other investments is much higher than on the long-term accumulations in the CPF. However, because members must have a minimum balance before withdrawing funds for other investments, higher-income groups are better able to withdraw and invest quickly.

There is nothing inherently regressive about a provident fund (forced savings) system.[16] Governments may choose to subsidize investments in any number of ways, and they can also manipulate other taxes in order to create more progressivity.

## Components of the System

Members maintain three accounts with the Central Provident Fund Board — Ordinary, Medisave and Special accounts. Among these three, the total contribution of 40 percent of income is credited as follows:

- 30 percentage points go to the Ordinary account, which can be used for housing, approved investments, certain types of insurance, loans for college education expenses and topping up parents' retirement accounts.[17]
- 6 percentage points go to the Medisave account for hospitalization expenses (8 percentage points for members age 45 and above).[18]
- 4 percentage points go to the Special account for old age and contingencies.

*"Accounts are used to fund retirement pensions, medical care, housing, life and disability insurance and expenses for a college education."*

This use of different accounts for different targeted purposes encourages members to spend money on some goods and services (e.g., housing, health care, etc.) rather than others. Presumably, society as a whole has an interest in encouraging people to obtain these so-called merit goods, which are provided by the government — through taxes — in other developed nations. The targeting of accounts for specific purposes also may encourage members to regard their CPF contributions as personal savings rather than as taxes, thus minimizing the work disincentive effects of the contributions.

**Retirement income.** When a CPF member reaches age 55, he is permitted to withdraw from his account all money above a minimum sum of S$40,000, which the government requires be left in the account. Two-thirds of CPF members reaching age 55 have accounts exceeding the minimum sum, and most withdraw all but the minimum sum and apply that money to other, more lucrative investments.

At least S$4,000 of the S$40,000 minimum sum must be in cash, and the remaining amount may be a member's pledged property.[19] However, if a member sells this property, he must ensure that the CPF board gets the required minimum amount in cash. A member may dispose of the minimum sum in one of three ways:

(1) *Obtain a fixed-term annuity from the CPF board.* The board will pay a fixed monthly amount to the member beginning at age 60 and continuing until the account is exhausted.

(2) *Obtain an annuity from a private insurance company.* The member can purchase a fixed-term annuity or any annuity that pays until death from CPF-approved companies.

(3) *Place the funds in banks as fixed deposits.* Under this option the bank has instructions from the CPF to release only a certain amount on a regular basis, similar to the first option.

Because the first option provides such a low rate of return on investment, most people choose one of the others.

**Medisave accounts.** Beginning in 1984, the government of Singapore extended its program of forced savings to require that a certain portion of CPF contributions be put into a Medisave account to fund hospitalization both during a person's working life and during retirement.

Currently, 6 to 8 percent of an employee's salary is placed in a Medisave account, with a monthly maximum contribution of S$360, until the balance reaches S$17,000.[20] Once that total is reached and maintained, additional contributions are automatically placed in an individual's Ordinary account. At age 55, a minimum balance of S$11,000 must be left in the account to pay medical bills during retirement. Any excess may be withdrawn. Contributions above that figure are automatically transferred to the Ordinary account.

While the government generally has limited the use of Medisave funds to hospital care, it has been expanding its list of approved expenditures. For example, it now permits members to use Medisave funds for psychiatric care, renal dialysis and chemotherapy. However, members are still prohibited from using Medisave funds for outpatient care, physicians' fees, outpatient renal dialysis or long-term care. If money runs short, family members can pool their Medisave balances to pay a hospital bill, and some government hospitals allow patients to settle their bills from future Medisave deposits.

*"The Singapore health care system relies in large part on individual self-insurance rather than third-party insurance."*

The Singapore health care system relies in large part on individual self-insurance rather than third-party insurance, and its hospital system accommodates people with different spending preferences. Thirteen of the country's 23 hospitals are run by the Ministry of Health. The other hospitals are private. Hospitals run by the government offer four levels of rooms, or "wards," which receive different levels of government subsidies. Class A wards are the nicest rooms, with private or semiprivate accommodations, and are meant to compete with the private sector. Patients must pay 100 percent of the cost of these rooms. Class B1 wards receive a 20 percent government subsidy, with the patient paying the balance, and accommodate four people to a room. Class B2 wards have six patients per room and no air-conditioning, but patients pay only 35 percent of the cost. Class C wards have 10 to 20 people in the room and are the least expensive, receiving an 80 percent subsidy from the government.

Over the years, as Medisave accounts have grown, so has the desire for the higher-class accommodations. According to one study, patients opting for Class A accommodations grew from 2 percent in 1982 to 8 percent in 1992, while the number choosing a private hospital, where patients receive better accommodations, grew from 16 percent to 24 percent during the same period.[21]

**The Medishield option.**[22] While most Singapore citizens can use their Medisave funds to cover smaller health care expenditures, most accounts are not large enough to cover a catastrophic illness. For example, in 1993, only two-fifths of those reaching age 55 had the required minimum Medisave balance (S$11,000). In response, the government created the Medishield program in 1990 to provide catastrophic insurance that complements the Medisave program.[23] Medishield is neither need-based nor income-based. Eighty-eight percent of those eligible have opted for it. Annual premiums vary with age, and it is available to members up to age 70. It has a yearly claims limit of S$20,000 (1993) and a lifetime limit of S$70,000. It does not provide coverage for preexisting conditions. In 1990, Medishield covered 7.6 percent of the bill for Class A wards, 16.5 percent for Class B wards, and 21.7 percent of Class C wards for a hypothetical case of a 19-day hospital stay.[24]

The government has established an endowment fund (Medifund) and uses the income to assist those with limited financial resources who need medical care and meet stringent means tests.[25]

**Home ownership.** To encourage home ownership, the Approved Housing Scheme (AHS) was set up in 1968. It allows members to use their CPF savings to buy housing units[26] built by public sector statutory boards, of which the Housing and Development Board (HDB) is the most important. Members are allowed to withdraw CPF savings for the down payment (usually 20 percent) and monthly mortgage payments for housing loans offered by the HDB. Since 1986, the maximum repayment period has been 25 years and the mortgage interest has been pegged at 0.1 percentage points above the interest rate paid on CPF balances. When CPF savings are used to purchase housing, members must repay their CPF accounts the amount they withdraw — with interest — if they sell the property before reaching age 55.[27]

*"About 85 percent of the people in Singapore own their own homes."*

This program has been enormously successful. About 85 percent of the people in Singapore own their own homes, the highest rate of home ownership in the world.

The government is now upgrading these housing units, with the homeowners bearing 25 percent of the cost and the government 75 percent. In addition, in 1981 the government began to allow members to use their CPF balances to purchase private residential properties, and in 1986 to purchase nonresidential properties as well. The rules governing these purchases have been progressively liberalized.

Interestingly, CPF balances have not been used to provide loans to government or to statutory bodies to build housing or any other infrastructure. The government consistently has financed all current and capital expenditure from *operating* revenue, and so has not needed to tap into CPF balances.

**Investment options.** The Approved Investment Scheme (AIS) was introduced in 1986. It allows members to invest a portion of their balances (initially 40 percent, subsequently raised to 80 percent, but only above a certain minimum balance set by the CPF board) in stocks approved by the CPF board and traded on the Singapore Stock Exchange, in approved unit trusts (mutual funds), in convertible loan stocks and in gold.[28]

On October 1, 1993, the government converted the AIS into the Basic Investment Scheme (BIS) and the Enhanced Investment Scheme (EIS). Under the BIS, members may use up to 80 percent of their CPF balance (this percentage includes savings already withdrawn for housing, education and other investments) in excess of S$35,400,[29] or the balance in the Ordinary account, whichever is lower. Permitted investment instruments are about the same as they were for the AIS scheme.

Under the EIS, a member may use 80 percent of the CPF balance in excess of S$50,000 cash savings in the Ordinary and Special accounts, or the balance in the Ordinary account, whichever is lower. In addition to investments permitted under the BIS, a member may invest in non-trustee shares, loan stocks of approved non-trustee stock companies, approved unit trusts, bank deposits, endowment policies (similar to annuities), fund management accounts[30] and government bonds.[31]

Since January 1, 1995, members have been allowed to buy foreign stocks and bonds. Initially, they could invest only in foreign securities listed locally or on the stock markets of Hong Kong, Malaysia, South Korea, Thailand and Taiwan. Now they may invest in regional markets through approved CPF managers. Approved CPF unit trusts will be permitted to invest in these markets beginning in 1997. Beginning in 1999, investments in the stock markets of the United States and other Western countries, purchased through approved fund managers or unit trusts, will be permitted.

Investments in foreign assets are currently limited to 20 percent of the market value of a unit trust fund. The percent of foreign investment permitted will be raised to 40 percent in 1997 and 50 percent in 1999.

*"People can direct the investment of their CPF funds, above a minimum amount."*

These moves suggest that the government is prepared to allow individuals to diversify their investments from CPF balances and to position Singapore as a fund management center. By allowing individuals to make more investment decisions, the government also hopes to reduce the political risks of having government manage all of the CPF accumulated balances. Persistently low returns that undermine the real value of people's CPF savings could have adverse political consequences for the ruling party.

As of December 1993, 308,261 members (12.6 percent of the total members) had directed the investment of more than $7 billion of their CPF savings.[32] In 1994 only about one-fifth of the 339,922 people who invested their CPF funds in shares (and other permitted investments) made profits — totaling $236 million.[33] Of those who lost money on their outside investments, three-fourths sustained very small losses.

Another investment option is the Share-Ownership Top-Up Scheme (SOTUS). Under it, government provides grants to CPF members so they can purchase shares of enterprises the state is divesting. Shares bought through SOTUS apparently do not confer voting power on the individual shareholders. Thus, the government subsidizes the purchase of such shares without losing control over the divested enterprises.

**Insurance options.** Three types of insurance programs are a part of the CPF system. First, the Home Protection Insurance Scheme (HPIS) provides required mortgage payment insurance[34] for members purchasing public housing from CPF funds. Second, the Dependents' Protection Insurance Scheme (DPIS) provides optional term insurance against death or permanent incapacity before age 55. Although the DPIS is optional, about 80 percent of the eligible members have opted for it. The annual premium in 1993 ranged from S$30 to S$190, depending on age. The scheme pays a S$30,000 benefit, roughly the same as the average annual wage. The third insurance provider is Medishield, the catastrophic coverage discussed above.

*"Members may borrow from their accounts to pay expenses for attending or sending a family member to college."*

**College education expenses.** Members may borrow from their Ordinary account to pay expenses for attending or sending a family member to college in Singapore. The amount has to be repaid, however.

**Top-Up.** Under the CPF Top-Up Scheme announced in fiscal year 1995, the government provides a grant of $200 to each CPF member.

## Investment Performance of the CPF Board

A distinction needs to be made between members' funds left in the CPF and the insurance funds[35] that are managed by institutional fund managers and invested in fixed interest-bearing deposits, negotiable certificates of deposit, equities and bonds. Although the insurance funds are of relatively minor importance, in 1993 the implicit rate of return[36] on the Medishield fund was 6.7 percent — considerably higher than the 2.5 percent rate of return the CPF pays on members' funds.

According to statutory requirements, CPF funds must be invested in government bonds and in advanced deposits with the Monetary Authority of Singapore (MAS), which eventually converts the monies into bonds. In 1993, S$44.6 billion (85.3 percent of the total balances) was invested in government bonds and S$7.7 billion (14.8 percent of the total) in advanced deposits with the MAS.[37]

Given that the government enjoys budget surpluses, and that amounts borrowed are not used to finance infrastructure, how and where are the CPF balances invested? They are invested by the government through the Singapore Government Investment Corporation and other channels, and most are believed to be invested abroad. However, no information is available on either the investment portfolio or the returns obtained. CPF members' interest is calculated as an average of the 12-month deposit and monthly savings rates of four major local banks, subject to a minimum rate of 2.5 percent.

The rationale for payment of short-term interest rates on long-term funds is not clear. As Table II shows, the real rate of return (the interest rate minus the inflation rate) has been slightly positive or negative since 1986. This contrasts sharply with the return on Medishield funds noted above. To the extent returns on CPF balances invested by the government are higher than what is paid to the members, the difference is an implicit tax on members, although this may be offset by tax subsidies. The implicit tax is likely to be regressive, as those with low balances have a greater proportion of their (forced savings) assets with the CPF.

# Assessing the CPF

Since Singapore's fertility rate is below the replacement rate, its population will eventually peak and then decline, as those of the U.S. and many other industrialized countries already have begun to do. Fortunately, Singapore never attempted to maintain a constant replacement rate that required an ever-increasing payroll tax. Rather, Singapore's CPF has provided a solid and sustainable base for financing a competitive and affordable social security system.

*"Singapore's CPF has provided a solid and sustainable base for financing a competitive and affordable social security system."*

**Advantages**. Among the most important advantages of the plan are:

- The plan firmly establishes that individuals and families are responsible for providing for their own social security benefits.
- Forced savings under the CPF system helps to develop the savings habit in the population as a whole.
- The pool of savings the plan generates can help stimulate the city-state's economic growth by providing a long-term, predictable and large flow of funds for investment; higher growth rates, in turn, lead to higher income levels which produce more economic security both before and during retirement.
- Defined-contribution plans, such as Singapore's, are by nature fully funded and do not generate the distortions and welfare losses associated with systems that pay benefits to one generation by imposing taxes on another.

**Qualifications.** Despite the attractions of the overall system, there are some important qualifications.

- Without government subsidies, a system such as Singapore's cannot provide social security immediately, since it takes a long time for an individual to reach an adequate level of savings. The transition to a satisfactory result can take decades.[38]
- The success of the plan depends on accumulated savings balances. In order for individuals to share in future economic growth, they need to be able to invest in stocks. Yet successful investment requires competent and sophisticated investment strategies, which nevertheless give high priority to fiduciary responsibilities.[39]
- Some the benefits of forced savings may be offset by a reduction in other savings by individuals.
- Defined-contribution plans can be adversely affected by inflation and longevity. Unanticipated inflation can affect the real value of accumulated balances. Since contribution rates are usually based on average life expectancy, individuals who live longer may have inadequate resources for their final years.
- As with any other retirement system, the CPF system works best if economic decision-making is insulated from interest group politics.

**Policy implications.** The discussion suggests that use of a provident fund as the primary instrument of social security in an affluent, rapidly aging society requires certain economic conditions. It also suggests the requirement for a paternalistic government that effectively pursues its version of public interest and for an organic or corporatist view of the state. Singapore policymakers have shown considerable ingenuity in adapting the CPF system to serve not only social security but also other ends. They can be expected to innovate further and perhaps to significantly extend the Medishield scheme to address its present deficiencies.

*"Singapore policy makers have shown considerable ingenuity in adapting the CPF system to meet needs met by government in other countries."*

One particularly useful move, given the low or negative return on CPF balances, would be to ensure at least a 3 percent real rate of return on CPF balances. This would help to address social adequacy and equity issues and to mitigate incentives for individuals to overinvest in stocks and property.

**Lessons for other countries.** Singapore's experience shows the value of emphasizing saving and individual responsibility to finance one's old age.

Thus, the first lesson Singapore teaches is that each nation's social security system needs to be consistent with its social-political environment and its need to compete economically. While a too-generous system can impinge upon international competitiveness, a too-parsimonious system can create anticompetitive social tensions.

Second, each nation must keep its social security administrative and compliance costs as low as possible. In 1990, operating cost as a percentage of annual contributions was only 0.53 percent in Singapore as compared to 1.99 percent for Malaysia and 15.4 percent for Chile. Its city-state status and high contribution rates give Singapore an advantage in this regard.

*"A contributory pension system can create new opportunities for self-discipline in saving."*

A contributory pension system, backed up by policies that place greater responsibility on the individual for financing old age, can create new opportunities for self-discipline in saving.[40] This approach can help to increase investment in human capital and in physical assets such as housing. It also can increase the individual's share in financing such services as health care.

Countries that practice pay-as-you-go policies — including the United States — would do well to incorporate features of the CPF into their social security systems.

# Notes

[1] The World Bank, *Averting the Old Age Crisis* (New York: Oxford University Press, 1994).

[2] Ibid.

[3] Ibid.

[4] In addition, Singapore has an extremely limited and stringently means-tested program of old-age assistance. However, the government encourages families to provide support for elderly parents through incentives and disincentives. For example, the law requires adult children to financially maintain their parents in old age. Those failing to do so can be prosecuted.

[5] Lessons must be drawn with care. The social security institutions of each country need to be consistent with the country's own basic philosophy and social, political and economic systems. See R. Rose, "What Is Lesson Drawing?" *Journal of Public Policy*, Vol. 11, No. 1, 1991, pp. 3-30.

[6] All amounts in Singapore dollars are preceded by "S." The current rate of exchange is about S$1.40 to US$1.00.

[7] The savings are managed by the governing board of the CPF, which consists of a chairman, deputy chairman and nine additional appointees. The board has at least two representatives each from the government, employers and employees. All board members are appointed by the Minister of Labor, who oversees the CPF.

[8] Foreign workers earning below a certain wage are given work permits and are subject to a foreign worker's levy, the revenue from which accrues to the government.

[9] This new pension fund is being funded from accumulated budget surpluses held by the government. A portion of these has been converted into an endowment fund, from which the income will repay the surpluses.

[10] From August 1, 1995, all foreign workers, including those on an employment pass, are excluded from the CPF system. They have no recourse to the tax-advantaged retirement scheme in Singapore. As a result, their tax liabilities will increase, resulting in a substantial cut in their take-home pay. Very little advance notice was given before the provision became effective. In view of Singapore's dependence on foreign manpower and its need for predictable and consistent policies, the measure is perplexing. It could even increase overall labor costs, thereby impinging on Singapore's international competitiveness. As a result of adverse reaction, the government subsequently announced certain modifications, though the underlying exclusion remains.

[11] The sustainability of this high rate remains to be seen.

[12] The reason is that people are forced to save more than they prefer to. Thus mandatory contributions are less desirable than wages — even though the contributions are not taxed and the wages are.

[13] Alternatives are: (1) CPF contributions plus accrued interest; (2) changes in CPF balances plus withdrawals for housing; (3) changes in CPF balances.

[14] Government budget surplus on the current account, plus current surpluses of statutory boards and government companies.

[15] The 1995 individual income tax rates range from 2.5 percent to 30 percent, with 14 brackets. However,Singapore makes extensive use of tax incentives to achieve its social goals for businesses and individuals. As a result, the difference between the nominal and effective tax rates is large, though no empirical estimates are available. In general, Singapore does not tax capital gains, and estate duties are light (a two-rate structure of 5 percent and 10 percent).

[16] Most social security systems tend to be somewhat progressive, paying a higher rate of return on payroll tax contributions, the lower a person's income. By contrast, the Singapore system is slightly regressive in three ways. First, people get back exactly what they put in, plus any buildup. Second, although the practice of not taxing social security contributions (at least the employee's share) is common throughout the world, this practice also favors those in higher tax brackets. Finally, the investment options discussed in the text favor higher-income earners.

[17] When parents have a low CPF balance as a result of low wages through their working life or purchasing a house with money from their account, their children may top up the parents' account by transferring money into it. Such contributions are tax-advantaged, but a primary reason for helping the parents is that adult children are legally required to provide for their parents if needed.

[18] For members ages 45 and above, the amount going to the Ordinary account is reduced to 28 percentage points to offset the Medisave increase.

[19] Incrementally, this amount will be increased to S$80,000 by July 2003, of which at least S$40,000 must be in cash. The increase in the cash amount is to help ensure that retirees will have an adequate income after retirement.

[20] There is no way of determining what the average Medisave balance is, but it probably runs between S$3,000 and S$4,000.

[21] William C. Hsiao, "Medical Savings Accounts: Lessons from Singapore," *Health Affairs,* Summer 1995, pp. 262-63.

[22] Some employers also purchase private insurance for their employees. However, they are permitted to deduct no more than 2 percent of payroll for health insurance. Employer-provided policies are the least expensive high-deductible policies covering only basic care.

[23] The existence of Medishield does not solve the financial problem of those who have an inadequate Medisave balance, but it is an improvement over Medisave alone, since it gives people a way to pay for catastrophic costs.

[24] Coverage is intentionally low in order to keep costs low.

[25] Utilization rates of Medifund are not made public. Thus it is not possible to evaluate the program's effectiveness in helping the needy. Because the requirements are so stringent, very few people have access to Medifund.

[26] The land, however, is owned by the government.

[27] This rule also applies to purchase of private residential housing and nonresidential properties, discussed below.

[28] Stocks approved by the CPF board are called trustee stocks; approved unit trusts are mutual funds; and convertible loan stocks are loans that can be converted into equity at a specified future date.

[29] This is the minimum reserve as of April 1, 1994, in the Ordinary and Special accounts.

[30] Fund management accounts are personal accounts placed in the hands of an investment manager.

[31] Transactions under these programs can be undertaken by opening a CPF investment account with an approved agent bank. Except for the Hong Kong Bank, approved banks are locally owned. Only approved institutions are permitted to handle money market accounts, and EIS investments must be made at approved institutions.

[32] 1994 was the first full year of BIS and EIS schemes.

[33] *The Straits Times,* March 3, 1995.

[34] This is similar to a "credit life" policy in the United States. It pays off an outstanding note should the borrower become incapacitated or die.

[35] The market value of this fund was S$142.6 million at the end of 1993.

[36] This is calculated as income and profit on sale of investments divided by the beginning balance plus half of premiums paid for the year.

[37] This largely explains the existence of the government's large internal debt. In 1993, Singapore's internal debt was S$69,810.4 million — an amount equal to 75.6 percent of GDP, or 92.0 percent of indigenous GNP, which excludes contributions to GNP by nonresidents. This large debt has been incurred in spite of the government's running large budget surpluses consistently over many years.

[38] For individuals to accumulate sufficient balances, prolonged periods of high employment are necessary.

[39] Such strategies are not easy to implement, either by the individual or by the government investment boards.

[40] According to the psychological theories of saving, "...behavior may be governed primarily by habitual rules regarding the disposition of resources rather than by rational life-cycle planning." D.B. Bernheim, *The Vanishing Nest Egg: Reflections on Saving in America* (New York: Twentieth Century Fund, 1991), p. 71. Individuals mentally separate their resources into separate accounts, some of which are easier to invade than others. Moreover, according to the psychological theories, the rate of saving is sensitive to the composition of income and wealth. Public campaigns stressing the virtues of saving can also affect the rate of saving. An individual is more likely to behave in a socially desired manner if a great many of his fellows act the same way. A. Lindbeck, "Hazardous Welfare-State Dynamics," *American Economic Review*, May 1995, pp. 9-15.

# About the Author

**Mukul G. Asher** is an Associate Professor of Economics and Public Policy at the National University of Singapore, specializing in public finances of developing countries, social security arrangements in Asia and issues in economic cooperation among nations. He has published six books and numerous national and international journal articles and has contributed chapters to several books. He has acted as a consultant to the World Bank, Asian Development Bank, International Labour Organization, UN-ESCAP, Oxford Analytica, Institute of Southeast Asian Studies (Singapore), Malaysian Institute of Economic Research and Employee Provident Fund of Malaysia. He was a member of the ASEAN-India Expert Group of Trade and Investment Relations set up in August 1994 and has served as an advisor on India to Singapore's Trade Development Board.

# About the NCPA

The National Center for Policy Analysis is a nonprofit, nonpartisan research institute funded exclusively by private contributions. The NCPA developed the concept of Medical Savings Accounts, the health care reform that has wide bipartisan support in Congress and in a growing number of states. Many credit NCPA studies as the main factor leading to the 1989 repeal of the Medicare Catastrophic Coverage Act, and as playing a major part in defeating efforts for government in effect to take over much of the nation's health care system in 1993.

NCPA economic forecasts show that repeal of the Social Security earnings test would cause no loss of federal revenue, that a capital gains tax cut would increase federal revenue and that the federal government gets back virtually all the money from the current child care tax credit. Its forecasts have been an alternative to the forecasts of the Congressional Budget Office and the Joint Committee on Taxation and are frequently used by Republicans and Democrats in Congress. The NCPA also has produced a first-of-its-kind, pro-free enterprise health care task force report, written by 40 representatives of think tanks and research institutes, and a first-of-its-kind, pro-free enterprise environmental task force report, written by 76 representatives of think tanks and research institutes.

The NCPA is the source of numerous discoveries that have been reported in the national news. According to NCPA reports:

- Blacks and other minorities are severely disadvantaged under Social Security, Medicare and other age-based entitlement programs;
- Special taxes on the elderly have destroyed the value of tax-deferred savings (IRAs, employee pensions, etc.) for a large portion of young workers; and
- Man-made food additives, pesticides and airborne pollutants are much less of a health risk than are carcinogens that exist naturally in our environment.

## What Others Say About the NCPA

*"...influencing the national debate with studies, reports and seminars."*

***— TIME***

*"...steadily thrusting such ideas as 'privatization' of social services into the intellectual marketplace."*

***— CHRISTIAN SCIENCE MONITOR***

*"Increasingly influential."*

***— EVANS AND NOVAK***